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Original Articles.

THE REPORT OF THE AMERICAN PEDI- ATRIC SOCIETY'S COLLECTIVE INVE- STIGATION INTO THE USE OF ANTITOX- IN IN THE TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.¹

THIS subject was chosen by the officers of the society for its eighth annual meeting, with the belief that a large amount of valuable experience not otherwise available might in this way be reached and collated. It was also believed that a more trustworthy estimate of the value of the serum treatment of diphtheria might thus be obtained than by statistics taken from hospital practice. There are very few hospitals in America that receive diphtheria patients, and the conditions under which patients are admitted to hospitals and the surroundings while there are so different from those of private practice, that the measure of success in hospital cases cannot be taken as an index of the results which have been obtained upon this side of the Atlantic with the new treatment.

In order, therefore, to obtain an expression of opinion from American physicians as to the serum treatment, after what had been, with most of them, their first year's experience, a circular letter was prepared and issued by the committee early in April. This was distributed through the members of the society as widely as could be done during the time allowed. An attempt was made to reach as many physicians as possible who had had experience with the remedy.

The first surprise of the committee was in learning how very widely the serum treatment had been employed, especially in the Eastern and mid-Western States. With more time the number of cases collected might easily have been doubled and perhaps trebled; but enough reports have come in to enable one to see what opinion was held on May 1, 1896, by American physicians who have used this remedy.

The circular letter asked for information upon the following points: Age; previous condition; duration of disease when the first injection was made; the number of injections; the extent of the membrane—tonsils, nose, pharynx, and larynx; whether or not the diagnosis was confirmed by culture; complications or sequelæ, viz., pneumonia, nephritis, sepsis, paralysis; the result; and remarks, including other treatment employed, the preparation of antitoxin used, and general impression drawn from the cases.

Reports were returned from six hundred and fifteen different physicians, with thirty-six hundred and twenty-eight cases. Of these, two hundred and forty-four cases have been excluded from our statistical tables. These were cases in which the disease was said to have been confined to the tonsils and the diagnosis not confirmed by culture, and therefore open to question. A few cases were reported in such doubtful terms as to leave the diagnosis uncertain. The figures herewith given are therefore made up from

cases in which the diagnosis was confirmed by culture (embracing about two-thirds of the whole number) and others giving pretty clear evidence of diphtheria, either in the fact that they had been contracted from other undoubted cases, or where the membrane had invaded other parts besides the tonsils, such as the palate, pharynx, nose, or larynx. It is possible that among the latter we have admitted some streptococcus cases, but the number of such is certainly very small.

There are left, then, of these cases, thirty-three hundred and eighty-four for analysis. These have been observed in the practice of six hundred and thirteen physicians from one hundred and fourteen cities and towns, in fifteen different States, the District of Columbia, and the Dominion of Canada.

In the general opinion of the reporters the type of diphtheria during the past year has not differed materially from that seen in previous years, so that it has been average diphtheria which has been treated. If there is any difference in the severity of the cases included in these reports from those of average diphtheria, it is that they embrace a rather larger proportion of very bad cases than are usually brought together in statistics. The cases, according to the extent of the membrane, are grouped as follows: In five hundred and ninety-three the tonsils alone were involved. In thirteen hundred and ninety-seven the tonsils and pharynx, the tonsils and nose, the pharynx and nose, or all three were affected. In twelve hundred and fifty-six cases the larynx was affected either alone or with the tonsils, pharynx, and nose, one or all. In many instances the statement is made by the reporters that the serum was resorted to only when the condition of the patient had become alarmingly worse under ordinary methods of treatment. This is shown by the unusually large number of cases in which injections were made late in the disease. Again, many physicians, being as yet in some dread of the unfavorable effects of the serum, have hesitated to use it in mild cases, and have given it only in those which from the onset gave evidence of being of a severe type. The expense of the serum has unquestionably deterred many from employing it in mild cases. These facts, it is believed, will more than outweigh the bias of any antitoxin enthusiasts by including many mild cases which would have recovered under any treatment. It will, however, be remembered that tonsillar cases not confirmed by culture have not been included.

Only two reports embracing a series of over one hundred cases have been received, most of the observers having sent in from five to twenty cases, although there are many reports of single cases, particularly of single fatal ones.

In addition to this material which has come in response to the circular, there have been placed at the disposal of the committee, by the courtesy of Dr. H. M. Biggs, nine hundred and forty-two cases treated in their homes in the tenements of New York. Of these, eight hundred and fifty-six were injected by the corps of inspectors of the New York health board, upon the request of the attending physician, and eighty-six others were treated by physicians receiving free antitoxin from the health board. In the first group the diagnosis of diphtheria was confirmed by culture in every

¹ Reported at the Eighth Annual Meeting, held at Montreal, Canada, May 26, 1896.

case, and in all of the latter except twenty-six; in these the diagnosis rested upon extensive membranous deposits or laryngeal invasion. The cases of the New York health board were of a more than ordinarily severe type, four hundred and eighty-five, or more than fifty per cent., of these being reported as being in bad condition at the time of injection; to mild cases the inspectors were not often called. Further, an unusually large number of them (thirty-eight per cent.) were injected on or after the fourth day of the disease. In one hundred and eighty-two of these cases only the tonsils were affected; in four hundred and sixty-six the tonsils with the pharynx or nose, the pharynx and nose, or all three; in two hundred and ninety-four the larynx was invaded either with or without disease of the tonsils, nose, or pharynx.

Through the courtesy of Dr. Biggs, the committee is able to include also a partial report upon fourteen hundred and sixty-eight cases from Chicago, treated in their homes in that city by a corps of inspectors of the health department. It was the custom in Chicago to send an inspector to every tenement-house case reported, and to administer the serum unless it was refused by the parents. These cases were therefore treated much earlier and the results were correspondingly better than were obtained in New York, although the serum used was the same in both cities, viz., that of the New York health board.

The Result as Influenced by the Time of Injection.—In Table I. are given the results obtained in these three different groups of cases, classified according to the day on which they received the first injection of serum antitoxin.

TABLE I.—DAY OF INJECTION AND RESULT.

	INJECTED ON FIRST DAY.			INJECTED ON SECOND DAY.			INJECTED ON THIRD DAY.			INJECTED ON FOURTH DAY.			INJECTED ON OR AFTER FIFTH DAY.			DAY OF INJECTION UNKNOWN.			TOTALS.		
	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.
Committee's report	764	38	4.9	1,065	89	8.3	620	79	12.7	336	77	22.9	390	152	38.9	215	15	7.0	3,384	450	13.0
New York health board	126	11	8.7	215	26	12.0	228	37	16.6	153	32	20.9	203	59	29.0	17	4	23.5	942	169	17.8
Chicago health board	106	0	0	336	5	1.5	660	18	2.7	269	38	14.1	97	33	34.0	0	0	0	1,468	94	6.4
Total	996	49	4.9	1,616	120	7.4	1,508	134	8.8	758	147	20.7	690	244	35.3	232	19	8.2	5,794	713	12.3

The grand total gives fifty-seven hundred and ninety-four cases with seven hundred and thirteen deaths, or a mortality of 12.3 per cent., including every case returned; but the reports show that two hundred and eighteen cases were moribund at the time of injection or died within twenty-four hours of the first injection. Should these be excluded there would remain fifty-five hundred and seventy-six cases (in which the serum may be said to have had a chance), with a mortality of 8.8 per cent.

Of the forty-one hundred and twenty cases injected during the first three days there were three hundred and three deaths—a mortality of 7.3 per cent., including every case returned. If from these we deduct the cases which were moribund at the time of injection, or which died within twenty-four hours, we have four thousand and thirteen cases, with a mortality of 4.8 per cent. Behring's original claim, that if cases were injected on the first or second day the mortality would not be five per cent., is more than substantiated by these figures. The good results obtained in third-day injections were a great surprise to your committee. But after three days have passed the mortality rises rapidly,

and does not differ materially from ordinary diphtheria statistics. Our figures emphasize the statement so often made, that relatively little benefit is seen from antitoxin after three days; however, it must be said that striking improvement has in some cases been seen even when the serum has been injected as late as the fifth or sixth day. The duration of the disease, therefore, is no contraindication to its use.

The Influence of Bacteriological Diagnosis upon the Statistics.—This is shown in Table II.

TABLE II.—DIAGNOSIS CONFIRMED BY BACTERIOLOGICAL EXAMINATION.

	Cases.	Deaths.	Mortality, Per Cent.
Committee's reports	2,453	302	12.3
New York board of health	916	160	16.9
Chicago board of health	1,468	94	6.4
Totals	4,837	556	11.4
Excluding 145 cases which were moribund or which died in twenty-four hours			8.7

DIAGNOSIS FROM CLINICAL EVIDENCE ONLY.

	Cases.	Deaths.	Mortality, Per Cent.
Committee's reports	931	148	15.7
New York board of health	26	9	34.6
Totals	957	157	16.3
Excluding 72 cases either moribund or dying in twenty-four hours			9.6

In the cases in which the diagnosis was not confirmed by a bacteriological examination the mortality is thus five per cent. higher than in the bacteriological cases. This difference is to be explained by two facts:

first, as already stated, that we have excluded from our reports all tonsillar cases (and hence most of the very mild ones) not confirmed by bacteriological examinations; and secondly, by the fact that this group of cases comprises those treated in the country, where physicians have hesitated to use antitoxin unless the type of the disease was a grave one, and where also a large proportion of the injections were made later than in the cities. However, should we leave out the moribund cases, the mortality is but 9.6 per cent., which differs but slightly from the cases confirmed by bacteriological diagnosis.

In our subsequent statistics we shall consider together all the cases bacteriologically confirmed and otherwise, as the statistics are not materially altered by this grouping.

The Results as Modified by the Age of the Patients.—Unfortunately, the ages have not been furnished in the report of the Chicago cases, and we have therefore only the cases reported to the committee and those from the New York board of health for analysis. In Table III. is shown the mortality of the different ages grouped separately.

TABLE III.—AGE AND RESULT OF TREATMENT.

	0 TO 2 YEARS.			2 TO 5 YEARS.			5 TO 10 YEARS.			10 TO 15 YEARS.			15 TO 20 YEARS.			20 YEARS AND OVER.		
	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.	Cases.	Deaths.	Mortality, Per Cent.
Committee's report	631	137	21.7	1,276	175	13.7	883	108	12.2	276	19	6.8	112	4	3.6	214	9	4.2
New York health board ...	236	65	27.5	466	83	17.8	178	21	11.2	29	0	0	11	0	0	22	0	0
Totals.....	867	202	23.3	1,742	258	14.7	1,061	129	12.1	305	19	6.2	123	4	3.2	236	9	3.8
Moribund	43	.....	.....	59	.....	.....	59	.....	.....	9	.....	.....	0	.....	.....	4	.....	.....
Mortality, excluding moribund cases.	.....	.....	19.2	.....	.....	13.3	.....	.....	8.7	.....	.....	3.3	.....	.....	3.2	.....	.....	2.1

The highest mortality is seen as in all reports to be in the cases under two years, but including all those returned, even those that were moribund when injected, the death rate was but 23.3 per cent. (21.7 per cent. of the committee's cases), while, if we exclude cases moribund when injected or dying within the first twenty-four hours, it falls to 19.2 per cent.

After the second year there is noticed a steady decline in mortality up to adult life. In many of the reports previously published the statement has been made that no striking improvement in results was observed in adult cases treated by the serum. Our figures strongly contradict this opinion. Of three hundred and fifty-nine cases over fifteen years old which were returned, there were but thirteen deaths. That the reader may judge for himself how far antitoxin is to be held responsible for the result, a brief summary of these thirteen cases is appended:

CASE I.—Fifteen years old; injected on the fourth day; membrane covering tonsils and pharynx; profoundly septic, sinking rapidly when injected; died in two hours. "My only death in seventeen cases" (Jones, Gloucester, Mass.).

CASE II.—Forty-four years old; injected on the fourth day; membrane on the tonsils and pharynx; in bad condition; died three hours after injection. The tonsils had been previously incised, the early diagnosis having been quinsy.

CASE III.—Thirty-one years old; injected on the sixth day; membrane on the tonsils, nose, pharynx, and larynx; intubation; sepsis; in bad condition; lived eight hours after injection.

CASE IV.—Thirty-five years old; injected on the fifth day; membrane on the pharynx and nose (?); in bad condition; septic; died in twelve hours.

CASE V.—Sixty years old; in bad condition; had serious mitral regurgitation; injected on the fourth day; membrane covering tonsils, pharynx, and larynx; died from heart failure on following day.

CASE VI.—Sixty years old; "kidney trouble for years;" injected on the third day; very extensive membrane, covering tonsils, pharynx, and nose; profound sepsis; in bad condition; died suddenly on the day after injection.

CASE VII.—Seventeen years old; in bad condition; convalescing from measles; enormous adenopathy; profound sepsis; exceedingly high temperature; membrane covering tonsils and nose; injected at the end of forty-eight hours; three injections, temporary improvement after each one; duration of life not given.

CASE VIII.—Fifteen years old; in bad condition; injected on the ninth day; membrane covering tonsils, nose, pharynx, and larynx; no operation; enormous infiltration of the tissues of the neck; nephritis; sepsis; lived four days and died of sepsis.

CASE IX.—Twenty years old; injected on the third

day; membrane upon the tonsils, nose, pharynx, and larynx. "A stubborn patient, who got up before he was allowed, and died suddenly after it."

CASE X.—Twenty-five years old; injected on the fifth day; membrane covering both tonsils, entire pharynx, and completely occluding nose; nephritis and sepsis; throat cleared off entirely; died suddenly on the fourteenth day from cardiac paralysis.

CASE XI.—Nineteen years old; injected on the fifth day; membrane upon the tonsils and pharynx; profound sepsis; duration of life unknown.

CASE XII.—Twenty-two years old; injected on the fourth day; membrane on the tonsils and gums; sepsis; died on the sixth day.

CASE XIII.—The well-known Brooklyn case, reported in 1895. Girl, sixteen years old, who died suddenly ten minutes after injection.

Such are the adult cases which antitoxin failed to cure. Four of them were moribund at the time of injection, no one of them living over twelve hours. Two, both sixty years old, were already crippled by previous organic disease, one of the heart and the other of the kidneys. In the measles case there was undoubted evidence of streptococcus septicæmia. Only two of the cases were injected as early as the third day, three of them on the fifth day, and one on the ninth day. Omitting the four moribund cases, the mortality of three hundred and fifty-five adult cases treated with the serum is 2.5 per cent.

Paralysis.—Reliable data upon this point and those hereafter to be mentioned are to be had only from the thirty-three hundred and eighty-four reports returned to the committee. Of these, paralytic sequelæ appeared in three hundred and twenty-eight cases, 9.7 per cent. Of the twenty-nine hundred and thirty-four cases which recovered, paralysis was present in two hundred and seventy-six, or 9.4 per cent. Of the four hundred and fifty cases which died, paralysis was noted in fifty-two, or 11.4 per cent.

Observations of some of the individual cases are interesting, particularly those of cardiac paralysis. It is twice stated that the child had gotten up and walked out of the house, where it was found dead. Twice death occurred after sitting up suddenly; once, on jumping from one bed to another. One patient of twenty years got up contrary to orders and died soon afterward. Another patient was apparently well until he indulged in a large quantity of cake and candy, soon after which cardiac symptoms developed, and he died shortly. One case was that of a woman sixty years old, who had serious organic cardiac disease.

It is difficult from these statistics to state what protective power the serum may have over the nerve cells and fibres. Apparently this is not great unless the injections are made early in the disease, and even then in severe cases the amount of damage done to these tissues in twenty-four hours may be very great, even

irreparable. Time is not the only element in estimating the effect of the diphtheria toxins.

Great discrepancy exists in the statements made regarding the frequency of paralytic sequelæ after diphtheria. In a series of one thousand cases reported by Lennox Browne, paralytic sequelæ were present in fourteen per cent. In twenty-four hundred and forty-eight cases by Sanné, paralysis was noted in eleven per cent. In the series of cases here reported, the difference is slightly in favor of the antitoxin treatment, but paralysis is certainly frequent enough to show how extremely susceptible the nervous elements are to the diphtheria toxins. One thing is quite striking from a study of these cases, and that is the proportion that have died from late cardiac paralysis. That very many of them would undoubtedly have succumbed earlier in the disease from suffocation (laryngeal cases) or diphtheritic toxæmia, had the serum not been employed, is beyond question. Although the serum is able to rescue even many such desperate cases, it cannot overcome the effects of the toxins upon the cells which have occurred before it was injected.

The variety of the paralysis and the date of injection is shown in the following table:

TABLE IV.—VARIETY OF PARALYSIS AND THE DAY OF INJECTION.

RECOVERY CASES.	Cases.	DAY OF INJECTION.				
		1st Day.	2d Day.	3d Day.	4th Day.	5th Day.
Paralysis mentioned (variety not specified).	132	5	32	32	19	16
Throat only (aphonia, nasal voice, or regurgitation).	114	16	21	25	11	16
Extremities	14	3	5	2	..	3
Ocular ..	11	..	4	3	1	2
General (multiple neuritis)	4	..	1	2	1	..
Sterno-mastoid	1	..	1	..	..	..
FATAL CASES.						
Paralysis mentioned (variety not specified).	9	..	3	2	1	2
Cardiac, late after throat clear (in four of them throat also). ¹	32	1	2	5	9	8
Throat only	6	..	2	..	..	4
General late	4	..	1	..	1	2
Muscles of respiration	1	..	1	..	..	..
Totals	328	28	73	76	43	49

Sepsis.—Sepsis is stated to have been present in three hundred and sixty-two of the thirty-three hundred and eighty-four cases, or 10.7 per cent. It was present in one hundred and forty-five, or thirty-three per cent., of the fatal cases. Some explanation is necessary for a correct appreciation of these figures. The majority of the reporters, it is plain from their remarks, have not distinguished between diphtheritic toxæmia and streptococcus sepsis. The former is certainly meant in the great majority of the cases. There is a very small proportion in which there is evidence of streptococcus sepsis. The six cases complicating measles, and the five complicating scarlet fever, however, should possibly be included in this list.

Nephritis.—The statements on this point are quite unsatisfactory. The reports state that nephritis was present three hundred and fifty times, or in ten per cent. of the cases. On the one hand, it must be stated that the diagnosis of nephritis rests in many cases simply upon the presence of albumin in the urine; but, on the other hand, it is true that in a large number of the cases, more than half, no examination of the urine is recorded as having been made, so that it is impossible to state, with anything like approximate accuracy, the frequency of nephritis in these cases.

¹ Cases of heart failure occurring at the height of the disease have not been included here, although they are mentioned among the cases of cardiac paralysis in the table of fatal cases.

Of the four hundred and fifty fatal cases, the presence of nephritis is mentioned without qualification or explanation in thirty-nine cases; these being usually put down also as septic, dying in the acute stage of the disease. There are fifteen fatal cases, however, in which the renal disease was stated as the cause of death. In no less than nine the nephritis occurred late in the disease, usually during the second or third week. In these fifteen cases the evidence of severe nephritis was conclusive, such symptoms being present as dropsy, suppression of urine, with coma or convulsions.

Broncho-Pneumonia.—Broncho-pneumonia is stated to have been present in one hundred and ninety-three of the thirty-three hundred and eighty-four cases, or 5.9 per cent., a remarkably small proportion when compared with hospital statistics. Among the patients that recovered, broncho-pneumonia was noted one hundred and fourteen times, or in 3.8 per cent.; among the fatal cases seventy-nine times, or in 17.5 per cent., but in only about half of these was the pneumonia the cause of death. Of these, thirty-seven were laryngeal cases operated upon late, ten were septic cases, and the pulmonary disease was coincident with the height of the diphtheritic process. In seven pneumonia was independent of both the above conditions, occurring late in the disease in all but two.

Laryngeal Cases.—Of the thirty-three hundred and eighty-four cases reported to the committee, the larynx is stated to have been involved in twelve hundred and fifty-six cases, or 37.5 per cent. This proportion is somewhat higher than is usual, and is partly explained by the fact that several physicians have sent in the reports only of their laryngeal cases. These laryngeal cases occurred in the practice of three hundred and seventy-nine physicians.

In six hundred and ninety-one, or a little more than one-half the number, no operation was done, and in this group there were one hundred and twenty-eight deaths. In forty-eight of them laryngeal obstruction was responsible for the fatal issue, operation being refused by the parents, or no reason for its being neglected having been given. In the eighty remaining fatal cases the patients died of other complications, and not from the laryngeal disease.

In the five hundred and sixty-three cases, therefore, or 16.9 per cent. of the whole number, there was clinical evidence that the larynx was involved, and yet recovery took place without operation. In many of these cases the symptoms of stenosis were severe, and yet disappeared after injection without intubation. No one feature of the cases of diphtheria treated by antitoxin has excited more surprise among the physicians who have reported them than the prompt arrest, by the timely administration of the serum, of membrane which was rapidly spreading downward below the larynx. Such expressions abound in the reports as "wonderful," "marvellous," "prepared to do intubation, but at my next visit the patient was so much better it was unnecessary," "in all my experience with diphtheria have never seen anything like it before," "no unprejudiced mind could see such effects and not be convinced of the value of the serum," etc.

In establishing the value of the serum, nothing has been so convincing as the ability of antitoxin, properly administered, to check the rapid spreading of membrane downward in the respiratory tract, as is attested by the observations of more than three hundred and fifty physicians who have sent in reports.

Turning now to the operative cases, we find the same remarkable effects of the antitoxin noticeable. Operations were done in five hundred and sixty-five cases, or in 16.7 per cent. of the entire number reported. Intubation was performed five hundred and thirty-three times, with one hundred and thirty-eight deaths, or a mortality of 25.9 per cent. In the above

are included nine cases in which a secondary tracheotomy was done, with seven deaths. In thirty-two tracheotomy only was done, with twelve deaths, a mortality of 37.4 per cent. Of the five hundred and sixty-five operative cases, sixty-six were either moribund at the time of operation or died within twenty-four hours after injection. Should these be deducted, there remain four hundred and ninety-nine cases operated upon by intubation or tracheotomy, with eighty-four deaths, a mortality of 16.9 per cent.

Of the twenty-eight hundred and nineteen cases not operated upon, there were three hundred and twelve deaths, a mortality of 11.3 per cent. Deducting the moribund cases or those dying within twenty-four hours after injection, the total mortality of all non-operative cases was 9.12 per cent.

Let us compare the results of intubation in cases in which the serum was used with those obtained with this operation before the serum was introduced. Of fifty-five hundred and forty-six intubation cases in the practice of two hundred and forty-two physicians, collected by McNaughton and Maddren (1892), the mortality was 69.5 per cent. Since that time statistics have improved materially by the general use (in and about New York, at least) of calomel fumigations. With this addition, the best results published (those of Brown) showed in two hundred and seventy-nine cases a mortality of 51.6 per cent.

Let us put beside the cases of McNaughton and Maddren the five hundred and thirty-three intubations with antitoxin, with 25.9 per cent. mortality. With Brown's personal cases let us compare those of the fourteen observers who have reported to the committee ten or more intubation operations in cases injected with serum. These comprise two hundred and eighty cases with sixty-five deaths, a mortality of 23.2 per cent. In both comparisons the mortality without the serum is more than twice as great as in the cases in which serum was used.

The reports of some individual observers concerning intubation with the serum are interesting:

Neff, New York: Twenty-seven operations, with twenty-seven recoveries.

Rosenthal, Philadelphia: Eighteen operations, with sixteen recoveries.

Booker, Baltimore: Seventeen operations, with seventeen recoveries, including one aged ten months, and one seven and one-half months.

Seward, New York: Eight operations, with eight recoveries.

McNaughton, Brooklyn: "In my last seventy-two operations without serum, mortality 66.6 per cent.; in my first seventy-two operations with serum, mortality 33.3 per cent."

O'Dwyer, New York: "In my last one hundred intubations, first seventy without serum, mortality seventy-three per cent.; last thirty with serum, mortality 33.3 per cent."

But even these figures do not adequately express the benefit of antitoxin in laryngeal cases. Witness the fact that over one-half the laryngeal cases did not require operation at all. Formerly, ten per cent. of recoveries was the record for laryngeal cases not operated upon. Surely, if it does nothing else, the serum saves at least double the number of cases of laryngeal diphtheria that has been saved by any other method of treatment.

The great preponderance of intubation over tracheotomy operations shows how much more highly the profession in this country esteems the former operation.

A Study of the Fatal Cases.—Of the four hundred and fifty fatal cases in the committee's report, two hundred and twenty-nine, or one-half, received their first injection of the serum on or after the fourth

day of the disease, and one hundred and fifty-two, or over one-third of these, on or after the fifth day.

There were fifty-eight cases in which it was stated that the child was moribund at the time of injection, the serum being administered without the slightest expectation of benefit, but at the earnest solicitation of the parents.

There remain three hundred and fifty cases in which the cause of death could be pretty accurately determined by the reports. These died from the following causes, the most important cause being placed first:

Sepsis (including diphtheritic toxæmia) was the cause of death in one hundred and five cases: of which sixteen had nephritis, four were intubated or tracheotomized, two were laryngeal cases not operated upon, four had paralysis, one had pneumonia, and in one the fatal sepsis was attributed to a traumatic condition of the left knee.

Cardiac paralysis was the cause of death in fifty-three cases. Under this head are included cases of sudden heart failure occurring at the height of the disease (twenty-one in number), as well as those more commonly designated as heart paralysis, where death occurred suddenly after the throat cleared off. Of the latter there were thirty-two examples; four of these cases had throat paralysis, nineteen were septic, eight had nephritis, five were intubated, and one tracheotomized.

Broncho-pneumonia was put down as the cause of death in fifty-four cases. In thirty-seven of these it followed laryngeal diphtheria; of these, twenty-two were intubated and four tracheotomized; two had nephritis; nine were septic. Broncho-pneumonia and sepsis was the cause of death in ten cases, of which three had nephritis and one general paralysis. Broncho-pneumonia caused death in seven cases, apart from sepsis or laryngeal diphtheria; of these, only one had nephritis; one died from heart failure; and in five pneumonia came on late in the disease.

Laryngeal diphtheria without operation caused death in forty-eight cases. In some of these the operation was refused by the parents, in others it was neglected by the physician, the patients dying of asphyxia; three of these cases had nephritis, four were septic, two had pneumonia, and one had sepsis and nephritis.

Diphtheritic tracheitis or bronchitis caused death in eleven cases; all of these were intubated, and in two there was evidence of the existence of membrane in the bronchi before operation. There were thirty-three other cases in which death followed laryngeal diphtheria without the supervention of pneumonia. It is highly probable that in some of these death was due to membranous tracheitis or bronchitis. All of them were operated upon: ten were septic, two had paralysis, and one had nephritis.

Sudden obstruction of the intubation tube was the cause of death in three other laryngeal cases.

The tube was coughed up in three cases, fatal asphyxia occurring before the physician could be summoned.

Died on the table during tracheotomy, one case.

Nephritis was the cause of death in fifteen cases; seven of these were septic and three had been intubated.

General paralysis was the cause of death in five cases; in all probably the pneumogastric was involved.

Paralysis of the respiratory muscles produced death in one case, one of laryngeal diphtheria, which was intubated and was complicated by broncho-pneumonia.

Measles associated with diphtheria produced death in six cases; five of these were laryngeal and were intubated; in two there was pneumonia and in two sepsis. Diphtheria developed during the height of the measles or immediately followed it.

Scarlet fever with diphtheria was the cause of death

in six cases; in three of these there was bronchopneumonia, nephritis, and sepsis; in two scarlet fever preceded diphtheria, and in one of these there was sepsis with gangrene of the tonsils. In the sixth case the patient died of scarlet fever, which developed during convalescence from the diphtheria.

Gangrene of the cervical glands or cellular tissue of the neck was the cause of death in two cases associated with profound general sepsis.

Endocarditis caused death in one case, nineteen days after the diphtheria.

Diphtheritic inflammation of the tracheal wound with sepsis caused death in one case.

General tuberculosis, five weeks after diphtheria, was assigned as the cause of death in one case.

Exhaustion was the cause of death in three cases, one a protracted case; another complicated by pneumonia and sepsis; one by nephritis.

Convulsions was the cause of death in three cases apart from disease of the kidneys. In one, the well-known Brooklyn case, the girl died ten minutes after the injection, in another twenty-four hours after injection, in the third the particulars were not given.

Meningitis was assigned as the cause of death in one case.

The Kind of Antitoxin Used.—They are given in the order of frequency with which they have been used. First, the serum prepared by the New York board of health; second, Behring's; third, Gibier's;¹ fourth, Mulford's; fifth, Aronson's; sixth, Roux's. In addition, a large number of cases are reported as having been treated by the serum prepared by the health boards of different cities—Brooklyn, Newark, Rochester, Pittsburg, etc. The largest number of cases have been treated by the serum prepared by the New York health board, a very large number by Behring's serum, all others being relatively in small numbers.

Dosage and Number of Injections.—In the great majority of cases but one injection is reported. In very severe ones two and three have been given. The largest amount is in a case by Weimer (Chicago) who gave eighteen injections of Behring's serum to a laryngeal case in a child thirteen years old. Another instance of ten injections is reported with no unfavorable symptoms.

As a rule the dosage has been smaller in antitoxin units than is now considered advisable, particularly in many of the laryngeal cases and others injected later than the second day.

Cases Injected Reasonably Early (During the First Three Days) in which Antitoxin is Said to have Produced no Effect, the Disease Ending Fatally.—These cases are nineteen in number. Brief reports are introduced that the reader may judge to what degree they may be regarded as a test of the serum treatment. In our statistical tables all of them have been included among the fatal cases.

In Cases I. and II. the cultures were reported negative.

CASE I., by Gallagher, New York: Child eighteen months old; septic; although no eruption was present, the reporter was "inclined on reflection to regard this case as one of scarlatinal sore throat."

CASE II., by Potter, Buffalo: Male, fourteen months old; two cultures made, but no Loeffler bacilli found; membrane in the nose and pharynx. Injected on the third day, one dose of Behring's serum No. 1. No improvement; death from sepsis. "Probably pseudo-diphtheria" (I. H. P.).

¹ It is worthy of note that in the tests made by the State Board of Health of Massachusetts, published under date of April 6, 1896, this serum was found far below the standard as labelled upon the bottle; thus, a package marked to contain twenty-five hundred units, by test was found to contain less than seven hundred. All the other varieties of serum tested were found essentially up to the standard.

In Cases III. to IX. no cultures were made.

CASE III., by Tefft, New Rochelle: Seven years old; injected after eighteen hours' illness; two injections of Behring's No. 2 serum: membrane on the tonsils, pharynx, and nose; no effect observed from injections, patient dying on the third day.

CASE IV., by Tefft: Male, four years old; membrane on the tonsils and pharynx: injected after thirty-six hours' illness with Behring's No. 2; died on the third day; no noticeable effect from the injection.

CASE V., by Tefft: Six years old; membrane on the tonsils, nose, and pharynx; septic; injected after thirty-six hours' illness; three injections of Behring's No. 2. "Saw no effect from the injections, the disease going steadily on to a fatal termination."

CASE VI., by Cameron, Montreal: Two and a half years old; fifty hours ill; membrane on the tonsils, nose, and pharynx; septic; no improvement noticed, and child died twenty hours after injection.

CASE VII., by Baker, Newtonville, Mass.: Three years old; laryngeal diphtheria; injected on the third day ten cubic centimetres Roux's serum: cyanosis; intubation; temperature 103° F., and continued high until death in eighteen hours after operation; injections had no effect.

CASE VIII., by Anderson, New York: Three years old; injected after three hours' illness; membrane on the tonsils, nose, and pharynx; one injection of New York health board antitoxin. "A case of malignant diphtheria, full duration twenty-four hours."

CASE IX., by McLain, Washington: Four years old; twelve hours sick; membrane on the pharynx and larynx; two injections; no operation; first injection early in the morning, the other early in the afternoon; died the same day; no change in the condition; antitoxin had no apparent effect.

In Cases X. to XIII. diphtheria complicated measles, all reported by W. T. Alexander, New York. Disease confined to the larynx in all; in three the stenosis developed during measles, and in one while the patient was convalescing from measles; diagnosis confirmed by culture in every case, and in all intubation performed. Antitoxin seemed to have no effect, the cases going on to a fatal termination; all received their injections within twenty-four hours after the laryngeal symptoms appeared.

In three cases—XIV. to XVI.—the type of the disease was malignant from the outset.

CASE XIV., by Lloyd, Philadelphia: Fifteen months old; injected after thirty-six hours' illness; diagnosis confirmed by culture; membrane covered the tonsils, pharynx, nose, and larynx; intubation; sepsis; death on the fifth day. Although antitoxin was used as promptly as possible no perceptible effect was noticed. One injection, Behring's No. 3, was given.

CASE XV., by Wert, Mount Vernon, N. Y.: Eighteen months old; injected on the third day; diagnosis confirmed by culture; membrane on the tonsils and pharynx. "Very intense type of the disease." Antitoxin could not be procured before the third day; Gibier's serum used. "Died suddenly in apparent convulsions about ten hours after injection; urine not examined; very little passed."

CASE XVI., by Ingraham: Six years old; membrane covered the tonsils, pharynx, and larynx; diagnosis confirmed by culture; pneumonia present; condition very bad; injected after two and a half days' illness; three injections of Behring's serum; no benefit noticed.

CASE XVII., by Johnson, Buffalo: Three years old; twelve hours ill; case septic from the start; membrane on the tonsils, pharynx, and larynx; diagnosis confirmed by culture. "Antitoxin apparently had very little effect."

CASE XVIII., by Baker, Newtonville, Mass.: Two and a half years old; twenty hours ill; disease confined to larynx; diagnosis confirmed by culture; one injection of Gibier's serum; intubation. "Was doing well a few minutes before death, when child got up in its crib, changed color, and died almost immediately." Death attributed to "sudden heart failure; found no obstruction of the tube."

CASE XIX., by Story, Washington: Five years old; in fair condition; thirty-six hours ill; diagnosis confirmed by culture; membrane on the tonsils, pharynx and larynx; one injection of United States Marine Hospital antitoxin; injection produced no effect.

Cases in which Unfavorable Symptoms Were, Might Have Been, or Were Believed to Have Been, Due to Antitoxin Injections.—Only three cases reported to the committee could by any possibility be placed in this category. All of the details furnished by the reporters are reproduced:

CASE I., by Kortright, Brooklyn: Sudden death in convulsions ten minutes after injection. This case is the already well-known Valentine case, occurring in Brooklyn in the spring of 1895. The principal points were as follows: A girl sixteen years old; in good condition; tonsillar diphtheria; diagnosis confirmed by culture; injected on the first day with ten cubic centimetres of Behring's serum; died in convulsions ten minutes later.

CASE II., by Kerley, New York: Fairly healthy boy, two and one-half years old; membrane on tonsils, pharynx, and in nose. Diagnosis confirmed by culture; injected on the morning of the fourth day with ten cubic centimetres (1,000 units) New York health board serum; temperature at time of injection 100.4° F.; no sepsis, and child apparently not very sick; urine free from albumin. Distinctly worse after injection; in ten hours temperature rose to 103° F.; urine albuminous; throat cleared off rapidly, but marked prostration and great anæmia, with irregular fluctuating temperature, continued, and death followed from exhaustion with heart failure four days after the use of the serum.

CASE III., by Eynon, New York: Male, three and one-half years old; diagnosis confirmed by culture; two days ill; membrane on tonsils and in nose; two injections New York health board serum. "A rapid nephritis developed after the second injection, causing coma, convulsions, and death twenty hours after the second injection." In response to an inquiry for further particulars the following was received: "The case seemed a mild one, but the injection was given one afternoon and repeated the following afternoon, about 1,500 units in all. The urine up to that time had not been examined. About four or sixteen hours after the second injection unfavorable symptoms began to develop, pointing to infection of the kidneys. The urine was found to be loaded with albumin. My impression at the time was that the antitoxin either produced, hastened, or intensified nephritis, thereby causing the fatal termination."

In regard to the three fatal cases just cited, Case I. is wholly unexplained. In Case II. the query arises, did this sudden change hinge upon the injection of the serum, or was it one of those unexplained abrupt changes for the worse in a case apparently progressing favorably, so often observed in diphtheria? As regards Case III., it will be seen from the letter that the evidence is not at all conclusive. All details available are given, and the reader may draw his own conclusions.

Clinical Comments.—The following are selected from hundreds which have been received, and may be taken fairly to represent the sentiments of the physicians who have sent in reports:

Dr. Douglas H. Stewart, New York, sends reports of four cases, all desperate ones, and all "presumably

fatal under any other form of treatment." Very extensive membrane in all: larynx involved in three; in one neglected case in a child three years old, injected upon the fifth day, the membrane covered the tonsils, nose, pharynx, and larynx. Broncho-pneumonia, nephritis, and sepsis all present. Temperature 107° F. at the time of the first injection. Prostration so great that he dared not attempt intubation. Believes that this case would certainly have been fatal in a few hours without antitoxin. Perfect recovery.

In another case, three years old, membrane first discovered in the left ear; next morning seen upon the tonsils; spread in a few hours over the pharynx into the larynx and trachea. Intubation necessary in a few hours; had never seen membrane spread so rapidly as in this child. Urine albuminous; membrane subsequently expelled from larynx and trachea in large casts, with profuse bloody expectoration. Complete recovery on the ninth day. The physician describes this as "the very worst case of diphtheria that has ever come under my notice." Fifty-four hundred antitoxin units were given in four injections. He remarks: "My experiences in the past have been so very unfortunate that the advocates of antiseptics or therapeutics were a constant surprise to me. It has been my fate to have the most desperate cases unloaded upon my shoulders. I have been forced into the belief that the profession was absolutely powerless in the presence of true diphtheria; have lost case after case with tube in the larynx and calomel fumigations at work. Previous to antitoxin my only hope had become centred in nature and stimulants. In two years I have not lost a single case, and surely I may be pardoned if I suffer from diphtheria-phobia in a sub-acute form, and use antitoxin sometimes unnecessarily."

Dr. L. L. Danforth, New York, states that during his twenty-two years of practice in New York he had seen many fatal cases of diphtheria, had used all kinds of remedies, mainly those of the homeopathic school, and while he had as much confidence in the latter as in anything else, he had seen so many deaths during the year past that he "hailed with delight the advent of antitoxin, and determined to use it." Reports five cases, all of a severe type. "The result in every case has been marvellous. I would not dare to treat a case now without antitoxin."

Dr. H. W. Berg, New York, reporting fourteen cases, says: "I have not yet ceased to be surprised at the recovery of some of these cases, which, in the light of my former experience with diphtheria treated without antitoxin, seemed to be irretrievably lost."

Dr. George McNaughton, Brooklyn, reports seventy-two laryngeal cases, with twenty-four deaths; sixty-seven of these were intubated, with twenty-one deaths. He states that he has kept no records of cases other than laryngeal ones, as these seemed the best test of the serum treatment. He believes that if the serum is used early, very many cases will not need operation for the relief of stenosis. "I would urge the use of antitoxin in all cases of croup in any patient who has had an exudation upon the pharynx: would not wait for bacteriological confirmation of diagnosis, for in so doing valuable time is lost." Has noticed that the tube is coughed up more frequently in injected cases, and believes this due to the fact that the swelling of the tissues subsides at an earlier date.

Dr. D. C. Moriarta, Saratoga, reporting four cases, says that the first was a malignant one, and "I only used the remedy because I am health officer and was urged to do so, as the type of the disease was that form which I have seen recover but once in eleven years." Boy five years old, four days ill when injected; great prostration, rapid breathing, and he was "practically gone." Nares filled and tonsils and pharynx

covered; severe nasal hemorrhage; cervical glands greatly swollen; heart's action very frequent and feeble; child unable to lie down. Behring's serum, twenty cubic centimetres injected; in six hours evidently more comfortable; in eighteen hours decidedly improved; in twenty-four hours sitting up and feeling much better; in forty-eight hours all urgent symptoms gone and membrane loosening. Subsequently had nephritis, which lasted six weeks, and multiple neuritis, which persisted for three months, but ultimately recovered perfectly. "I send this report because it converted me. No unbiassed person familiar with diphtheria could see such results as this and not feel there must be good in it."

Dr. F. M. Crandall, New York, sends report of a child seven years old. Membrane on the tonsils and in larynx, with croup for forty hours when antitoxin was injected and intubation done. Progress of the disease had been rapid; semi-stupor and eyes half open; very feeble rapid pulse; intense toxæmia; general cyanosis. Both cyanosis and dyspnoea persisted after intubation, showing clearly the presence of membrane below the tube. Case regarded as "absolutely hopeless." The first change was seen in the disappearance of toxæmia, with improvement in the pulse, clearness of the mind, etc.; later a change in the local condition; large masses of membrane were expelled from the larynx and trachea, necessitating frequent removals of the tube. Tube finally removed in a week with complete recovery.

Dr. Reynolds, Baltimore, mentions a case showing the danger of relying too implicitly upon the bacteriological diagnosis. Male, three years. Culture reported only staphylococcus and streptococcus, consequently injection delayed until the fifth day, when membrane covered tonsils, nose, and pharynx. Child died two days later. A sister subsequently contracted the disease, received antitoxin on the third day, and recovered. The reporter would not wholly rely upon the culture test for diagnosis.

Summary.—(1) The report includes returns from six hundred and fifteen physicians. Of this number more than six hundred have pronounced themselves as strongly in favor of the serum treatment, the great majority being enthusiastic in its advocacy.

(2) The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favorable reports must be excluded.

(3) The report includes the record of every case returned except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included.

(4) No new cases of sudden death immediately after injection have been returned.

(5) The number of cases injected reasonably early in which the serum appeared not to influence the progress of the disease was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis; four cases of diphtheria complicating measles, and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

(6) The number of cases in which the patients appeared to have been made worse by serum were three, and among these there is only one new case in which the result may fairly be attributed to the injection.

(7) The general mortality in the fifty-seven hundred and ninety-four cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

(8) The most striking improvement was seen in the cases injected during the first three days. Of forty-one hundred and twenty such cases the mortality was 7.3 per cent.; excluding cases moribund at the time of injection or dying within twenty-four hours, it was 4.8 per cent.

(9) The mortality of fourteen hundred and forty-eight cases injected on or after the fourth day was 27 per cent.

(10) The most convincing argument, and to the minds of the committee an absolutely unanswerable one, in favor of serum therapy is found in the results obtained in the twelve hundred and fifty-six laryngeal cases (membranous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the five hundred and thirty-three cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

(11) The proportion of cases of broncho-pneumonia—5.9 per cent.—is very small and in striking contrast to results published from hospital sources.

(12) As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart, might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

(13) There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

(14) The effect of the serum on the nervous system is less marked than upon any other part of the body, paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

The committee feels that this has been such a responsible task that it has thought best to state the principle which has guided it in making up the returns. While it has endeavored to present the favorable results with judicial fairness, it has also tried to give equal or even greater prominence to cases unfavorable to antitoxin.

In conclusion the committee desires in behalf of the society to express its thanks to members of the profession who have co-operated so actively in this investigation, and to Dr. A. R. Guerard for the preparation of the statistical tables.

[Signed]

L. EMMETT HOLT, M.D.,	} Committee.
W. P. NORTHRUP, M.D.,	
JOSEPH O'DWYER, M.D.,	
SAMUEL S. ADAMS, M.D.,	

The Action of the Society upon the Report.—

At the close of its presentation, the society voted to accept the report of the committee, and after a full discussion it was decided to embody its conclusions in the following resolutions:

(1) Dosage. For a child over two years old, the dosage of antitoxin should be in all laryngeal cases with stenosis, and in all other severe cases, fifteen hundred to two thousand units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age the initial dose should be one thousand units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

(2) Quality of antitoxin. The most concentrated strength of an absolutely reliable preparation.

(3) Time of administration. Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

The committee was appointed to continue its work for another year and was requested to issue another circular asking for the further co-operation of the profession, this circular to be sent out as soon as possible in order that physicians may record their cases as they occur through the coming year.

THE "X" RAY AND SOME OF ITS APPLICATIONS IN MEDICINE—DEMONSTRATIONS OF APPARATUS AT WORK AND EXHIBITION OF STEREOPTICON VIEWS.¹

BY WILLIAM J. MORTON, M.D.,

NEW YORK.

PHYSICIANS, from time immemorial, have ever had a keen desire to explore the interior of the animal body. Hence arose dissection, and later on vivisection, and still later on the revelations of the microscope. But none of these methods fully satisfy the wish to know what is actually taking place within the animal organism during life, particularly when the processes of life pursue a morbid course. Hence sprang up further methods of exploration, some of them optical, and some auditory, and many tactile.

These methods we need scarcely enumerate; familiar examples are the ophthalmoscope, the cystoscope, the instruments and methods for transillumination and for auscultation and percussion, the probe, simple and electrical. The standard resources of physical science have ever been applied by the physician to this aim, namely, exploration; each discovery as it is announced is eagerly scanned to see if it may not have some practical application toward this same end. And in reality it is a noble strife, for it represents not alone the practical desire of the physician to solve the problem of life and disease and death, but also that instinctive desire of the intelligent part of the human race to get closer to and learn more of the mystery of its own existence and thus to form some conception of immortality.

No wonder then that the "X" ray with its marvellous revelations of the hitherto unseen has excited a universal interest. Thus far its greatest promise of usefulness is to medicine and surgery. It behooves us, then, as physicians to familiarize ourselves with the new method of exploration, and, now that the first glare of its announcement and of its workings has subsided, to judiciously and conservatively turn our attention to its relations to medical and surgical practice.

Even as yet, in the undeveloped stage of Roentgen's discovery, there can be little doubt that no more valuable means of diagnosis has ever been afforded to medicine.

Historical.—It is not here the place or time to review the purely physical steps which led in direct succession up to Professor Roentgen's discovery. The nature of the "X" ray is not known. The very word ray and the idea of a radiation are as yet hypothetical, and meanwhile the entire scientific world is bending its energies to the solution of the problem. Happy the discoverer.

¹ Address at a stated meeting of the Medical Society of the County of New York, April 27, 1896.

The view that the effects, which we may term Roentgen effects, are due to a stream of electrified particles moving at a high rate of speed is easy of conception. The contending view, that we have to deal with disturbance of the ether, either transversal or longitudinal, falls into line with the beliefs and the kindred demonstrations of some of the greatest of modern thinkers. We of the medical profession may well leave this battle royal of the scientists to themselves, and while awaiting its issue turn our attention to the practical applications of the "X" ray.

Discarding theory, it is enough to state that from a high vacuum tube, commonly called a "Crookes" tube, emanates a "radiation" which passes through substance in direct ratio to the density of the substance, and is capable of recording its impact upon a fluorescent screen or upon a photographic sensitized plate or film. The picture is therefore a record of variations in density or, what is the same thing, a record of opacity of the various forms of matter submitted to the "X" ray. That, for this reason, the bones are outlined within the flesh is now a familiar story. But, in my own experience, an examination of my negatives proves that the differentiation of tissue by relative density is capable of being carried to a much greater refinement. In one and the same negative to-night I shall be able to show you at the same moment a picture of the medullary and cancellous cavities of the bones of the leg, of the tendons, of the muscles, and of the skin.

We will now examine

I. Apparatus and outfit.

II. Demonstrate its workings.

III. Exhibit products of its work (lantern slides).

I. [Here followed a description of the Ruhmkorff coil and Crookes tubes and an exhibition of the methods of using them.]

II. The record made by the "X" ray after its passage through substances of varying density may be obtained in two ways: the one the fluoroscopic, the other the radiographic.

(a) **Fluoroscopy.**—Roentgen himself pointed out the effect of the "X" ray upon fluorescent screens. Its development into its present practical form is due largely to the efforts of Mr. Edison, who early abandoned the photographic method in favor of the fluoroscopic and devoted himself to finding, first a highly sensitive fluorescent material and, second, a practical method of employing it. As is well known, Mr. Edison believes that the fluoroscopic method may be made of great practical value to medicine, and has devised a specially constructed apparatus for physicians' use. The essential features of his plan I hope to be able to demonstrate to you to-night through Mr. Edison's courtesy in extending every aid in his power to us, and through the courtesy of Messrs. Aylesworth and Jackson, who have put at my disposal this large screen of tungstate of calcium. To Mr. Tesla also the medical profession owes a debt of gratitude for his development of the new art, photographic and fluoroscopic. He reports that he has clearly seen the interior organs of the human body, and even detected the rays after their passage through three men standing near together.

The world cannot be too grateful to men like Edison and Tesla, who unselfishly devote their entire individual energies and the great resources of their laboratories and of their experience to the solution of scientific problems like the "X" ray and its practical applications. [At this point a large portion of the audience filed by the fluoroscopic screen and viewed the bones of their hands in the fluoroscope. Also the lights in the hall were turned out and the bones of the forearm and other objects were exhibited to the entire audience upon a large fluoroscopic screen.]

(b) **Photography.**—[Here followed an exhibition of taking an "X" ray picture. The patient, brought by Dr. Saxl, was believed to have a piece of a needle in her hand. An eight minutes' exposure produced the accompanying picture, which was immediately developed and the negative passed about the audience.¹]

III. [The speaker showed various lantern slides, explained their working, and then continued:]

We are now in a position to draw some deductions as to the applications of the "X" ray in medicine and surgery.

Bones and Osseous Formations.—

The most obvious application of the "X" ray is to present to the eye a picture of the bones of the body, individually and in their relations to each other and to other tissues. By this means it is possible to detect and to diagnosticate irregularities, deformities, malformations, congenital or otherwise, of bones, and likewise to detect the existence of fractures and dislocations, the coexistence of both or the existence of one to the exclusion of the other. Diseases of the bones which vary their density, either by increasing or diminishing it, like exostoses, tuberculosis, and sarcoma, are clearly located. The various stages of the union of fractures are outlined. One of the radiographs I have presented depicts the slight malposition and a change in the marrow cavity at the ends of the fractured extremities in a case of an ununited fracture of the radius. Another locates what is presumed to be tuberculous disease, and is certainly some form of disease of bones of the wrist, in a case which has thus far for five years defied diagnosis and treatment. An operation, soon to be made, and not justifiable for mere ordinary exploration, will soon decide upon the nature of this disease.

The further possibilities of bone pictures alone are very great. By their aid the obstetrician may determine the position of the fœtus in its latest stages

of development within the uterus. Already I have taken one radiograph which plainly shows the child's head and the mother's vertebræ. I only await a favorable opportunity to repeat this with a result which will be satisfactory to any observer. Even now the fœtus may be plainly seen by aid of the fluoroscope and it requires no prophetic vision to state that the time is not far distant when the child may be as easily viewed within the womb as the coins within a purse, even to the extent of its sex.

Another promising field of research is the detection of calcareous infiltrations involving, for instance, the arteries, or occurring in the lungs and other tissues. Calculi in the kidneys, in the bladder, in the salivary ducts have already been successfully located.

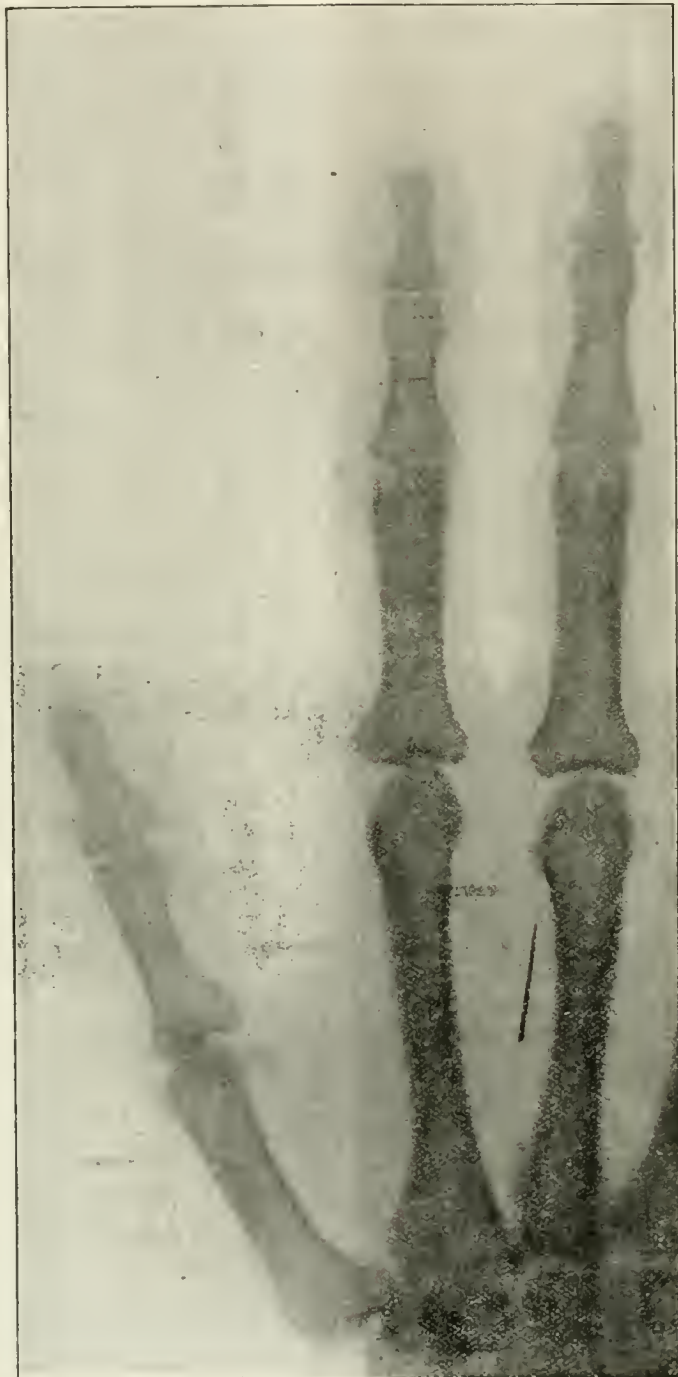
The stages of ossification and the epiphyseal relations of the osseous structure in children may be pictured, as is demonstrated in the picture of the entire skeleton of an infant five months of age, shown here to-night. The radiograph here exhibited shows plainly that it will be possible to detect spinal disease either in children or in adults.

In Dentistry.—Already I have had the pleasure of demonstrating before the Odontological Society that the "X" ray locates the hidden fangs of teeth, the presence of foreign bodies about the roots, the existence and extent of unsuspected fillings, the size of the pulp chamber of the tooth, the presence of teeth not yet erupted, and the existence of localities of disease at the roots.

Comparative Anatomy.—Akin to the interest to the surgeon

and to the dentist as relates to osseous tissue is the interest to the comparative anatomist of an opportunity to study the bony structure of animals, the higher as well as the lower. The radiograph of the fish shown to-night is most accurate and fascinating in its almost lacework outline of bony structure.

Foreign Bodies.—The detection of foreign bodies, particularly those of a metallic nature, is already an established fact. Bullets and shot are often embedded in bone or situated close to it, but the "X" ray detects them. The same is true of needles and other pieces



¹ Photographic prints of all my negatives, now a fairly large collection, may be obtained of Mr. E. B. Meyrowitz, 104 East Twenty-Third Street. A descriptive catalogue will be furnished upon application to him.

of steel. Glass, though partially permeable by the ray, affords a reliable picture of its location.

Germicidal.—I am inclined to dismiss this much vaunted claim made for the "X" ray with the remark that if two animal organisms exist side by side, one a bacterium, the other an animal cell, then what affects one affects the other; the "X" ray, if germicidal, is also homicidal.

Soft Tissues.—One of the most unexpected and as yet a most undeveloped, but obviously one of the most useful, applications of the "X" ray, is to locate the position of soft tissues, and not alone to indicate that they are the subject of disease but to locate even the area over which the disease extends.

In the radiograph of the infant the liver is plainly shown in outline, the heart is shown and mapped out in relation to the usual landmarks. Organs distended with gas, such as the stomach and intestines, allow the "X" ray to pass freely, and thus the record of their location and size is made.

These findings in relation to the soft tissues upon a radiograph are but the beginnings of a new art of diagnosis. In delineating and demarcating the organs and tissues, we shall soon arrive at refinements of method and of technique in relation to time of exposure, posturing, etc., which resemble the skill of the practised photographer, for an exposure may be so timed as to depict clearly the soft tissues and their interrelations. An overexposure, for instance, effaces every record upon the plate except that of the bones and may even easily efface that, while an underexposure gives a negative which is full of delicate ghost-like and yet clearly defined outlines of skin, muscle, tendon, veins, and arteries. Negatives of the latter type are far stranger and more startling to the investigator than the mere crude outlines of bones. The mind walks in among the tissues themselves. It is their ghost or their astral form that stands depicted.

But stranger still are the revelations of looking through the living fleshly body by aid of the fluoroscope. First are seen the vertebrae, the greater bones, the ribs, and then to the astonished gaze, in dark outline but moving, may be seen the beating of the heart, the rise and fall of the ribs in respiration, and the movements and rhythmical displacement of organs. I have seen these organs plainly outlined and noted changes in their density due to disease.

We need not become imaginative or speculative in a presentation of this subject, particularly as it is not yet possible to demonstrate to a large audience all that the experimenter himself has seen in the stillness and favorable circumstances of his own laboratory.

But, gentlemen, in conclusion it may be said, that if the practical development of this new art of what may be called inside-seeing or esography progresses yet another month at the rate it is now progressing, you will see with your own eyes and easily, not alone the skeleton construction of your neighbor or your patient, but also the location of his organs, the shape of his muscles and tendons and veins and arteries, nay, more, the variations in density of structure of these parts, and therefore the seat and area of their diseases.

"Many things that are hidden shall now be revealed."

Castration and Urination.—Power to void the urine naturally is usually one of the first results of castration. It is not always permanent. Atrophic changes in the gland begin after a few days. The explanation, therefore, is that ligation of the spermatic plexus produces active stimulation, tonic spasm of the muscles, etc.—MOULLIN.

WANDERING PHLEBITIS (PERIPHLEBITIC LYMPHANGITIS).¹

By WILLIAM P. NORTHRUP, M.D.,

NEW YORK.

THE purpose of this paper is to raise the question whether much of the so-called phlebitis complicating typhoid fever, influenza, and other infectious diseases, may not be in reality periphlebitic lymphangitis. The following illustrative case is submitted in favor of the view that it may be:

The patient was a woman seventy-two years old, well preserved, cheerful, energetic—one of whom it was said she was always "happy and interested in everything about her."

Her father and brother had frequent hemorrhages from the nose, which seem to have been moderate; another brother and a sister died of hemorrhage of the lungs; the patient herself had from childhood been subject to frequent profuse nose bleedings and hemorrhage from piles. She had several miscarriages before the birth of her one living child, after which birth she suffered from milk leg. Apart from the above, there was no significant family or personal history; no gout, no rheumatism. The patient herself had never suffered any serious illness.

One personal peculiarity of the patient was the conspicuousness of her veins in all parts of the body. From early adult life she had been unable to wear a low-necked dress because of this, and at the time of her illness, at the age of seventy-two, the veins were showing in her delicate skin in a manner most rare; the dark purplish color in contrast with the fair skin made one think of veins painted on a manikin by a rather clumsy amateur. This peculiarity is mentioned not because it suggests anything in the etiological line, but because it by chance afforded an excellent opportunity for observing any changes in superficial veins.

The history of the illness now described began with ill-defined feelings of not being in usual good health for one to two weeks, during the last two days of which time she experienced pain in the region of her left hip. It was afterward recalled that the patient, contrary to her habit or temperament, was very much depressed in spirits. To improve her general condition her daughter took her to drive and sought to entertain her by a visit to a loan art exhibition. While there the patient, to use her daughter's words, "seemed to give out altogether," and wished to go away. Thinking a little drive would do the patient good, they turned into the park. Presently the patient became "dazed," stupid, could not see, talked incoherently, became ghastly pale, could not answer questions, and appeared to be dying. The daughter hurried the patient home and to bed. When undressing her it was observed that the whole left leg was swollen and the left thigh looked bruised. Very soon after this I examined the patient, finding the left limb considerably swollen, normal in color, warm, and pitting a little on pressure, with something to attract attention in the left groin. There was diffuse boggiess over the whole region. On pressure in Scarpa's space, an irregular, slightly nodular induration and moderate deep tenderness was observed. The tenderness was not so severe as to preclude a thorough examination, but the boggiess rendered it difficult to determine definitely the condition of the underlying parts. The point which gave rise to the most anxiety of all in the examination was the fact that no pulsation could be felt in the femoral artery. On the other side it could be distinctly and easily felt, and subsequent examinations proved that there was no abnormality in the collocation of parts on the affected side.

¹ Read by title before the Association of American Physicians, Washington, May 2, 1896.

The case stood for the time, then, as follows: Sudden prostration; absence of femoral pulsation in left Scarpa's space, swollen limb; color of limb normal; temperature not sensibly different from that of its fellow. Body temperature, 103° F.; stupor, alternating with moderate delirium.

At this point in the history Dr. H. F. Walker saw the patient in consultation. His diagnosis was "lymphadenitis" and consequent diffuse œdema. The swelling in a confined space and œdema about it, caused the artery pulsations to become imperceptible. This diagnosis seemed at that moment to explain all the symptoms. Dr. Walker had seen similar cases.

On the following day about six inches of the internal saphenous vein became hard, with a whipcord feel, and very sensitive, finger-wide redness gradually developing along its course and later a wide irregular œdema, the whole linear area being exquisitely sensitive. After lasting four days the œdema began to subside, then the redness. The vein could easily be seen and appeared to the sight to be normal. The whipcord feel, however, still remained and the parts continued too sensitive to be handled. At this point it was noted that the œdema of the leg had not increased—had perhaps grown less. The patient gradually became more comfortable, the fever subsided, and general improvement was marked.

About a week from the first observation and when the whipcord feel was the only remaining evidence of inflammation about the saphenous, the outer aspect of the thigh in the upper half became tender and diffusely red with a wide area, having a brawny feel. It became apparent that this advance had taken in a loop of communicating veins which were whipcord-like and in a condition similar to that of the internal saphenous. The invasion of this new and extensive region was attended with constitutional symptoms, chilliness, elevation of temperature (101° F.), rapid pulse (125), pallor, sighing, restlessness, marked irritability, and depression of spirits, with petulance and weeping, stupor, and mild delirium. The constitutional disturbance lasted one or two days; the redness began to disappear on the fourth day, œdema was gone at the end of eight days, the whipcord feel and tenderness alone remaining.

At this time it was interesting to speculate whether the lesion was in the vein wall, a thrombo-phlebitis; if it should prove to be such, being a plainly visible vein, it would be interesting to observe what further use the patient would have of the affected veins, aggregating now about eighteen inches in length. After a few days of rest there was another event of interest—another pain, chill (chilly sensations), moderate rise of temperature, whipcord condition of another six inches of vein, finger-wide redness, bordering œdema, exquisite sensitiveness, this time reappearing about the internal saphenous vein, continuous with that of the first attacked. Now it was observed that all signs about the early affected veins had disappeared; there was, furthermore, an indication that the lesion was not of the intima with thrombosis, but that the lesion was extra-venous.

The walls of the veins were apparently entirely normal: blood could be easily stripped out of them, the current creeping back in plain view.

In this manner the process continued. After intervals of repose of from three to seven days, the affection at each recurrence measuring off six-inch lengths upon the vein, there were the same characteristic manifestations of chill, febrile reaction, whipcord feel, finger-wide redness, œdema, sensitiveness, subsidence of all symptoms, and then a complete return of the vein to normal condition.

The process followed the line of the internal saphenous vein to the lower third of the leg and there ceased.

Hope was entertained in the household that "it would pass off at the toes," as suggested by the patient.

After the lapse of from ten days to two weeks another chill with febrile reaction visited the patient, no visible vein being affected; then after another few days a second febrile reaction, similar to the four or five previously experienced, and still no visible vein was affected. While we were speculating as to where the inflammation would next appear, there came a third similar attack, and the internal saphenous in the opposite groin became a whipcord with accompanying œdema. From this point the process intermittently measured off its lengths up the superficial epigastric vein to the breast and there ceased. Still another rest, chill, and fever, and the same process entered upon its march along the course of the internal saphenous. It hitched along one six-inch length downward, halted, made a detour along the loop of external saphenous veins on the external aspect of the thigh exactly as it did on the other side; ceased in this region, in exactly the same way; measured off more and more lengths down the internal saphenous to the lower third of the leg, and ceased at the same level that it did on the first. When the inflammation made its appearance in the second leg all the lesion about the veins of the first affected leg had disappeared; the perivascular tissues of the superior epigastric and the upper portion of the internal saphenous had become quite normal.

When the process ceased at the right ankle and the lesion had disappeared, the patient was well. She has since been well, a period of more than two years.

Whether perivascular lymphatics of the superior epigastric vein of the left side were inflamed before the patient came under observation can be only conjectured. There are reasons for thinking they had been, for the patient had complained of pain in the left hip and had been ill some days before she collapsed in the art gallery. If, then, the inflammation behaved symmetrically in this respect as in all others, about two yards of superficial vein were involved first and last. The only hidden lymphatics affected, so far as known, were those of the pelvis, along which the process advanced from the left side to the right in the interval of its ceasing at the left ankle and appearing at the right groin. As will be remembered, this progression was marked by two chills and two febrile reactions of the same degree of severity and of the same general character as those in the other steps of progression.

The treatment of the case consisted in rest in bed, elevation of the swollen limb (the second affected did not swell), fluid diet, general regulation of the functions of stomach and bowels. Local applications of various kinds were tried. Cotton pads were employed for protection; hot and cold, wet and dry applications, with and without pressure, for relief of pain and tenderness, but no specific treatment was attempted. No alkaline treatment was directed toward dissolving any intravenous clot, neither was any scarification attempted to limit the advance of the lymph-channel infection. Bichloride wet applications were attempted, but caused irritation and were not continued systematically.

Quiet, rest in bed, fluid food, relief of symptoms, general good hygiene was the only aim in the later stages. None of the various plans of treatment tried at the outset seemed to modify the course, and the patient begged only to be left undisturbed.

It seems to the writer that periphlebitic lymphangitis is the correct name for the lesion in the present case. In the writer's experience the behavior of the tissues about superficial veins in typhoid fever has been practically the same. There has been the same whipcord feel, tenderness, œdema, and final subsidence of all evidences of previous inflammation. Furthermore, this inflamed tissue is located quite

often upon limited lengths of vein, in continuity, spreading a little or not at all and disappearing, having apparently let loose no accidental emboli and having left no thrombosis. The masterful way in which so-called thrombo-phlebitis has been cured and veins restored thrombus-free, suggests that the veins in such cases may have had a perivascular inflammation. A coat-sleeved infiltration, the perivascular spaces being crowded with lymphocytes, could easily give the cord-like feel, while yet the intimal coat and calibre remained practically undisturbed.

The writer cannot, at this point, refrain from expressing his opinion that infectious thrombo-phlebitis rarely, if ever, disappears completely, leaving a previous vein. Upon this point discussion is invited.

As to etiology of this variety of lymphangitis the explanation must await the results of animal experimentation or of chance antopsies. Bleeding piles, in the present case, would suggest themselves as a portal for entering infection. The infective process having appeared in the groin, its subsequent migration was along continuous ways, limiting itself to similar tissues. Why it confined itself for the most part to the lymphatics about the superficial veins, apparently selecting those of the internal saphenous and refusing those of the femoral, selecting those of the superficial epigastric and refusing those of the deep, is not easily explained. I have it on the authority of Prof. Geo. Huntington that the superficial veins are better supplied with surrounding lymphatics than the deep. Erysipelas has analogous characteristics and very similar features of appearance and behavior, *i.e.*, in cutaneous and subcutaneous tissues and surfaces.

Briefly to summarize: An aged patient, without previous illness, suffered a migrating lymphangitis which followed for the most part the course of superficial veins. There was no evidence that there was in any part a thrombosis, and the vein was ultimately left in an apparently normal condition.

Its infectious origin, intermitting advances, topographical limitations, suggest a process analogous to that of erysipelas.

Again, the question arises just here as to the possibility and probability of an infectious venous thrombosis ever clearing up, leaving the vein quite normal.

The reason for calling attention to this case is the fact that the migration was so extensive, and, further, that it seems to the writer that this lesion has been often set down by clinicians as phlebitis. Anatomists maintain that the perivascular lymph spaces are not an essential part of the vein wall. There may be no objection to the term "periphlebitis," but periphlebitic lymphangitis would seem to describe the lesion more completely.

57 EAST SEVENTY-NINTH STREET.

Abnormal Labor Pains.—Dr. Schaeffer, of Heidelberg, makes a division in labor pains, those that are purely atonic and those which are partially spasmodic. The most frequent cause of the partially tetanic pains is endometritis of the cervix, which results in a slowed first stage and consequently increased suffering; another cause is the frequent examinations made and irritation which they produce; abnormal position of the uterus may also produce them. In this condition it is not necessary to rupture the membranes, for they usually rupture without special delay. Treatment consists in placing the patient in favorable posture, use of warm baths, and hot vaginal douches. For weak pains, when simple atony of the uterus is present, small hypodermic injections of ergotin are found useful, producing an effect in about eight minutes after administration.—*Centralblatt für Gynäkologie*, No. 4, 1896.

IMPROVED TRACHELORRHAPHY.

By AUGUSTIN H. GOELET, M.D.,

PROFESSOR OF GYNECOLOGY IN THE NEW YORK SCHOOL OF CLINICAL MEDICINE, ETC.

THE benefit afforded by properly performed trachelorrhaphy in appropriate cases is very generally admitted, and though the operation may be applied unnecessarily by some and may be performed incorrectly by others, upon the whole it has perhaps been productive of more good than any other operation in gynecological surgery. The difficulty in those cases which do not yield satisfactory results lies usually in not removing a sufficient amount of the diseased tissue of the cervix, or in removing too much on the outer or vaginal margin and not enough on the inner margin or that next the canal, thus leaving a wedge of tissue which prevents proper coaptation of the flaps and puts too much strain on the sutures. This is partly because the denudation is done with scissors, which can seldom be made to cut through such dense tissue where it is desired to cut. They invariably slip, and considerable trimming is necessary afterward to get the flaps in proper condition for the application of the sutures. This consumes a great deal of time and is a serious disadvantage, as well as the fact that the scissors will frequently cut where it is not desired to cut and too much tissue is removed.

Another serious objection to the ordinary trachelorrhaphy is the great difficulty of inserting the sutures, because of the density of the tissue and the awkward position for the operator of the parts to be united. I venture to assert that any operator would infinitely prefer to do an abdominal section than one of these tedious and fatiguing cervix operations. It is, therefore, because I believe I have simplified the operation and made it quicker and easier, that I have been encouraged to describe the method that I have employed with so much satisfaction.

In the first place, the denudation is done with a knife especially designed for the purpose, which consists of a short two-edged blade set at an obtuse angle to the shaft and handle (see Fig. 1). I am well aware that several knives have been designed and used for this purpose before, but, so far as I know, none have been made upon the principle of this one, and they have not proven satisfactory, else they would be more used. These knives are made in two sizes and lengths, so as to be useful in all cases, since the cervix in some instances is thick and the flaps deep, and in others thin by comparison. The method of using the knife is to seize one angle of the laceration with a tenaculum, transfix it with the knife, which is then drawn forward, making a clean cut and denuding the flap out to the lower margin of the cervix with one stroke. It is then inserted again on the other side and the opposite flap denuded in the same manner. If now the tissue which is to be removed remains attached at the angle, a reverse movement of the knife severs it with its other cutting-edge. Besides the greater ease of denuding with the knife, there is another advantage, *viz.*, it can be inserted and held in such manner as to avoid leaving a wedge of tissue on the inner edge of the wound.

In the next place, a special needle is employed for inserting the sutures. I have abandoned the straight needles and the straight needles with slight bend near the point, and use a nearly half-curved, round needle, much smaller in diameter than the needles usually employed in this operation, with a flattened spear point. These needles can be inserted into the hardest cervix with the greatest ease. I have never yet broken one of these needles, and find that they can be inserted with very much less force than any other needle which I have used.

Next I use for suture material silkworm gut which has been especially prepared so as to render it pliable and easily tied. I do not think catgut, silk, or any suture which is not impervious should be used in plastic work upon the cervix. The silkworm gut is prepared in this manner: Each strand is carefully wiped off with gauze or cotton saturated with ether, and a number of strands are put into a glass tube of suitable length, the ends being stoppered with rubber corks. The tube is filled with a two-per-cent. solu-

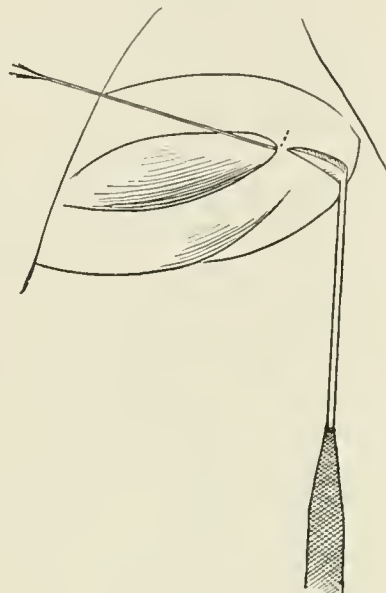


FIG. 1.

tion of lysol, one end is left uncorked, and it is placed in a sterilizer in which the solution in the tube can boil for half an hour. The lysol solution makes the silkworm gut very pliable, so it can be tied as easily as catgut, and in addition it renders it thoroughly aseptic.

The operation is further facilitated by placing the patient in the lithotomy position.

Technique of the Operation.—It is of the greatest importance that the patient be carefully prepared for the operation. For two weeks, every second day a

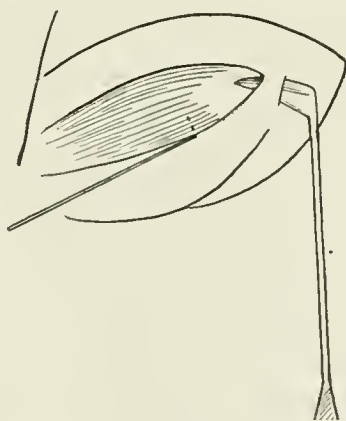


FIG. 2.

tampon of prepared wool soaked in glycerin is placed against the cervix to deplete and soften it. This is removed after twenty-four hours and a copious douche of hot water is projected against the cervix and vaginal vault by means of a syringe giving an interrupted flow. At each sitting for the introduction of the glycerin tampon any cysts of the Nabothian glands detected on the cervix are punctured and emptied.

Two days previous to the operation the patient is given a calomel-and-soda purge and she is placed

upon a restricted diet. The morning of the operation she is given a saline cathartic, the vulva is shaved and washed in a one-per-cent. solution of lysol, and she is given a vaginal douche of lysol solution also.

When anesthetized, she is placed upon the operating-table in the lithotomy position, a speculum is inserted, and the vagina is thoroughly scrubbed with a one-per-cent. solution of lysol and afterward irrigated with a solution of bichloride, 1 to 2,000. A ligature is then passed through each lip of the cervix and tied with a long loop, which is held by an assistant, usually the nurse, who also holds the speculum and who stands at the left of the operator. The cervix at the angle on one side (the left first) is seized with a tenaculum and the knife (as shown in Fig. 1) is made to transfix the cervix on one side of the angle. This done, the tenaculum is loosened and reinserted in the lip near the lower border near where the line of denudation is

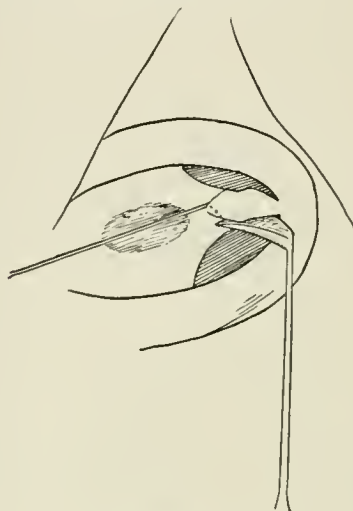


FIG. 3.

to terminate on that side (see Fig. 2), and the knife is drawn forward, making the denudation with one stroke. The knife is again inserted at the angle on the same side of the cervix, but on the opposite flap, and it is denuded in the same manner. If the tissue to be removed remains attached at the angle, a few strokes upward with the other cutting edge of the knife severs it so it can be removed. The same thing is repeated on the other side (see Fig. 3).

In making the denudation the knife is held at such an angle that rather more tissue is taken from the inner than from the outer surface, so as to remove the

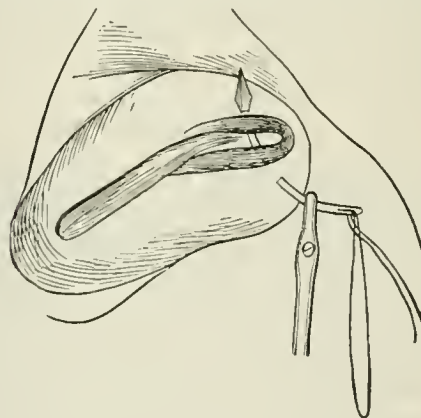


FIG. 4.

ridge along the margin of the new canal of the cervix, which if left would prevent satisfactory coaptation of the flaps. In denuding with scissors this nearly always remains and must be carefully trimmed off afterward, considerable time being consumed in doing so.

The sutures of silkworm gut are inserted by means

of the special curved needles described above, being threaded with a carrying-thread (see Fig. 4). It is preferable to insert the outer or lower suture first, so as to get perfect coaptation of the edges of the flaps where the new external os is to be formed. It will not be difficult to insert the other sutures if the loop of this first one is left long, so as not to draw the flaps together. The sutures are, of course, inserted on the vaginal margin of the flap and brought out on the margin of the new canal upon the mucous surface and not upon the denuded surface. As each suture is passed it is clamped by pressure forceps and handed to an assistant to hold. All the sutures on both sides (three on each side being usually sufficient) are inserted before any are tied. Then the flaps are separated, and they are thoroughly irrigated with a solution of bichloride, 1 to 2,000. The sutures are tied from without inward, or from below upward, tying that at the angle last. The ends are cut about half an inch from the knot, the vagina is washed out, and the patient is removed from the operating-table to the bed. No dressing is applied to the cervix or vagina.

351 WEST FIFTY-SEVENTH STREET.

plete relaxation, extension was made from in front with counterextension at the shoulders, the greatest care being taken that no sudden movement should be made. There was an immediate and gratifying response to these efforts, respiration was not at all affected, and we could then distinctly feel the spinous process of the fourth cervical vertebra in line with those below, while there was complete disappearance of the deformity. Having thus reduced the dislocation, the next problem was to retain the bones in their proper position. The solution decided upon was a plaster-of-Paris cast, which was applied so as to extend from the occiput and the thyroid cartilage above to the first dorsal vertebra and the sternum below, care being taken to allow sufficient room for the neck. The patient was then placed in bed and watched carefully for three hours, during which time his condition remained satisfactory. He was allowed to go about in a week, the plaster was removed in three weeks, its place being taken by roller bandages, and he was discharged cured in five weeks from the date of the injury. Since then he has been attending to his work as a compositor, and he is apparently none the worse for the accident.

271 EAST BROADWAY.

Clinical Department.

DISLOCATION OF THE FOURTH CERVICAL VERTEBRA—REDUCTION—RECOVERY.

By WILLIAM H. NAMMACK, M.D.,
NEW YORK.

GEORGE W—, aged twenty-one, on September 2, 1895, while bathing at Far Rockaway, L. I., dived into shallow water and struck his head against the bottom. The forcible flexion of his head resulted in a dislocation. He became unconscious and remained so for about an hour as a result of the concussion of the brain, but this condition responded readily to the usual remedies.

On examination by Dr. Thomas J. Kearney and myself a marked deformity was apparent. We felt the vertebra prominens, and the sixth and the fifth vertebrae were also found in their normal position. Above these, however, the spine was bent forward, and a wide gap posteriorly was easily felt and was even visible. The head was completely immobile and the malposition of the parts was peculiarly characteristic. There was no paralysis either of motion or of sensation, severe pain, of which the patient complained, being the only pressure symptom. Deglutition of liquids was difficult and painful, that of solids impossible.

By placing the finger in the posterior part of the mouth, the projection forward of the displaced vertebra was easily felt, so that we believed that the articulation between the two vertebrae, the fifth and the fourth, was torn open, that the supraspinous and the infraspinoous ligaments, the ligamentum subflava, and posterior common ligament were torn through, while the ligamentum nuchæ remained intact, drawing the occiput downward toward the vertebra prominens and so increasing the deformity.

Upon consultation it was decided to endeavor to reduce the dislocation, and the dangers incident to such a step were explained to the family, who left the treatment entirely to our discretion. Drs. Burns and Bumster, whom I called upon for assistance, acquiesced in the following plan of treatment:

The patient was placed prone upon the table with his head and neck extending beyond its end, and supported in that position during the administration of ether. As soon as the anæsthetic had produced com-

HYDATIDIFORM MOLE.

By WILLARD GILLETTE, M.D.,

ROSEBOON, N. Y.

A MARRIED lady, eighteen years of age, and the mother of a child twenty-two months old, was regular in her menstrual periods until September 1st last and noticed nothing again until October 25th, when she began to have uterine hemorrhage, at times profuse. November 7th I was consulted in regard to this flow and, regarding it as simple menorrhagia, gave her a three-grain pill of ergotin three times daily, to check hemorrhage, which it did to some extent. This treatment was continued until November 24th, when I saw the patient for the second time and made an examination of the abdomen. I found the uterus about the size of a child's head and tense and I diagnosed the case as one of pregnancy. This the patient strongly denied and said she had never noticed any enlargement until then. November 28th, about eleven o'clock at night, I was called to see her and found her in considerable pain and having some hemorrhage; I gave her an anodyne. I made a vaginal examination and found the uterus reaching to the umbilicus. I was very much surprised to find this rapid increase in size in this short time, for, as before stated, the uterus was just above the pelvis and about the size of a child's head on November 24th, only four days before, but now it reached the umbilicus. I found the uterus very low and distended, of a doughy feeling, and the os so far displaced toward the sacrum that I could scarcely reach it and also slightly dilated.

To say that I was astonished at this state of things is putting it mildly. However, I decided to await developments. In the morning I found the patient in a chair, with no pain and no hemorrhage. About noon I saw her again when she was having some hemorrhage. Vaginal examination revealed the os more dilated. I used a tampon and gave one drachm of ergot, fluid extract, followed once in two hours by a three-grain pill of ergotin. The pain continued.

About 5 P.M. expulsive pains began and after a little time the patient said the child was born. Upon examination I found a mass of hydatids or hydatid cysts resembling white currants, and then for the first time in the history of the case did I find that I had to deal with "a molar pregnancy," the first one in my experience. These cysts continued to be expelled

until between three and four quarts were taken, and among them a fœtus of perhaps two months. The hemorrhage ceased immediately. I gave ergotin pills at four-hour intervals during the night. I saw the patient December 2, 1895, and found her doing nicely.

Progress of Medical Science.

A New Form of Incontinence of Urine.—Dr. Abarran calls attention to a new form of incontinence of urine in young girls, which is due to a defect in the development of the internal genital organs (*New York Medical Journal*). He relates the case of a patient who had been troubled with incontinence for six years. It had appeared when menstruation was established, and all treatment had failed to bring about a cure. The patient was thin, badly-developed, and nervous. The external genital organs were normal, but an examination revealed the absence of the anterior cul-de-sac of the vagina; the vaginal wall was tense, and it was inserted directly on the anterior lip of the cervix uteri; the posterior cul-de-sac was well developed; the uterus was small and conoid; the left ovary was in its proper place, but the right ovary was nearer than normal to the anterior vaginal wall. The bladder and the urethra were normal, but a malformation of the internal genital organs existed, which consisted of an abnormal adhesion of the posterior wall of the bladder to the anterior surface of the uterus. This explained the cause of the incontinence. When the patient lay down the uterus became displaced backward and dragged with it the posterior wall of the bladder, which adhered to its anterior surface; when the patient stood up the uterus became displaced forward and pressed heavily on the posterior wall of the bladder, thus causing the vesico-urethral sphincter to remain open. An incision was made in the anterior wall of the vagina, extending from the neck of the uterus almost to the urethra. The uterus was detached from the bladder, and the inter-utero-vesical space was packed with iodoform gauze. At the end of fifteen days the faradic current was applied to the neck of the uterus three times. This treatment, says the author, resulted in a complete cure.

Trional in Epilepsy.—Dr. H. P. Boyer reports his observations in regard to the clinical use of this drug by Dr. S. Weir Mitchell, as the results obtained from this treatment were such, he says, that it was thought advisable to publish them. In most instances where trional was used the patients were in some way benefited (*New York Medical Journal*). Either the number of attacks was diminished, their severity lessened, or the general physical condition of the patient improved. Early in 1894, says Dr. Boyer, Dr. Mitchell, pleased with the results of this treatment in his private practice, began to use it in his out-patient service. The results of its use and the drawbacks are stated in an account of thirteen cases. Others, says Dr. Boyer, might be added to the list, but the patients neglected to report at the hospital, and the results could not be carefully watched. Others, again, suffered so much from drowsiness and vertigo, and derived so little benefit in regard to the diminution of the number of attacks, that the treatment was not kept up for more than two or three weeks. Of the thirteen cases referred to, in ten there was a marked decrease in the number of attacks during the treatment, and the physical symptoms also were singularly improved. In five of the cases the number of attacks was less under the trional treatment than under the bromide treatment: in two others, however, the bromides gave more satisfactory results. Dr. Mitchell believes, says Dr.

Boyer, that trional may often prove an efficient substitute for the bromides, and he states that he has seen no ill effects follow its continuous use for many weeks. It is well, he says, at times to give the bromides in the daytime and trional at night.

Gunshot Wounds of the Abdominal Viscera.—Dr. Randolph Winslow (*Bulletin of the Maryland University Hospital*, vol. i., No. 1) summarizes his views as follows: 1. In view of the almost uniformly fatal result of gunshot wounds of the abdominal viscera, when treated conservatively—that is with opium, rest, and starvation—it is the bounden duty of surgeons to subject such cases to laparotomy, and to repair, so far as possible, such injuries as may have been inflicted. 2. Operate at once, and do not wait for symptoms of perforation of the intestines to occur—that is, for the development of peritonitis—or the golden opportunity will be lost and the operation will be too late. 3. The condition of shock in abdominal injuries usually means hemorrhage, and it is best not to wait for reaction; otherwise the only possible chance of saving life may be lost. 4. The exploration of the abdomen should be thorough, and for this purpose a very free incision may be necessary. 5. All bleeding vessels must be secured, and all intestinal wounds must be sutured. 6. It is generally best to open the abdomen in the linea alba, but in some cases it may be preferable to operate at the site of the wound. 7. Operate as speedily as possible, but do not hurry.

Indications for the Induction of Abortion.—Dr. Jeffé (*Medizinische Neuigkeiten*, No. 45, 1894) after a study of the literature of the last ten years fixes the indication for inducing abortion as follows: Absolute indications—1. Uncontrollable vomiting of pregnancy. 2. Incarceration of the gravid uterus. 3. Obstruction of the pelvic outlet by tumors or exudates. 4. Progressive and pernicious anæmia. 5. Grave chorea. Relative indications—1. Great contraction of the pelvis with the conjugata vera below five centimetres. 2. Pulmonary emphysema with signs of degeneration of the heart. 3. Nephritis, especially with eclampsia. 4. Chronic heart disease. 5. Other general diseases of the mother which would jeopardize her life at that time of delivery. The author holds that a conjugate vera of six centimetres and advanced pulmonary tuberculosis should not be regarded as indications for abortion, as it is not just to sacrifice a future life for one that is "certainly lost."

Syphilis and the Etiology of Atheroma.—Dr. Weber (*American Journal of the Medical Sciences*, May, 1896) concludes: 1. That atheroma of the aorta, though often preceded or accompanied by inflammation, is itself a merely degenerative process; that syphilitic or other inflammation may locally predispose to atheroma. 2. That aneurism of the aorta is induced more often by the yielding of a portion of its wall affected by syphilitic or other inflammation than of a portion affected by simple atheroma.

Dislocations of the Hip.—In a monograph on this subject, to which was awarded the Samuel D. Gross prize for 1896, Dr. Oscar H. Allis discussed the following points: 1. The capsule is the most important agent against traumatic dislocations of the femur. 2. For the laceration of the capsule and dislodgment of the head of the femur the femur is employed as a lever. 3. Every lever has a fulcrum; the fulcra required in dislocations of the femur are bony and ligamentous. 4. Dislocation by thrust, if possible, is infrequent. 5. Reduction by circumduction is the simplest, the most brilliant, and the most hazardous of all modes of replacement. 6. Method suggested for reduction of dislocation of the head of the femur when associated with fracture of the shaft.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

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New York, July 4, 1896.

THE ANTITOXIN QUESTION.

AT the present time, when the antitoxin treatment for diphtheria is so much under discussion, the report of the American Pediatric Society will be read with much interest. It is only by such thorough work in the collection of statistics from widely different sources, and the fair and careful estimation of all possible controlling influences, that valuable and impartial facts can be obtained. Under such circumstances only can fair opinions be formed and proper conclusions drawn. Too much praise cannot be given to the committee having the matter in charge for the painstaking manner in which the work has been done. Never before has a similar investigation been made in which more vital interests have been at stake and in which it was more necessary that some general principles should be established upon which proper conclusions could be founded. It is fair to say that upon the question whether or not antitoxin is valuable in diphtheria rests the whole theory of the serum treatment of infectious diseases. Too much care cannot be taken in properly sifting all the facts *pro* or *con*, bearing upon the important point at issue. The conviction cannot be resisted that the great preponderance of professional opinion is strongly in favor of the method. This is abundantly proved, thus far at least, by the widespread use of the remedy and the growing conviction that it has a marked and striking effect in reducing mortality. Notwithstanding, however, the large number of statistics already collected, we are not yet prepared for final conclusions. There is no denying the fact that bacteriology pure and simple has appropriated more than its just share of credit in the present aspect of the question, nor is there any doubt of a desire among the very active workers in this now promising field of investigation to still more magnify the importance of their researches at the expense of clinical experience, upon which, after all said and done, the practical use of every therapeutic measure must finally rest. Thus the tendency has very naturally shown itself to found the diagnosis absolutely on the bacteriological examination, with the result of greatly enlarging the number of cases and proportionately reducing the rate of mortality. Not every throat containing the Loeffler bacillus is necessarily a malignant case. In times past there was no way of deciding between a malignant and a benign case save by the different constitutional dis-

turbances that were manifest. In a great many of these cases the local lesions were apparently the same. Bacteriology has made great advances in clearing up many cases of reasonable doubt, but the broad generalizations regarding the true significance of a given microbe are not yet so firmly established as to be beyond the possibility of doubt or above the right of challenge.

The Pediatric Society has shown a very proper spirit in its efforts to eliminate these sources of error, and in this respect more particularly has shown the example for future investigation along very promising lines. The truth will eventually be found in the middle ground between the extreme views. The society has made the most of its opportunities, which have been quite extraordinary, in raising the discussion to such a level, and in this respect has set the pace for all similar inquiries.

The conditions of the inquiry have been fair and reasonable, and need only to be carefully studied to be properly appreciated. It was eminently proper that the test of the remedy should be made on children previously well nourished, such, for instance, as could be seen in private practice; that the number should be widely distributed, and be sufficiently large, including all cases reported, to reduce errors of calculation to a minimum and establish a proper estimation of percentages. A crucial test has been made on the basis of mortality of the severer cases which required intubation. It can be seen that so far the favorable figures are on the side of antitoxin. Still, as before intimated, we are just beginning to study this question from the proper standpoints, and while the great majority of the profession may very properly continue the use of antitoxin, we are very much in need of many more facts before we can silence absolutely such as still need to be convinced of its efficacy. The case is still being very successfully argued on the side of antitoxin, but the great, silent, careful, powerful jury of the profession is not yet ready with its final verdict.

THE TREATMENT OF PRURITUS.

IN a recent issue of the *British Medical Journal*, a discussion on the pathology and treatment of pruritus is published, in which a number of prominent dermatologists took part. The discussion was limited in the main to the consideration of pruritus not associated with any distinct skin eruption, although an able discussion of the relation of this symptom to skin disease is given by Dr. Brooke. It is interesting to read over simply the list of the causes which lead to persistent and obstinate itching of the skin. Pruritus occurs in old people, and seems to be merely one of the symptoms of an involution of the epidermis. It attacks some persons in the winter time, because a lower temperature is enough to bring out the symptoms in those with a predisposition to the trouble. There are curious types of pruritus, which have been called by some "brain itch" and by others "pruritus mentis." In this the itch is a pure hallucination, the locality being not in the skin but in the cortex of the brain. There is a

pruritus that comes on after people take strong tea or strong coffee, and another kind which develops after eating badly cooked oatmeal or indigestible starchy food. General pruritus has been known to be caused by tapeworms, and there is a popular belief that itching of the tip of the nose is a reflex pruritus from pinworms in the rectum. One of the speakers in the discussion stated that he had seen in recent years many cases of pruritus ani from bicycling and polo playing. Pruritus, however, in its commoner manifestations is probably most often seen in connection with a gouty diathesis or with diabetes, in which cases there is often some eczema associated with it.

The foregoing are some of the facts, sufficiently familiar, but presented anew by the speakers in the discussion referred to.

The subject of treatment was touched upon by half a dozen of the gentlemen, most of them referring to measures which they had found useful in some particular form of the trouble. Dr. Garrett Anderson recommends for the pruritus of neurotic women and "men of feminine habits"—whatever she may mean by that—rest before meals, increase of food, silk underclothing, and cod-liver oil. Dr. Myrtle recommended, in vulvar and anal cases, the free use of an ointment composed of fifteen to forty grains of potassa fusa to one ounce of lard. Two physicians, Dr. Waldo and Dr. F. H. Barendt, advised the use of mustard leaves over the spinal cord or of blisters over the same area. Dr. Barendt also recommended strongly, as a local application, hot olive oil containing two per cent. of carbolic acid for five minutes night and morning. We find nothing specially new in the line of drugs for internal use. Dr. Anderson has had the best results from the administration of atropine or of one of the coal-tar derivatives, and by using electricity. Atropine is given subcutaneously, in doses of one-one-hundredth of a grain, gradually increased. Of the coal-tar derivatives, antipyrin is the best, but it is to be given in large doses. Mention is, of course, made of the ordinary precautions as regards diet and bathing, things which all physicians would naturally take into consideration.

AN IMPOSSIBLE WORD.

We have received a reprint of an article entitled "Aeroporotomy," written by a medical practitioner in Cleveland who has a laudable desire to better our medical nomenclature. Our heart sank as we read the title, for the obvious meaning of the word would be cutting up an aeronaut. These poor creatures run enough risks through collapse of their parachutes, and it did seem too bad that any of them should have come under the knife of a Cleveland surgeon. We were somewhat relieved, however, to find that the dreadful word was only one which the author proposed as a general term to express any or all of the various methods for letting air into the air passages. As such, the attempted coinage is not a success. We do not think the need of any such inclusive term is very strongly felt, but if one wants to

say opening into the air passages, he had better stick to the English. It is quite expressive and fairly well understood in this country.

News of the Week.

A Hospital Quarrel in Australia.—The members of the attending staff of the Adelaide Public Hospital, of Adelaide, South Australia, have resigned in a body on account of some disagreement with the authorities, the nature of which is not stated in the dispatches. The government is stubborn, and has sent to England to secure a full staff of physicians and surgeons to serve on a salary. The local profession is unanimous in support of the resigning staff, and those who may take their places on the invitation of the government will not receive a very cordial welcome from their confrères. This will doubtless, however, not interfere with the success of the government's scheme, and indeed one well-known London man, Dr. Leith Napier, has already accepted the invitation, and his example will probably soon be imitated.

Dr. Hans von Hebra, the son of the "Father of Dermatology," formerly privat-docent, has now received the appointment of professor at the University of Vienna.

A New Greek Medical Journal.—We have received the first number of *Ἱατρικὴ Προόδος* (*Medical Progress*), a monthly journal published in Syros, under the editorial management of Dr. John A. Phoustanos. Each number is to consist of twenty-eight quarto pages, with a supplement containing a serial treatise on the "New Remedies" by the editor. The first two numbers contain several interesting articles on various subjects.

Resignation at the Woman's Hospital of Philadelphia.—Dr. Anna M. Fullerton, physician-in-charge of the Woman's Hospital for the past ten years, has resigned her position in that institution. The managers have not yet appointed her successor.

New York Medical Licenses no Longer Accepted in Pennsylvania.—The Pennsylvania State Medical Council has rescinded its rule accepting licenses from the New York State Board of Medical Examiners, in retaliation for the refusal of the New York examiners to accept the licenses issued by the Pennsylvania board.

The University of Utrecht has just celebrated the two hundred and sixtieth anniversary of its foundation on June 22d.

Professor Virchow has had a narrow escape, having been thrown down in the streets of Berlin by a bicycle. Fortunately he suffered no severe injury.

Dr. Joseph McFarland, demonstrator of pathological histology and lecturer on bacteriology in the University of Pennsylvania, has been elected professor of pathology in the Medico-Chirurgical College, in succession to Dr. E. B. Sangree, recently elected to a similar chair in Vanderbilt University.

Medico-Chirurgical College of Philadelphia.—Dr. Isaac Ott, professor of physiology, has been elected dean of the Medico-Chirurgical College, vice Dr. Ernest Laplace, resigned.

College of Physicians of Philadelphia.—At the stated meeting of the College of Physicians of Philadelphia, held on June 3d, Dr. Joseph Leidy read a "Note on Infantile Scurvy," reporting two of nine cases that had come under his observation. Dr. Oscar H. Allis read a paper entitled "The Mechanism of Dislocations of the Shoulder and Hip Deduced from their Accidental Restoration," and presented specimens as follows: (1) Impacted fracture of the neck of the femur; (2) fracture of the neck of the femur, partly intracapsular, partly extracapsular, with transfixion of the capsule, and accompanied with flexion of the femur at the hip. Dr. Robert G. Le Conte reported the case of a man who had received a bullet wound of the neck, in which the missile could not be found upon examination by the ordinary means, but which after some time was located by means of skotography. After extended search the bullet was found in front of one of the lower cervical vertebræ, between which and the œsophagus in front an abscess had formed. This is an instance of the saving of life which is to be credited to the new light. The following were elected to fellowship: Drs. T. C. Ely, H. D. Beyea, A. H. Cleveland, L. S. Smith, J. C. Da Costa, W. M. Angney; and the following to associate fellowship: Sir George Murray Humphrey, Bart., of Cambridge, England; Dr. George M. Sternberg, U. S. A., of Washington, D. C.; Dr. Phineas S. Conner, of Cincinnati, O.; Dr. T. McLane Tiffany, of Baltimore, Md.; and Dr. William T. Lusk, of New York City.

The Lepra Bacillus has been found in the blood, as well as in the tissues, by Dr. Bouffé, of Paris.

Vital Statistics of Philadelphia.—For the week ending June 20th there were reported to the Philadelphia board of health 414 deaths, of which 174 occurred in children under five years of age. Among the most important causes of death were: Pulmonary tuberculosis, 46; cholera infantum, 32; heart disease, 30; pneumonia, 28; marasmus, 26; convulsions, 22. The following figures show the morbidity and mortality of diphtheria, scarlet fever, and typhoid fever for the weeks ending June 13th and 20th respectively:

	—JUNE 13.—		—JUNE 20.—	
	Cases.	Deaths.	Cases.	Deaths.
Diphtheria	46	8	40	11
Scarlet fever.....	16	..	13	1
Typhoid fever	39	9	30	3

State Medical Examinations.—At the Pennsylvania State Medical examinations, held at Harrisburg on June 16th, there were three hundred regular applicants, about seventy homœopathic, and several eclectic. It was discovered that one of the applicants had in advance obtained a copy of the examination questions, and was disposing of his information at the rate of \$25 to all who wished it. The discovery was made in time to change the questions, and the confession of the offender was followed by his

proscription from the practice of medicine in the State of Pennsylvania. The examination of applicants for a license to practise medicine in Delaware was held on June 16th, 17th, and 18th. The examination of graduates in regular medicine was held at Dover; those of graduates of homœopathic schools at Wilmington.

Philadelphia County Medical Society.—At the stated meeting of the Philadelphia County Medical Society, held on June 10th, Dr. B. Meade Bolton, director of the bacteriological division of the board of health, read a paper entitled "The Examination of Cultures from Cases of Suspected Diphtheria." The data were abstracted from the first annual report of the bacteriological laboratory of the bureau of health, and were summarized in the MEDICAL RECORD of March 7th, p. 347. Dr. Edward Jackson read a communication entitled "The Profession, the Opticians, and the Public," in which he made a strong plea for greater care and attention on the part of ophthalmologists in the correction of refractive errors of the eye. He condemned the practice, now happily declining, of prescribers of glasses accepting commissions or other form of compensation from oculists. Dr. Ernest Laplace read a paper on "The Surgical Treatment of Insanity," reporting several cases presenting symptoms of mental aberration, in which relief was afforded by trephining, separation of dural adhesions, removal of old blood clots, etc. Dr. J. P. Crozer Griffith reported "A Case of Varicella Gangranosa," in which, following an attack of croupous pneumonia, diphtheria, rubeola, and varicella occurred synchronously in a child twenty-two months old. Large bullæ formed in various parts of the body, the breaking down of whose walls and the evacuation of their contents were followed by ulceration and gangrene. Upon post-mortem examination the trachea was found occluded by diphtheritic membrane, although the larynx was free.

"A Medical Jack the Ripper" is what the gentlemanly premier of South Australia called the former head of the gynecological staff of the Adelaide Hospital, who had resigned with his colleagues rather than submit to be ruled by a board, one of whose members was a practitioner who had been expelled from the local branch of the British Medical Association.

Obituary Notes.—DR. GEORGE C. SHATTUCK CHOATE, of Pleasantville, Westchester County, died suddenly in this city on June 28th. He was born in Salem, Mass., in 1826. He was the oldest son of Dr. George Choate, of Salem, and a brother of Joseph H. Choate and William G. Choate, of this city. Dr. Choate was graduated from Harvard College in 1846 and from the Harvard Medical School in 1849. He was for ten years superintendent of the Massachusetts State Asylum for the Insane at Taunton. Thirty-six years ago he established a sanatorium near Pleasantville, and it was there that Horace Greeley died on November 29, 1872.—DR. JOSEPH BAUER, of St. Louis,

a son of Dr. Louis Bauer, died on May 22d of Bright's disease, at the age of forty-two years. He was a native of Brooklyn, N. Y., and was graduated in medicine from the Missouri Medical College.—DR. C. H. BAHL, a graduate of the University of Pennsylvania in 1864, died in Philadelphia on June 14th.

Measles in Costa Rica.—The *American Practitioner and News* says that a fearful epidemic of measles and mumps is reported by private letters to be raging in Costa Rica. More than ten thousand children are estimated to have died from these maladies during a period of three weeks. All official reports are rigorously suppressed for commercial reasons.

Li Hung Chang's Bullet Found by the Roentgen Rays.—During the stay of Li Hung Chang in Berlin he visited the Charlottenburg Polytechnic and submitted himself to a Roentgen-ray examination, which revealed the location of the bullet fired by the would-be assassin of the Chinese statesman at Shimonoseki, Japan, when the treaty between China and Japan was being arranged. The bullet entered the left cheek and buried itself in the tissues slightly below, where it is now encysted.

Cholera in Egypt.—The official cholera statistics show that during the week ending June 27th there were 1,383 new cases of the disease reported and 1,091 deaths.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the week ending June 27, 1896: June 23d.—Assistant Surgeon S. B. Palmer, detached from the New York Laboratory, June 29th. June 26th.—Passed Assistant Surgeon George Rothganger, detached from the *Independence*, July 15th, and ordered to the *Oregon*.

The New Jersey State Medical Society, at its annual meeting which closed at Asbury Park on June 24th, elected the following officers: *President*, Dr. F. J. Smith, Bridgeton; *First Vice-President*, Dr. D. C. English, New Brunswick; *Second Vice-President*, Dr. C. R. P. Fisher, Bound Brook; *Third Vice-President*, Dr. Luther M. Halsey, Newark; *Corresponding Secretary*, Dr. E. L. B. Godfrey, Camden; *Recording Secretary*, Dr. William Pierson, Orange; *Treasurer*, Dr. Archibald Mercer, Newark; *Prize Essayist* for 1897, Dr. Harris. The subject for the fellows' prize essay for the coming year is the "Antitoxin Treatment of Tetanus." The next annual meeting will be held in Atlantic City in June, 1897.

The Fourth of July in Berlin.—The American physicians and dentists resident in Berlin propose to celebrate the Fourth by holding a picnic at Grunau after attending the official reception which is to be given by United States Ambassador Uhl.

Professor Edwin Klebs has been elected to the chair of pathology in Rush Medical College.

Rush Medical College of Chicago.—This college has recently been recognized by the examining board

of the Royal College of Physicians and the Royal College of Surgeons of London, England. This recognition entitles its alumni to all the privileges accorded to the graduates of other institutions recognized by that board.

Medical Association of Baltimore and Ohio Railway Surgeons.—The semi-annual meeting of the Medical Association of Baltimore and Ohio Railway Surgeons was held at Philadelphia on June 23d and 24th, Dr. J. M. Spear, of Cumberland, Md., presiding. An address of welcome was delivered by Dr. W. W. Weaver, chairman of the committee of arrangements. Among the communications presented were the following: "A Clinical Study of the Ophthalmic Symptoms in a Case of Fracture of the Anterior Base of the Skull," by Dr. Charles A. Oliver; "Fracture of the Elbow-Joint," by Dr. B. J. Byrne, of Ellicott City, Md.; "Legal Surgery," by Dr. S. S. Good, of Myersdale; "Fractures," by Dr. W. E. Stothers, of Wheeling, W. Va.; "Color Blindness," by Dr. Charles A. Oliver; "The Best Form of Amputation for Stumps," by Dr. J. M. Thorne, of McKeesport; "Fracture of the Thigh," by Dr. J. F. Reger, of Littleton, W. Va.; "The Railway Surgeon," by Dr. J. W. Wright, of Columbus. A demonstration of making tablets and an address on their use were given by Dr. J. J. Hamilton, of La Paz, Ind. It was decided to hold the next meeting at Chicago in December, 1896.

American Dermatological Association.—The next annual meeting of this association will be held at the Hot Springs of Virginia September 8, 9 and 10, 1896. Several papers on interesting subjects have been already promised. Dr. White, of Boston, will open a general discussion on the subject, "What Effect do Diet and Alcohol have upon the Causation and Course of the Eczematous Affections and Psoriasis?" The secretary of the association is Dr. Charles W. Allen, 126 East 60th Street, New York City.

Obituary.

EDWIN D. RAMSDELL, M.D.,

NEW YORK.

DR. EDWIN D. RAMSDELL died at his home in this city on Friday morning, June 12th, from pneumonia, after an illness of only three days. Dr. Ramsdell was born in Belleville, Jefferson County, N. Y., March 19, 1830. He received his education in the public schools of Watertown. When but sixteen years old he became a teacher and continued in this work for four years, and then came to New York, where he entered the Medical School of the University of the City of New York. He was graduated in 1855, and at once began practice in this city.

Dr. Ramsdell was a member of the Medical Society of the County of New York. He leaves a widow and four children, a daughter and three sons, one of the latter a physician in this city.

All who knew him revered him for his honesty of purpose, his simple life, his fidelity to all trusts, and his charity toward the poor. He never strove for honors or preferments or riches, but strove ever to do his duty to all, and he received his reward in the devoted love of his patients.

Society Reports.

AMERICAN ORTHOPÆDIC ASSOCIATION.

Tenth Annual Meeting, Held in Buffalo, May 19, 20, and 21, 1896.

ROYAL WHITMAN, M.D., OF NEW YORK, PRESIDENT.

First Day—May 19th.

The Rationale of Gymnastic Exercise and Pressure Correction in the Treatment of Scoliosis.—DR. L. A. WEIGEL, of Rochester, read a paper with this title, and summarized his views as follows: (1) Gymnastic exercise as an exclusive method of treatment must be limited to the very early stages and to deformities which are postural, pure and simple; (2) exercises of all kinds are insufficient, even in comparatively mild cases; (3) treatment by mobilizing the spine should precede any attempt to develop the muscles; (4) removal of the superincumbent weight is the important part of the treatment and is of great value in sustaining the effects of exercise; (5) overdevelopment is to be avoided; and (6) empiricism should have no part in the treatment of scoliosis.

The Rapid Cure of Rotary Lateral Curvature of the Spine and Other Postural Deformities, by Means of Thorough Development and Corrective Exercises with Heavy Weights.—DR. JACOB TESCHNER, of New York, present by invitation, read a paper on this subject and gave a demonstration of the method of carrying out these exercises. According to his view of lateral curvature, it was due to general muscular weakness and habitual faulty position, and hence the whole muscular system should be developed. At each visit the patient is put to his individual limit, and it is found that this usually increases at each visit. He claimed that by this method he had succeeded in curing cases of lateral curvature in which there were bony and ligamentous changes and marked rotation present. In the milder cases improvement was quite noticeable within two weeks, and a cure would often be effected in three months. He said that out of twenty-one cases treated by him according to this method, nineteen had been cured, and two had been very much improved at the time the treatment had been discontinued. The advantages claimed for the treatment were: (1) The improvement in the general health and in the muscular development; (2) a marked increase in the lung capacity; (3) a slower and more forcible heart action; and (4) that long after the cessation of the treatment an improvement was noted in the muscular system and in the general health.

DR. S. KETCH, of New York, in opening the discussion on the foregoing papers, said he agreed with Dr. Weigel, except that he would attribute some benefit to will power. Regarding Dr. Teschner's paper, he would say that he was not yet convinced that it was necessary or even advisable to subject children and adolescents to such a severe course of gymnastics—indeed, he believed that the cases cured by this method could be treated with equal success by other and safer means. It was not difficult to secure an improvement in cases of lateral curvature by correcting the postural curves, but the only test of marked benefit or of cure was the amelioration of the element of rotation. In his opinion it was important to increase and to maintain the lateral flexibility of the spine, and hence he would look upon the best method of treating lateral curvature of the spine as that one which combined the use of mild gymnastics and the application of retentive apparatus.

DR. JOHN RIDLON, of Chicago, said that he had tried these heavy exercises on only one patient, a girl of six-

teen. This girl became greatly fatigued after making ten or fifteen movements with dumbbells weighing one and one-half pounds, and it was impossible to get her to put up a five-pound bell more than five times. As there was no visible improvement after four or five weeks of this exercise, he had abandoned further trial of the method.

The speaker then proceeded to criticise the incomplete and inaccurate photographic records presented by Dr. Teschner, objecting particularly to the absence of photographs of cured cases and also of the best position the patient could be made to assume prior to the treatment. Without these, he said, it was impossible to judge of the merits of the method.

DR. REGINALD H. SAYRE, of New York, said that he could not accept the statement that development of one part of the muscular system must necessarily be at the expense of the remaining portion. In his opinion there were many cases of lateral curvature which could not be well treated without mechanical appliances. If it were a fact that bone changes could be made to disappear by muscular exercise alone, it was certainly a novel and wonderful scientific fact. Until indisputable evidence to this fact were forthcoming, he could not but be in doubt regarding the kind of cure meant. Nor could he accept the statement that the improvement in muscular development continued after cessation of the exercises, for this was at variance with general principles.

DR. A. J. STEELE, of St. Louis, said that he thought there was enough in Dr. Teschner's method to justify him in continuing his work along this line. He could not agree with Dr. Weigel that the spine could not be rendered flexible by means of jackets and similar appliances.

DR. HARRY M. SHERMAN, of San Francisco, said that while he agreed with those who considered the superincumbent weight the chief etiological factor, he could not but wonder why any bone in the body should be abnormally weak, unless, possibly, as a result of rickets in early life. He endorsed the use of mirrors as an aid to the proper performance of gymnastic exercises.

DR. A. E. HOADLEY, of Chicago, said he considered the prime etiological factor to be "cellular tension" or debility. Such a condition, when present in the intervertebral cartilages, may result in marked shortening of the stature. He had known this to amount to as much as one and one-eighth inches between the time of rising and going to bed at night. When such shortening exceeded half an inch deformity was invited.

DR. W. E. WIRT, of Cleveland, said that he agreed with Dr. Teschner regarding the increased flexibility of the spine produced by these heavy exercises, but he thought it was a mistake to pin one's faith on one method of treatment exclusively.

DR. HANNA, of Oberlin College, said that in the treatment of cases of lateral curvature he preferred massage to forcible manipulation, together with the use of the hot and cold douche.

DR. WEIGEL said that he did not believe that the disadvantages of mechanical supports were as great as had been claimed. He could not believe, as Dr. Teschner had stated, that the muscular strength was increased from visit to visit by the heavy gymnastics.

DR. TESCHNER, in closing the discussion, said he admitted the inaccuracies of his records, as of all known methods of recording such cases, but they were the best obtainable under the circumstances. He had made no attempt to pose his patients for their photographs.

Spontaneous Dislocation of the Hip.—DR. WILLIAM J. TAYLOR, of Philadelphia, reported a case of spontaneous dislocation which had evidently occurred about six months after a fall. The history clearly in-

licated that it was not a case in which the dislocation had been produced by the injury and had been merely overlooked. As the dislocation had existed for fifteen years before coming under his observation, no attempt had been made to dislodge the head of the femur from its position on the dorsum of the ilium.

DRS. R. H. SAYRE, GOLDTHWAIT, and RIDLON reported similar cases.

The Anterior Transverse Arch of the Foot.—DR. JOEL E. GOLDTHWAIT, of Boston, said that the cases of abnormality of the anterior transverse arch of the foot might be divided into two groups, viz.: (1) The relaxed form; and (2) the rigid type with distinct bony change. A patient having stated that the foot was becoming wider, an examination showed a callosity under the head of the second, third, or fourth metatarsal bone. The speaker thought that improper shoeing was largely responsible for the condition.

In the treatment of the relaxed form, it was most important to strengthen the front part of the foot by appropriate balancing exercises, and to relieve the strain on the ligaments and muscles by the application of a snugly-fitting bandage just behind the head of the first metatarsal bone. Immediate relief would follow the application of a pad of felt so as to make pressure just back of the heads of the second and third metatarsal bones.

DR. KETCH referred to a case in which the gouty diathesis rather than bad shoeing had caused the condition.

DR. E. H. BRADFORD said that by means of the rubber bandage and felt pads he had relieved many cases. He had seen no case of true metatarsalgia in which the second metatarsal bone was depressed; this condition was confined to cases in which the trouble was in the fourth metatarsal bone.

DR. J. E. MOORE, of Minneapolis, said that he had met with this condition most commonly among nurses. His treatment had been successfully carried out along the lines recommended in the paper.

DR. KERR, of Washington, D. C., said he also had found metatarsalgia associated with depression of the fourth metatarsal bone, and had relieved the pain and disability by excision of the metatarsal joint and sometimes also of the nerve.

THE PRESIDENT called attention to the fact that a proper shoe should be made so that the toes do not point upward, as they did in the ordinary shoe.

DR. GOLDTHWAIT, in closing, said that undoubtedly the chief cause was bad shoeing. In some cases there had been pain at the head of the fourth metatarsal bone, and in others between the second and third metatarsals.

The President's Address.—The subject of this address was "The Definition and Scope of Orthopædic Surgery." DR. WHITMAN suggested the following definition: "Orthopædic surgery is that division of surgery which treats of disabilities and diseases of the locomotive apparatus and of the prevention and treatment of the deformities of the framework of the body."

Investigations on Flat Foot.—DR. E. H. BRADFORD, of Boston, by means of lantern slides, showed the development and causation of flat foot. These photographs compared the weak feet of shoe-wearing people with the strong feet of those who were accustomed to go about without shoes.

DR. WHITMAN commented upon the evident advance that had been made in the last decade in the knowledge and therapeutics of this subject.

Second Day—May 20th.

The Treatment of Abscess in High Dorsal Caries.—DR. E. H. BRADFORD, of Boston, in a paper with this title, advocated operation and drainage of the ab-

scess. This operation should be begun, he said, by cutting down upon the tip of the transverse process and resecting a portion of rib, after the manner of an operation for empyema. There was less danger to the heart and large blood-vessels if the incision were made on the right side.

DR. R. H. SAYRE said that Dr. Schafer, of Chicago, in some cases of this kind, had passed in a probe and cut down upon it, and had then established through drainage from one side to the other.

DR. SHERMAN said that he had performed the operation in a case in which the abscess had perforated an intercostal space and produced an accumulation under the skin. The diagnosis was comparatively easy if the way were made plain by the burrowing of the abscess between the ribs.

DR. KETCH referred to a case of very sudden death of a child suffering from disease of the second and third cervical vertebra. Although no autopsy could be obtained, it seemed fairly certain that death had been due to the direct pressure upon the respiratory centre.

DR. GOLDTHWAIT said he had seen the suddenly fatal case which had formed the text for Dr. Bradford's remarks. The cause of the sudden death remained unexplained, for the autopsy showed that the abscess had not ruptured, and there was no evidence of pressure on the spinal cord.

DR. BRADFORD, in closing the discussion, said that when there was disease of the axis and atlas there was danger of direct pressure upon the respiratory centre, but when the disease was lower down and was associated with suffocative symptoms, it was fair to conclude that an abscess is present. The operation which he had advocated was certainly a grave one, but it was intended to meet a grave emergency.

Suppuration in Joint and Spinal Disease, and Its Relation to Tuberculous Meningitis.—DR. SAMUEL KETCH read a paper with this title.

DR. J. E. MOORE said he thought it might be safely concluded that the formation of tuberculous abscesses did not play a very important part in the development of tuberculous meningitis. The evidence in the paper would also seem to point to the fact that operative measures were much less likely to cause tuberculous meningitis or general tuberculosis than had been supposed.

DR. A. M. PHELPS said that he did not think it was possible for true suppuration to produce a tuberculous lesion.

DR. GOLDTHWAIT said that his cases of tuberculous meningitis had given only the clinical evidence of this disease, but in every instance the autopsy had disclosed an acute general miliary tuberculosis.

A Clinical Study of Iodoform Glycerin in Tuberculous Osteomyelitis.—DR. HARRY M. SHERMAN, of San Francisco, read a paper on this subject, based on a carefully recorded experience in twenty cases. Fifteen of these were cases of hip disease, two of knee-joint and two of ankle-joint disease, and one of disease of the elbow. In all, one hundred and sixty-four injections were made. About half of those were intra-articular and the other half were intra-osseous injections of a ten-per-cent. solution of iodoform in glycerin. In no case was there any iodoform poisoning nor was the injection the cause of suppuration in any. The action of the injections was in most instances disappointing. In no case was the orthopædic treatment interrupted.

DR. ROSWELL PARK, of Buffalo, said that he had made an extensive trial of the intra-articular injections of iodoform, but had not seen much benefit from their use. In two cases coming to excision the iodoform was found packed into a mass, which acted as a foreign body. He had made some culture experiments

with iodoform, and these had demonstrated that the germicidal power of iodoform was very feeble.

DR. J. E. MOORE said that he, too, had met with nothing but disappointment from the iodoform injections, except in the treatment of psoas abscesses. With these he thought they had been of some benefit.

DR. HENRY LING TAYLOR, of New York, said that although iodoform had proved disappointing when injected into diseased joints, he thought a solution of iodoform in ether was a valuable injection for sinuses.

DR. PARK said that as the germicidal action of iodoform was claimed to be due to the liberation of free iodine, he proposed to study the effects of injections of iodine and glycerin.

DR. JOHN RIDLON said that a sharp distinction should be made between cases treated by protective apparatus in conjunction with iodoform injections and those in which only the injections were used. He had treated about thirty cases by the intra-articular injections. About one-third had shown improvement; another third had remained stationary; and the others appeared to have been made worse by the treatment.

DR. A. M. PHELPS, of New York, said that he had used the injections of iodoform with negative results. Iodoform and glycerin were useful in tuberculous abscesses, partly because of the hygroscopic nature of the glycerin.

Further observations on the use of hydrochloric acid in bone necrosis of tuberculous origin, with report of cases were made by other speakers.

DR. JEROME HILTON WATERMAN, of Buffalo, reported his experience in the treatment of tuberculous bone necrosis by means of injections of strong hydrochloric acid. The injections were usually made twice a week. His experience was, on the whole, favorable to the method.

DR. W. R. TOWNSEND said that he had observed good results from this treatment, particularly where the necrosis was superficial.

DR. A. E. HOADLEY, of Chicago, said that the application of a five-per-cent. solution of hydrochloric acid was sufficient to quickly decalcify the bone without destroying other tissues.

DR. SHERMAN said that as the chief seat of disease was the granulation tissue in the bone, it would seem to him that the use of the sharp spoon would be more effective.

DR. WATERMAN, in closing, said that the treatment was at times quite slow. He would advise the use of a local anæsthetic in conjunction with the acid applications.

The Use of Dry Heat in the Treatment of Chronic Joint Affections.—DR. WILLIAM E. WIRT, of Cleveland, described the apparatus which he employed. It consists of a copper drum twelve inches long and nine inches in diameter, fitted at each end with a wooden ring and a hood of thick rubber. Having protected the back of the knee with cotton, it is enclosed in the apparatus and heat applied to the outside by means of a Bunsen burner. Most patients would tolerate a temperature between 250° and 300° F., provided three holes were made in the drum to secure proper ventilation and so keep the air dry. This treatment gives an immediate relief to pain and increases temporarily the mobility of the joint.

Division of the Hamstring Tendons by the Open Method for Correcting Malposition and Securing Rest in Tuberculous Disease of the Knee.—DR. BERNARD BARTOW, of Buffalo, in a paper with this title, contended that division of the hamstrings gave quicker relief and secured better rest than did mechanical appliances, and that it cut short the inflammatory process. The operation should be done by open incision.

DR. WIRT thought it was rare that mechanical means would fail to straighten these cases.

DR. R. H. SAVRE said that the operation might be occasionally demanded, but whenever possible the straightening should be accomplished by mechanical treatment alone.

DR. B. E. MCKENZIE, of Toronto, said that he considered the method unjustifiable until after mechanical treatment had failed, and in his experience mechanical means had never failed under such circumstances. He thought that the patients just exhibited should not be allowed to go around without better protection of the joint.

DR. JOHN RIDLON, of Chicago, was very positive that any joint still diseases could be straightened without operation. He was accustomed to use some form of a Thomas brace. In cases in which the greater part of the rigidity appeared to be due to fibrous adhesions and muscular shortening, without evidence of acute inflammation, he would straighten the limb by manual force applied under anæsthesia.

DR. W. E. WIRT, as an example of what could be accomplished by mechanical means alone, referred to a recent case which had been pronounced by several surgeons to be one of bony ankylosis, yet he had succeeded by mechanical measures alone in straightening the limb in two months.

DR. BARTOW, in closing, said that to insure safety and thoroughness the operation of dividing the hamstrings should be done through an open incision. In the cases that he had treated by the method described in the paper he knew of no other alternative than excision; hence he considered the division of the hamstrings perfectly justifiable. The method was intended as only one means of accomplishing an end.

A Theory of the Ultimate Etiology of Deformity, and its Practical Application.—DR. ROYAL WHITMAN said that in the process of evolution the erect posture had been comparatively acquired, and that it was an attitude difficult of acquirement and difficult to maintain. The ordinary so-called postural deformities were then explained. The flexion and contraction deformity, he said, was of special interest to the orthopaedic surgeon. If one accepted the morphological theory of its etiology, it would be evident that as the erect posture was a newly-acquired attitude, so also the uses by the limbs proper to that posture were newly acquired. Complete extension of the limb in the support of this posture required not only the greatest expenditure of nervous energy but also the greatest strain upon the joint surfaces, and when the ability to assume this attitude became impaired the affected member became flexed; in other words, it involuntarily assumed an attitude common to the lower or quadrupedal form of locomotion. Flexion was an evidence of unbalanced nervous influence and of preponderance of power of the lower or reflex centres. In joint disease the cause was local irritation and consequent muscular spasm; in the second, the inhibitory influence of the higher centre was impaired or removed. The erect posture was an evidence of the higher position of man in the scale of evolution. When the controlling force of the higher centre was directly or indirectly impaired, the more difficult and newly-acquired attitudes were disused, and the affected part fell backward toward the type from which it had been differentiated.

Further Observations on the Cause of the Limp of Hip-Joint Disease.—DR. HARRY M. SHERMAN, of San Francisco, read a paper with this title. He said that tuberculous bone disease resulted in a wasting of the osseous trabeculae and the development of an area of structural weakness, usually in the neck of the femur. In hip disease the effort is made to bring the centre of gravity of the body as nearly as possible over the head of the femur, so as to relieve the strain put upon the structurally weak spot. This theory assumes that there is a "bone sense," comparable to

the muscle sense. The speaker then went on to describe by the aid of blackboard diagrams his mechanical theory of the causation of the limp of hip-joint disease. He endeavored to show that the keynote to the subject, from a mechanical point of view, was the fact that the head and neck of the femur constitute a column and bracket, or what is known in mechanics as a cantilever, and that these anatomical members were, therefore, governed by the same mechanical laws as control the operation of the cantilever.

DR. WIRT said that he believed the author was in the main correct in his theory, but he would remind him that when running the femur supports the weight of the body plus the momentum.

DR. A. M. PHELPS said that he was of the opinion that the capsule of the joint was swollen with tuberculous material, and that as a result, in order to relieve intra-articular tension, the patient pulled the limb into a partially flexed position.

DR. BRADFORD said that in some cases the lack of free motion in the joint would account for part of the limp. In cases of cured hip disease with the limb much adducted, the limp was often due to the effort of the patient to balance himself.

THE PRESIDENT said that the weak point in the author's argument was the assumption of voluntary adaptation of the limb. If this were voluntary one would certainly not expect it to occur in very early infancy, and yet it was known that the limb assumed such a position in these patients.

DR. WEIGEL said that he would like an explanation of the fact that in the early stage there would be a limp even though there had been no swelling of the joint. Again, Dr. Judson had shown that patients who had recovered from hip disease and who still limped, could be trained until the limp was scarcely noticeable.

DR. SHERMAN said that in running the footprints were very nearly in a straight line, thus bringing the point of support nearer to the centre. This was not a voluntary but a reflex act. He believed it was rare for hip-joint disease to begin in the capsule. The recovered patients who walk without limp are those in whom there is ankylosis between the bones.

Femoral Osteotomy for Correction of Hip Deformity in Adults.—DR. A. R. SHANDS, of Washington, D. C., read a paper in which he advocated Gaunt's intratrochanteric osteotomy. He preferred to do this operation with Gaunt's osteotome having a blade only three-fourths of an inch wide. The only dressing was sterilized gauze retained by adhesive plaster and a plaster-of-Paris spica applied after a proper position of the limb had been secured.

DR. PHELPS said that he would advise in a case of double hip-joint disease with ankylosis the performance of excision, care being taken to remove enough bone to prevent ankylosis. He had recently adopted a novel method of securing motion at the joint, viz., cutting through just above the lesser trochanter, bringing down the limb by force, cutting off about three-fourths of an inch of the femur, and then inserting a piece of fascia between the ends of the bones.

DR. SHERMAN said he would limit this subtrochanteric osteotomy to cases in which there was no motion between the femur and pelvis.

DR. W. R. TOWNSEND referred to several adult patients coming under his observation, in whom an excellent result had been obtained by operation for bony ankylosis.

DR. GOLDTHWAIT also cited several adult cases, and remarked that in these cases the limb had been put up with ten or fifteen degrees of flexion, so as to make it more comfortable for the patient when sitting down.

DR. J. E. MOORE said that while the result was not so likely to be good in cases in which there was some

motion, he would not confine operation entirely to those cases in which there was complete bony ankylosis.

Osteo-Sarcoma of the Hip.—DR. ARTHUR J. GILLETTE, of St. Paul, reported three cases illustrating the difficulties in differential diagnosis when there was osteo-sarcoma of the hip. Deformity might not occur for months after the onset of the disease, and there would be in all probability no fixation, very little atrophy, and little or no shortening.

DRS. R. H. SAYRE, SHERMAN, and MOORE also reported similar cases.

Tuberculosis of the Wrist.—DR. JAMES E. MOORE, of Minneapolis, read a paper on this subject. He said that wrist-joint disease comprised about five per cent. of all tuberculous joint diseases, and occurred most commonly in persons between fifty and sixty years of age. The disease was insidious in its development, but the diagnosis could be easily made by the swelling, atrophy, flexion, and the peculiar position of the thumbs and fingers. The tendon sheaths were often involved. Children often recover from the joint affection, but rarely live to maturity; in adults it almost invariably ends in phthisis. For children, enforced rest of the joint by means of plaster-of-Paris dressings is of service; but for adults it is applicable to recent cases only, and should then be combined with injections of iodoform emulsion. When there were sinuses and evidence of suppuration, the choice lay between complete excision and amputation. Amputation was often the most conservative treatment. The author did not favor early excision, because the functional results were bad, and as a life-saving measure it could not compare favorably with amputation. When the disease was well marked and progressing rapidly, when there was well marked wrist-joint disease with incipient phthisis, and when with the wrist-joint disease there was advanced pulmonary tuberculosis, he would recommend amputation.

DR. MCKENZIE said that he had had some very good results in this class of cases from the use of injections of iodoform and glycerin. He had not observed severe reaction following this treatment; indeed, in some instances the existing pyrexia had been observed to diminish after the injections.

DR. SHERMAN commended amputation as the best treatment in cases of severe disease of the wrist.

DR. GILLETTE said that some of those who had spoken had implied that these patients suffered much pain. His own impression had always been that wrist-joint disease was associated with very little pain.

DR. MOORE, in closing, said that occasionally pain was prominent. In one case he had done an amputation because of the intense pain, and the result, both as regards prolongation of life and increased comfort, had justified the amputation.

The Mechanical Treatment of Ingrown Toe Nail.—DR. HENRY LING TAYLOR, of New York, read a paper in which he recommended the following method, modified from that devised by Mr. Masters, of England: A flat strip of silver, one-one-hundredth of an inch thick, and one-eighth of an inch wide, and one inch long, is bent into the shape of a fishhook. The toe having been cleansed with peroxide of hydrogen and moistened with a solution of cocaine, the hook is inserted under the lateral edge of the nail so that the shank of the hook curves over the side of the toe and lies close to it. The greater the ulceration the less the pain in inserting the hook. It is retained in place by adhesive plaster or a bandage. The hook not only protects the flesh from the nail, but it exerts a lifting action on the nail. After a few hours the patient suffers no inconvenience from the hook, and in a few days the swelling subsides and the granulations become more healthy. It is well to wear the hook for

several weeks after the tissues have healed, in order that they may become sufficiently hardened. The method, the speaker said, was applicable to the severest cases.

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Third Day—May 21st.

Mechanical Support for Flat Foot.—DR. J. C. SCHAPPS, of Brooklyn, described a method of making steel soles for flat feet. On hammering out by hand a steel sole to conform to the arch of a well-developed adult foot, it would be observed that the anterior and posterior halves were nearly alike. Having modified the sole plate so as to make these the same, it was found that the shape resembled that of a portion of the convex surface of a cone, with the apex directed toward the outer side of the sole and the base toward the inner side of the foot. From this plate plaster casts were made, and these casts served as models from which iron dies were manufactured. With such dies any mechanic could make steel plates, from which soles were easily cut for right or left feet, high or low, large or small feet. A contour of the patient's foot is taken on cardboard and trimmed to fit the sole of the shoe in front, outer side, and back, and is made wide enough to allow of it coming well up on the inner side of the foot at the arch. This pattern is used to correct the rough outline of the foot taken on the plate itself. The curved line representing the inner edge of the arch of the plate should be located just below the scaphoid and the head of the astragalus. The inner flange of the plate requires careful shaping; it should be nearly vertical as the patient stands on the plate. Having fitted the plate to the foot and to the shoe, it should be covered with vulcanized rubber.

Apparatus for the Treatment of Pott's Disease.—DR. SCHAPPS also presented a wheel cot which he had found useful for the purpose of maintaining uninterrupted recumbency with regulated pressure in Pott's disease. Traction could also be applied. He said that the energy required to hold the spine rigid and the lower limbs in a continuous state of elastic tension to break the shock to the spinal column, exhausted the general and local recuperative forces. It was injurious, in his opinion, to interfere with the respiratory movements of the chest and abdomen. The sternum should be used as a base from which to make forward pressure on a dorsal kyphos. It was also apparent that both the posterior or spinal and the anterior or sternal supports of the upper mass should be kept under it, and lateral pressure on the chest avoided. For the treatment of Pott's disease in the upright position the author used a combination of the Taylor brace posteriorly and anteriorly a rigid light support which made pressure only on the parts which could convey it to the spine without interfering at the same time with respiration.

The Treatment of Pott's Paraplegia.—DR. LE ROY W. HUBBARD, of New York, in discussing this subject and reporting two cases, asked if it were possible to reduce the period of paralysis. After reviewing the history of the treatment of this very common complication, and reading replies received from a circular letter that he had sent to the members of the association, he concluded that if immediate efficient mechanical support were applied to the spine, absolute recumbency enforced until power returned, and a general tonic plan of treatment were carried out, there would be a complete cure in almost every instance, and in the majority in a short time. Operative treatment was very rarely called for.

DR. KETCH said that his experience did not show a natural tendency toward recovery in cases in which the paraplegia affected the arms.

DR. WEIGEL said that it had been his lot to deal

more especially with cases of adults, in whom the prognosis was relatively less favorable. He did not think any one could give even an approximate idea regarding the average duration of Pott's paraplegia.

DR. RIDLON said that his experience had been that the cases in which the sphincters were involved gave the worst prognosis. In one case in which the arms had been affected recovery had been quite rapid.

Congenital Defects of the Long Bones.—DR. B. E. MCKENZIE, of Toronto, presented a number of specimens and reported upon ten cases of such defects.

Congenital Club Hand.—DR. C. E. THOMSON, of Scranton, present by invitation, reported a successful operation on a case of this kind, occurring in a girl of thirteen, who belonged to a rather remarkable family of children with congenital deformities.

The Treatment of Club Foot.—DR. A. M. PHELPS, of New York, said that the treatment of club foot by manipulation and retentive dressings should be begun at the earliest possible moment, and when after a reasonable time the progress by this method became very slight, all parts offering resistance to reduction of the deformity should be cut and the limb put up in a super-corrected position. Out of three hundred and forty-three operations he had had only five per cent. of relapses, and in the last series—one hundred and eighty-two cases—there had been no mortality.

Dislocation of the Patella Treated by Operation.—DR. JOEL E. GOLDTHWAIT, of Boston, presented a report upon this subject.

Torticollis Due to Adenoid Vegetations and Chronic Hypertrophy of the Tonsils.—DR. ARTHUR J. GILLET, of St. Paul, reported three cases, two of them being congenital. In one of the cases the removal of the adenoid vegetations was sufficient, without any division of the sterno-mastoid or other treatment, to effect a prompt cure.

DR. SAMUEL KETCH, of New York, was elected president of the association for the ensuing year.

ILLINOIS STATE MEDICAL SOCIETY.

Abstract of the Proceedings of the Forty-Sixth Annual Meeting, Held at Ottawa, May 19, 20, and 21, 1896.

THE society met in the First Baptist Church, and was called to order by the president, DR. D. W. GRAHAM, of Chicago.

DR. C. W. HALL, of Kewanee, offered the following resolution, which was unanimously adopted:

"Whereas, Resolutions concerning vivisection were passed by the American Medical Association at Atlanta; therefore be it

"Resolved, That the resolutions mentioned and published in the *Journal of the American Medical Association* express the sentiments of the Illinois State Medical Society, and that our secretary be requested to send copies of these resolutions to the members of Congress from our State."

The first paper read was by DR. E. FLETCHER INGALLS, of Chicago, entitled

Orrhotherapy in Diphtheria.—The author stated, at the outset, that as a result of the work of Pasteur and the numerous investigations which have followed in the same line, it is now generally believed by bacteriologists that many diseases, especially those which seldom affect individuals more than once, are self-limited by the formation within the blood of a product capable of destroying the toxic material that excites the disease; hence called antitoxin. In such diseases, if life be prolonged until a sufficient quantity of the antitoxin has been developed, the toxic agent is de-

stroyed and recovery follows if no serious complications have arisen.

Coming to the question of diphtheria, he said that the diphtheritic poison had been introduced into animals, preferably into the horse, until immunity to its further effects had been obtained. The animal was then bled, the blood allowed to separate, and the serum preserved under the name of antitoxin.

Attached to the paper was a table showing a large percentage of complications after the antitoxin treatment. By far the most frequent complication was a rash, usually urticarial, sometimes erythematous, or having the appearance of scarlatina. A rash was observed in 45.9 per cent. of all cases. This was accompanied by fever in many cases, amounting to 29.6 per cent. of the patients presenting a rash. In some instances the rash persisted for many days, but usually it had run its course by the end of the third or fourth day. There were a few instances of effusion into the joints, and abscesses were found at the site of injection in 2.3 per cent. of the cases.

Dr. Ingals closed thus: "Until more definite information is obtained conservative physicians may well be excused for declining to experiment with this remedy upon their patients; however, the wide belief that it does much good and the comparatively certain knowledge that it does but little harm, suggests that our duty to our patients demands that when diphtheria exists we should administer the antitoxin if it is desired, but that at the same time we should use such other remedies as have been proven of most value in combating this disease; but we should hesitate to recommend it as a prophylactic measure. We believe that experimentation in the treatment of diphtheria by serum is in the right direction, and we hope that the enthusiastic friends of orrhoterapy may be largely vindicated; yet we cannot search far into the history of medicine to find that very many of the remedies now employed have in the beginning been lauded excessively, and that not a few of those that were formerly supposed to be extremely efficacious have been found to be practically worthless."

Treatment of Tuberculosis was the title of a paper read by DR. N. S. DAVIS, JR., of Chicago, in which he said that the establishment of serum antitoxin as a successful remedy for diphtheria by the elaborate experiments of Behring, Kitasato, and others, suggested the employment of serum prepared by analogous methods for tuberculosis. Tuberculin and the products derived from it had fallen into almost complete disuse. A few still employed them. Serum was employed as a cure for tuberculosis in 1890. Recently serum from horses, made immune to tuberculosis by inoculations successively with viruses of gradually increasing virulence, has been prepared and tried independently in Italy, France, Austria, and in this country. Good results are reported with much uniformity from the employment of this serum in cases that are not complicated by serious infection with other microbes than the tubercle bacillus. The ordinary dose is 2.5 cubic centimeters, administered hypodermatically daily or every second day. Much larger doses have been employed, but not with proportionately better results. The heart and arteries are not affected by these injections. A leucocytosis follows them. Increase in the number of red blood corpuscles and hæmoglobin occurs as general improvement takes place. As a rule the urine is not materially modified. In a few instances albuminuria and peptonuria have been provoked, but no serious lesion of the kidneys. Appetite is almost uniformly improved after the first few injections, and increase in bodily weight rapidly follows.

The author's experience with this treatment is limited to a single case now under observation, and from

it he says he cannot yet draw conclusions. The treatment seems to be harmless and in suitably selected cases to promise improvement. Much more time must elapse before we can with confidence pronounce such improvement a permanent cure.

DR. JAMES B. HERRICK, of Chicago, read a paper entitled

Therapeutic Uses of the Thyroid Extract.—He reviewed at considerable length thyroid therapy and presented the conclusions that one feels justified in drawing from a study of the results already accomplished by the employment of this remedial agent in various diseases. He drew the following deductions concerning thyroid extract:

1. It is curative in myxœdema (idiopathic, cretinism, operative).
2. Many cases of obesity are cured by it.
3. Simple hyperplastic struma, particularly in the young, is frequently cured or improved.
4. In 1, 2, or 3, the remedy has to be continued for an indefinite time in order to prevent relapse.
5. It may prove of value in some cases of tetany.
6. In skin diseases it is of doubtful value, to say the least.
7. The same is true of mental and nervous diseases.
8. In exophthalmic goitre it is contraindicated.
9. The results are practically the same whether fresh glands, extracts, or dried glands are employed.

This is probably true also of the thyroidin of Baumann.

Home Cure and Treatment of Epileptics.—This paper was read by DR. A. L. WARNER, of Kankakee. After giving an outline of epilepsy the author stated that the percentage of complete recoveries from this disease was small, owing to its obscure nature and to the fact that only in a small number of cases does treatment seem to have more than a palliative action.

In referring to the preventive treatment, he called especial attention to the fact that even slight head injuries may sooner or later become active factors in the causation of epilepsy, and such injuries should be closely examined and receive proper treatment, not only for the injury itself but to prevent the possibility of a person becoming subject to epilepsy at a future time.

The treatment of epilepsy resolves itself into: (1) The treatment of convulsive seizure; (2) treatment—medical, hygienic, and surgical—to prevent the recurrence of seizures; and (3) treatment of complications.

The surgical treatment has come more prominently into use during the past two years. Under aseptic conditions, trephining for the elevation or removal of depressed bone has become common, and even excision of portions of the cortex of the brain have been made by some with the view of destroying the supposed explosive centre. Operations for the removal of diseased tissues and meningeal and brain tumors have also been followed frequently with good results.

Finally, he said that it was to be regretted that the progressive State of Illinois has not yet provided a hospital for epileptics, where they would be cared for and treated in a systematic manner by physicians and nurses who make a specialty of this disease, and, in the event of its being of an incurable nature, would have a home provided by the State in which they may have comforts and surroundings suited to their peculiar needs.

Hystero-Epilepsy.—This paper was read by DR. HUGH T. PATRICK, of Chicago, in which he first defined hystero-epilepsy as not epilepsy in any sense of the word, but hysteria pure and simple. He then proceeded to describe a typical paroxysm of hystero-epilepsy, an attack which he said is rarely seen, but serves well as a basis for the description of the incomplete or aberrant forms which are of frequent

occurrence. The different periods and substages were accurately described and illustrated by a number of well-executed drawings. He showed that in an attack of hystero-epilepsy there is nothing after the first or epileptoid period that in the least resembles epilepsy. A patient who struggles, has to be held, who makes exclamations, tears the bedding, or tries to bite himself or others, is not an epileptic. A patient who shows marked opisthotonos, rolls over and over, or performs acrobatic feats, is not an epileptic. A patient who assumes striking postures or shows exalted psychic action during the attack is not an epileptic. An attack that lasts fifteen minutes or more is not epilepsy.

Dr. Patrick then gave in detail the points in the differential diagnosis between an hysterical attack closely simulating epilepsy and true epileptic convulsions.

In conclusion, he insisted that hysterical convulsions are not confined to Paris and the Salpêtrière, but are of rather frequent occurrence in this country in the small towns, as also in the large cities. He has seen in the last few months a number of cases of hysterical convulsions which had been thought to be epilepsy and had been treated as such for various lengths of time.

DR. J. B. MAXWELL, of Mt. Carmel, read a paper entitled

Status of Epileptic Legislation.—Among the special reasons for the establishment of a colony of epileptics he gave:

1. For the welfare of the epileptics, whose numbers justify the outlay.
2. For the welfare of the insane, who should not be compelled to associate with them in the hospitals.
3. To diminish so far as possible the overcrowding of hospitals for the insane.
4. To remove the epileptics from the almshouses, where it is a hardship for many of them to be, as under favorable circumstances they would be able to work and might be restored to health.

The benefit that must accrue to epileptics in particular and to society in general would be very great, and scores if not hundreds who now refuse to enter the dark portals of the hospitals for the insane or the forbidding gates of the institution for the feeble minded would be glad to enter the home or colony for epileptics. The speaker is convinced that too much time has already been lost, and he strenuously recommended immediate legislation in behalf of epileptics.

The president, DR. D. W. GRAHAM, of Chicago, delivered the annual address. He selected for his subject the

Mutual Relations of the Medical Profession and the Public.—He said that the reciprocal relations and duties of the medical profession and the community were a theme like an old jewel, which required an occasional resetting to bring it into harmony with the changes of time and circumstance. The medical profession, as one of the constituent parts of the community, has intimate relations to every other interest and part of that community. Its work and the principles which it represents are in their importance to organized society second to no other. Through medical science the profession has a twofold relation to the community at large. First, that in which the physician lives for himself; second, that in which as a benefactor he contributes to the welfare of others, in which he is the exponent of all that medical science means to men. By and through it he earns his living as a citizen, discharges his first duty to himself and others both in point of time and importance.

There were rewards other than pecuniary which were due the physician from the community, and of which he was sometimes deprived. It was due to the dignity

of his calling and in the interests of the highest usefulness of the profession to the public that all positions of honor, profit, or trust, whose chief functions pertained to medical matters and required medical knowledge for their administration, should be held by physicians.

A confusion of values in the mind of the public and to some extent in the mind of the profession, has arisen in these latter days with respect to remuneration. This, Dr. Graham thought, was partly due to the exuberant specialism which characterized modern medicine. It was also partly due to the greater advance and wider scope of operative surgery, and in part to the relatively unimportant rôle which the internal treatment of disease by drugs has assumed in comparison with former times. There never was a time when the drug treatment of disease could accomplish more than to-day, when internal medication was more definite in its results, though its limitations are better recognized than before. While in former times it outranked in importance all other means and methods, to-day preventive medicine and operative surgery have outstripped it in the general advance in demonstrable results.

The medical profession has a standing grievance against the community, in that the pretender, the unscrupulous, and the ignorant so often received the encouragement and the reward which rightly belonged to the qualified, educated physician.

A government which spends eighty million of money a year on its army and navy in times of peace, one hundred and fifty million in pensions, sixty million on its inland rivers and harbors, and many million more to promote commerce and other material interests of its people, ought to spend more than one or two hundred thousand dollars a year in the interests and in the name of the health of all the people. This small pittance which is now expended in this direction is spent in the name and for the sake of trade and commerce by the marine hospital service for the purposes of quarantine, one of the subordinate functions of this department, which is itself a subordinate department of the executive branch of the government.

Coming to the question of medical legislation, Dr. Graham said that a sprinkling of intelligent medical men might improve a legislature. It could not affect it seriously otherwise. When medical men are willing to take part in public affairs, instead of staying at home and grumbling and writing jeremiads, medical questions may be better treated in legislative assemblies.

DR. HAROLD N. MOYER, of Chicago, followed with an address entitled

Needed Medical Legislation in Illinois.—He said that medical legislation in this State has been fairly fruitful in the past. An examination of what has been accomplished, shows that existing law, while pregnant with promise for the future, is still far short of what should be. To this State belonged the proud distinction of having first placed upon its statute books a law regulating the practice of medicine. This was followed by our best piece of law making, the anatomical bill, which, as amended, is as nearly perfect as could be wished. By it anatomical study has been placed within the reach of students of medicine to a degree and with a perfection that leaves nothing to be desired.

The law regulating the admission of insane patients to our hospitals, which has been in operation for the past two years, was rendered much less effective than it otherwise would have been by a stupid amendment which has made its construction very difficult. As it was prepared by a committee of this society and submitted to the legislature, it was a symmetrical bill, providing not only for a trial by jury but also for the

appointment of a commission and for self-commitment. These were all separately described in the bill and provision made for carrying them out.

Dr. Moyer then passed on to the consideration of expert testimony, saying that it had been taken up and considered at the last session of the legislature, and a bill regulating this important branch of judicial procedure narrowly missed enactment. In his judgment this bill ought again to be brought forward and an effort made to pass it. As at present proposed, the law is restricted to expert testimony in criminal cases.

Finally, he said, the time for an examining board has arrived. This being established, the various schools could then meet on the common ground of anatomy, chemistry, pathology, bacteriology, and, above all, a thorough test of a candidate's knowledge of the English language and general scientific attainments.

Diagnosis of Typhoid Fever.—DR. C. B. HORRELL, of Colchester, read a paper on this subject. Two potent factors essential to success in a physician are a good diagnostician and a good collector. The speaker has not always found the diagnosis of typhoid fever an easy task, not even in simple uncomplicated cases. He insisted that without careful and exhaustive physical examination of the patient and investigation of his surroundings the physician was likely to be placed under the embarrassment of a mistaken diagnosis.

The Treatment of Typhoid Fever was the title of a paper by DR. JAMES P. LYTLE, of Princeton. After dwelling at considerable length upon the various treatments of typhoid fever, the author said that whatever may be our present or future treatment of this disease, good judgment and common sense in its management would ever remain the chief elements of success. The late Dujardin-Beaumez recognized this, for at the end of a busy life, full of years and good works, he left this legacy as the result of his experience: "That the best treatment for typhoid fever is a good physician."

DR. JOHN A. PRINCE, of Springfield, read a paper entitled

Pelvic Abscess.—The author dwelt upon the surgical treatment, citing a few cases that had occurred in his own practice. He believes that in nearly all cases the infection is from the tubes, and that whether the abscess is a true pyosalpinx, an ovarian abscess, or independent of the uterine adnexa, the tubes constitute the channel of infection.

The surgical treatment resolves itself into the various methods of evacuating the pus. The various methods might be classified as follows: (1) Laparotomy with extirpation of abscess mass. (2) Laparotomy with cleansing and drainage of abscess cavity. (3) Drainage by vaginal hysterectomy. (4) Drainage by vaginal incision. (5) Aspiration.

Laparotomy with complete extirpation of the pathological tissues involved in the abscess is, he thinks, the ideal method, and where practicable should be employed.

Vaginal hysterectomy for the cure of pus cases was of very recent origin, and as the speaker's experience was limited to one case he was not prepared to speak with authority.

The Necessity of Close Inspection in Head Injuries.—By DR. R. E. LEWIS, of Macomb. The author emphasized the importance of investigating every case which comes under observation. Sufficient time has now elapsed since the inauguration of operative procedures upon the cranium and brain for the cure of various mental and physical defects to allow us to judge somewhat correctly of their merits, and in looking over the reports of cases with subsequent histories in the hands of the most competent operators, the speaker was astonished to find so small a percentage of

actual cures resulting from what at first seemed brilliant and promising methods. After relating an interesting case of depressed fracture of the skull, which the author had treated successfully, he drew the following conclusions:

1. All scalp wounds will bear close inspection.
2. The troubles resulting from pressure on the brain should be removed so soon as manifest.
3. This work should be done by the general practitioner in the rural districts, as well as by the skilled surgeons in the city.

Craniotomy on the Dead Child.—DR. JOSEPH B. DE LEE, of Chicago, read a paper with this title, in which he gave the following indications for craniotomy:

1. All cases in which the child is dead give indication for the termination of labor. This operation should be done instead of using the forceps, when the maternal soft parts are unprepared for rapid delivery. Such cases are eclampsia, placenta prævia, premature detachment of the normally implanted placenta, prolapse of the cord, with danger to the mother from any cause. In short, the forceps should not be applied on a dead child. The only exception the speaker would make to this rule was the case of a multipara, with the head low down and the soft parts well prepared.

2. Cases of contracted pelvis when the conjugata vera is not smaller than two and one-half inches. To do a hard version extraction, or extraction by forceps, or a Cæsarean section, is not justifiable when the child is dead.

3. In neglected transverse presentation embryotomy should be done. The thought of a version should not be entertained for a moment.

Cleanliness in Obstetrics.—DR. EMMA B. STANDLEY, of Alexis, contributed this paper. The first step in cleanliness in obstetrics was for the physician to be clean himself when called upon to attend a woman in confinement. Her plan has always been to allow the mother to rest for a little time after delivery until the babe is attended to; then a bowl filled with warm water is brought and a disinfectant added, and the pudendum thoroughly cleansed, care being taken not to expose the patient. Another help to cleanliness in obstetrics was the rectal enema of warm water that the bowels might be thoroughly moved. This has a relaxing effect upon the sphincter ani muscle and perineum, and prepares the way for advance of the child far better than if the physician has a loaded rectum to contend with.

Hydrotherapy in the Management of High Temperature in Typhoid Fever.—By DR. GEORGE G. CRAIG, of Rock Island. He enumerated the methods generally used for applying hydrotherapy in the treatment of typhoid fever. As with any other remedy, judgment must be exercised in the selection of the mode and the manner of administering it in each individual case, bearing in mind that statistics prove that the nearer the exact technique of Brand is and has been followed the better the results. In all cases the physician could not let his views be known, but in hospital practice particularly, and in private practice when possible, the author believes that we should adopt hydrotherapy as a whole or in part.

DR. O. B. WILL, of Peoria, read a paper entitled "Some Observations Respecting the Etiology of Ectopic Pregnancy."

Surgery of the Gasserian Ganglion.—DR. J. B. MURPHY, of Chicago, followed with a demonstration of the surgery of the Gasserian ganglion, and reported cases. He confined himself almost exclusively to the technique of the more recent operation, after reviewing the results of previous operations for the removal of the ganglion. Internal medication and anodynes had absolutely failed to permanently relieve the intract-

able neuralgias of the face. Reference was made to the methods advised and advocated by Rose, Horsley, Andrews, and others, for the removal of the ganglion. Dr. Murphy then described in detail and illustrated a slightly modified technique of the Frank Hartley operation. He said there had been forty-seven cases collected up to date, with only two deaths. One of the patients died shortly after the operation from shock. The other death was presumably due to the advanced age of the patient.

DR. JOSEPH B. BACON, of Chicago, contributed an interesting paper on

Dermoid Cysts as a Cause of Fistula in Ano.—

All of the cases were of blind internal fistulæ that were sent to his clinic for operation, the fistula being connected with small cysts. The patients attributed their ailment to chronic diarrhœa, ulcer of the bowel, or piles, and could give only an indefinite history of repeated attacks of pain.

The first case was that of a practitioner of medicine who came to the Post-Graduate Hospital, November, 1895, to be treated for painful ulcer of the anus. He was a well-developed, muscular man; weight, one hundred and eighty pounds. He gave an indefinite history of painful defecation, spasm of sphincter muscles, and discharge of pus from bowel, that extended back over a period of several years. After patient was anæsthetized and the sphincters divulsed, an anal ulcer with every appearance of an ordinary mechanical tear of the mucous membrane was noticed on the posterior median line of the anal canal between the internal and external sphincters. The ulcer was covered by old granulations. After removing the granulation tissue with a curette, a fistulous tract was found leading into a small sac, filled with granulation tissue, pus, and a bunch of fine blond hair. The sac was found to lie behind the anus and very near the skin. The external sphincter was severed in the posterior median line and the sac laid open and curetted and converted into an open wound. The wound was packed with iodoform gauze and daily irrigated with boric-acid solutions and repacked. The patient made a perfect recovery in three weeks. The author reported three other cases, and stated that he had done so because there was a limited amount of literature upon the subject. The cases were interesting in that they afforded a favorable prognosis in a certain per cent. of fistulæ in ano, a very important point for those interested in life insurance. The very large percentage of fistulas of a tuberculous origin may prevent patients suffering from fistulæ in ano receiving insurance. Yet a more careful consideration of each case and its history would determine that possibly some of them are due to dermoids, and thus all anxiety for the patient's general infection from tuberculosis would be removed from doubt.

Metatarsalgia, with a Report of Three Cases.—

This paper was read by DR. A. E. HALSTEAD, of Chicago. After dealing with the subject in an exhaustive manner, the author concludes:

1. That what is known as metatarsalgia is not in the beginning a distinct pathologic entity, but rather an early symptom of static flat foot. In cases of long-standing irritation of the plantar nerves by pressure from flattening of the transverse metatarsal arch may cause an inflammation of the nerve, or even in some cases the development of a neuro-fibroma.

2. That most of these cases can be permanently cured by following the treatment usually employed in beginning flat foot—*e.g.*, systematic massage, gymnastics, and the use of properly fitted shoes, and in some cases the application of a metallic brace to the sole of the foot.

3. In cases of long standing, where there is well-marked pathologic change in one or more of the

branches of the plantar nerves, resection of the nerve should be performed. The more radical operations, such as resection of the metatarso-phalangeal joint or amputation of the toe, are not indicated.

Cholelithiasis: A Plea for Operative Treatment.

—By DR. E. MAMMER, of Bloomington.

All cases which are not promptly relieved by the passage of small stones, or by therapeutic measures effectively and judiciously employed, at once furnish true indications for resort to cholecystenterostomy. The operation can be safely done and will be successful when calculi are in the gall bladder only; when they are in the gall bladder and in the cystic duct; and when they are in the ductus communis choledochus, and can be removed, or when, even if left there, the bile will find a free passage by the new channel.

Indications for operation in such as the above may be determined by carefully weighing all symptoms and a thorough study of them in all their relations.

The author reported two cases in which he had operated successfully.

Vaginal Section for the Cure of Retroversion of the Uterus was the title of a paper read by DR. HENRY T. BYFORD, of Chicago, in which the author described the technique of the method which he had employed as follows: The vulva and vagina are thoroughly scrubbed with softsoap, then with strong alcohol and with a 1 to 2,000 solution of bichloride of mercury. The uterus is dilated and curetted, and disinfected with mild or strong solutions, according to the requirements of the case. This preparation is necessary to prevent the infection of the connective tissue and buried ligatures.

A transverse incision, a trifle over an inch long, is made in the vaginal wall just in front of the cervix and the bladder separated from the uterus by the finger as far up as the peritoneal reflection. Then a longitudinal vaginal incision about two inches long is made in the median line from the neck of the bladder to the middle of the transverse incision. The bladder is separated from the vagina for a short distance on either side of the incision to give room for manipulation. The peritoneum is then torn across between the uterus and bladder, an intraperitoneal pelvic examination is made, adhesions are separated, and such parts are treated or removed as may so require. The bladder peritoneum is then seized by forceps and drawn down by successive grips until that which belongs behind the pubes can be seen. Two chromicized catgut threads are introduced about one inch apart through this portion of the peritoneum and subperitoneal tissue as high as possible. Then the anterior surface of the uterus is grasped with tenaculum forceps and the fundus pulled into the vaginal wound and attached to the bladder by means of the above-mentioned catgut threads. The finger is now hooked over the left round ligament, which lies beside the vaginal wound; a loop of the ligament is drawn into sight, grasped by forceps, and pulled down until the inguinal end is taut. A catgut suture is put through it as far from the uterine end as possible and is made to attach it to the uterus just above the normal uterine insertion, which is easily exposed to view by the vaginal retractors. The same is done to the right ligament. The entire vaginal wound is closed with transverse sutures that reunite the bladder to the vagina and also draw the ends of the transverse incision together, leaving one row of sutures in the median line. A few inches of a narrow strip of gauze is placed in the connective tissue in front of the cervix, to be removed in twenty-four hours by pulling on the end, which projects between the sutures into the vagina.

Dr. Byford has operated upon ten patients in this manner, and also upon one patient in whom he merely sutured the fundus over the bladder. In each case the

uterus has remained in a normal, mobile position, without the aid of a pessary at any time. The comfort is greater and the complaint much less than after Alexander's operation. The uterus has no abnormal attachments except the two points of peritoneal adhesions to the bladder, and there can be nothing to fear from subsequent pregnancy.

Iodoform Injection Treatment of Hip-Joint Disease.—By DR. A. H. FERGUSON, of Chicago. The intra-articular medication of tuberculous joints is of recent date and is not yet very widely employed. The author had selected the hip-joint on account of the frequency with which it is diseased, and because he had found it more amenable to the iodoform emulsion injections than any other joint. Objections to the hitherto recognized methods of the treatment of hip-joint disease were mentioned, after which the author outlined the manner of using these injections. He has treated upward of twenty-five cases with the most satisfactory results.

What Measures Best Restrict the Spread of Tuberculosis?—By DR. E. W. ZOOK, of Peoria. The restriction of the spread of tuberculosis, while not a new subject, was one that has not been given the attention it deserves. The author believes that the time is not far distant when a specific cure for tuberculosis will be discovered, but until that time comes we will have to rely upon preventive measures, and if these can be uniformly enforced he thinks we will without doubt be able to check the spread of this disease, but in order to do so we will have to put forth our best efforts.

Permanent Ambulatory Extension in Surgery.—By DR. ALEX. C. WIENER, of Chicago. He said that in fractures of the shaft of the tibia or femur absolute immobilization of the bones in the normal position, either by compression bandages or by weight extension, is indispensable, but is it absolutely necessary to have the patient rest in bed all the long weeks until consolidation is perfect? The speaker replied in the negative. The surgeon gives his patient a dressing tightly fitting the outlines of the extremities, so as to keep the fractured bone in a correct position and to regulate the impaired circulation so that the injured can put his legs on the floor without pain. In order to allow the patient free mobility he is supplied with an apparatus which Dr. Wiener described, and which seems to be very practical and useful in the treatment of the cases under consideration.

Functional Indigestion, Its Causes and Treatment.—DR. J. M. G. CARTER, of Waukegan, in a paper on this subject stated that the term indigestion referred to a condition, not a disease. This disturbance, then, was always functional. The following indications may be regarded as pointing out the course of correct treatment in the class of cases considered in the paper, to be varied to meet the necessities of individual patients: (1) Remove the cause; (2) check or prevent the growth of bacteria; (3) assist digestion, and (4) repair damages done. These indications were then dwelt upon at length.

The treatment requires, first, the removal of the cause; second, the checking or prevention of the growth of bacteria; third, an effort to assist digestion, and, fourth, the repair of damages to the stomach or to the general system.

DR. FENTON B. TURCK, of Chicago, made some remarks upon the pathology of gastritis and demonstrated his method of treating this affection on a patient. He went over substantially the same ground as that covered in his previous contributions to medical literature on this subject, and with which most of the members of the profession are doubtless more or less familiar.

The Differential Diagnosis of Neurasthenia and

Its Treatment.—DR. E. S. PETTYJOHN, of Alma, Mich., read this paper, in which he said that ever since Beard used the term neurasthenia, and Van Dusen directed attention to a group of symptoms so named, the profession has been struggling to map out a definite set of symptoms to be thus classified, and in his opinion we had as yet but poorly succeeded. Althaus, of London, protests against the term, and Gowers says that nervousness covers the conditions. There is one thing upon which authors are agreed, namely, that this group of symptoms indicates disease of some part, or every part, of the nervous system; that there is a marked defect in the nutrition of the cerebro-spinal axis, giving an almost endless variety of symptoms difficult to classify. The changes noted in the patient come on gradually. These changes were described, and also those which occur in cases of neurasthenia. The author believes that neurasthenia as a distinct disease does not exist. Under the head of treatment the author expatiated upon elimination, food, and environment.

Cryptogenetic Sepsis.—DR. JAMES T. WHITTAKER, of Cincinnati, O., said that the terms pyæmia, septicæmia, sepsis, septic pyæmia, are variously employed by different authors. There is no longer support for the different terms. Pyæmia was the term first employed. It was a useful term because it expressed a poisoning of the blood by pus and connected this poisoning with a pus centre. So distinct was this connection that the people understood it by the common term "blood poisoning." But the mere presence of pus in the blood does not necessarily produce blood poisoning. In one sense there is always pus in the blood; that is, there are white blood corpuscles, leucocytes, and these corpuscles accumulate in leucocytosis to constitute a protective process. Pyæmia is now generally understood to mean infection of the blood as indicated by multiple metastases, in the absence of any central depot of suppuration; whereas, septicæmia is used to express the infection of the blood in which there is a decided depot in the absence of demonstrable metastases. It is believed at the present day that rheumatism is caused by micro-organisms closely allied to if not identical with the micro-organisms of pus.

Dr. Whittaker made the point that many of the lighter forms of disease, which had been vaguely described as rheumatism, malaria, incipient tuberculosis, la grippe, or a bad cold were cases of light infection with septic matter in which the micro-organisms of sepsis may be found in the blood, and that individuals who are the frequent subjects of these diseases are carrying about in them manifest or more especially concealed depots or colonies of septic micro-organisms.

The treatment may be dismissed in a few words. The prophylaxis depends upon an increase in the general habits of cleanliness, the greater frequency of ablutions, and more care for higher sanitation.

Officers Elected.—The following officers were elected for the ensuing year: *President*, Dr. A. C. Corr, Carlinville; *Vice-Presidents*, Dr. J. M. G. Carter, Waukegan, and Dr. T. J. Pitner, Jacksonville; *Treasurer*, Dr. George N. Kreider, Springfield; *Permanent Secretary*, Dr. John B. Hamilton, Chicago.

The next meeting will be held at East St. Louis, third Tuesday in May, 1897.

Gonorrhœa.—Dr. Schwimmer used alumnol in injections, irrigation, and instillations (0.5 to 5 per cent.). Its effect in chronic cases seemed to be better than in acute cases. In women tampons soaked in the solution are used more or less successfully.—*Arch. f. Dermat.*, No. 29.

Surgical Suggestions.

Intrathoracic Tumors.—1. The most frequent intrathoracic tumor is sarcoma. 2. The most frequent point of origin is the anterior mediastinum, and in particular the remnant of the thymus gland. 3. Clinically these growths may be grouped as those affecting the anterior mediastinum in which physical signs are prominent, those of the middle and posterior mediastinum in which the symptoms predominate over the physical signs, and those beginning in the pleura in which both symptoms and physical signs predominate from the first.—PEPPER AND STENGEL.

Persistence of Pigmentation in Epidermic Grafts.—Drs. Carnot and Deflandre report to the Société de Biologie, February 15, 1896, that a pigmented graft transplanted upon a white skin in the Gilbert Laboratory preserved its color and extended rapidly at the expense of the latter. In one case the central part became more and more pigmented and the periphery presented a zone of extension equalling about a millimetre, the color of which was intermediary. If a white graft is transplanted upon a black epidermis, it fails to take or disappears quickly, as though the pigmented cells attacked the unpigmented ones and replaced them. The secondary epidermic products undergo analogous transformations—the hairs which grow upon the black graft are first mostly white, but become black as the graft gets older. The epidermic pigmentation of mammifera would then seem to be a cellular property largely independent of vascular and nervous influence. This behavior of epidermic grafts is contrary to that which has hitherto been taught to prevail in man.

Hemorrhoids.—Dr. J. N. Baughman (*American Practitioner and News*) recommends the following:

℞ Fl. ext. belladonna..... ʒ i.
 Fl. ext. horsechestnut..... ʒ ij.
 Tannic acid..... gr. x.
 Vaseline..... ʒ ij.
 M. et fiat ungt. S. Apply to inflamed parts two or three times in twenty-four hours.

Dr. Schmey recommends (*International Journal of Surgery*) painting the nodules once daily with a two-per-cent. solution of nitrate of silver, which causes a reduction in size without pain. In a large number of cases the tumors entirely disappeared in the course of one or two weeks. When patients positively refuse operative treatment this new procedure may prove useful.

Epididymitis.—Dr. J. William White, in the *Medical World*, gives the following formula:

℞ Sodii bromidi,
 Acidi borici..... āā ʒ viij.
 Tr. aconiti..... gtt. viij.
 Tr. belladonnae..... ʒ i.
 Liq. cit. potassii..... q.s. ad ʒ viij.
 M. S. Tablespoonful three times a day.

Put the patient to bed with the scrotum elevated and a pillow under the hips.

Chronic Pyelitis.—Dr. Robin prescribes the following (*Le Progrès Médical*) when pain is present:

℞ Venice turpentine,
 Powdered camphor..... āā ʒ iss.
 Extract of opium..... gr. v.
 Extract of aconite root..... gr. iij.
 Make into twenty pills. Take one every eight hours together with a small glassful of uva ursi sweetened.

Abscess of the Liver.—Dr. Fontan, of Toulon (*Le Progrès Médical*), adopts as rules for operating: (1)

A free incision eight or ten centimetres long as soon as the abscess is recognized; (2) the final resection of one or more costal cartilages to expose the abscess freely; (3) the separate suturing of the peritoneum and of the pleura to prevent the penetration of pus into these serous cavities; (4) complete curetting of the cavity of the abscess, as this method removes the diseased tissue and does not predispose to hemorrhage. M. Fontan reports eighty-six per cent. of cures due to the operative technique and curetting. The best statistics of incision or excision by the bistoury alone give only thirty-six to fifty-one per cent. of cures.

Ulcers of the Leg are usually caused by a depraved state of the local blood supply. The tortuosity of the superficial and sometimes of the deep veins of the leg favors venous stasis and interferes with the nutritive forces of their localities. In order to effect a cure, this condition must be rectified by relieving the veins of their superabundance of blood and by aiding the overdistended venous coats to resume their normal proportions. This is done by bandaging. To be effective, the bandage should be carefully applied, so that equal pressure is brought to bear throughout. The bandage should reach from the toes to the knee.—DR. EDLÉN, *N. Y. Med. Jour.*, March 14, 1896.

Hemorrhoids.—

℞ Gallic acid..... gr. x.
 Extract of opium..... gr. iv.
 Extract of belladonna..... gr. v.
 Simple ointment..... ʒ ss.
 M. S. Apply locally morning and night.

—HARE.

Alopecia.—Dr. Samter, of Königsberg, reports good results from the use of a ten-per-cent. chrysarobin ointment, whereas after using the faradic current for weeks no results seem to have been achieved. Prophylactically, strict antiseptic rules should be carried out in barber shops.

A Novel Tractor.—In the *Rev. de Thér.*, November, 1895, a physician describes the use of a stout cord as an aid to traction in obstetrics. The patient is placed in the usual position and the forceps adjusted. The physician seats himself on a low chair in front. A loop on one end of the cord, which should be about a metre and a half in length and quite thick, is fastened to the left handle of the forceps, then carried across to the right handle and back again several times, making a figure of eight. It is then passed from left to right around the physician's back and fastened to the right handle. In this way the physician can control the forceps with his body and he has free use of his hands. In careless hands this device might do damage, but properly used it is a great advantage.

Leucorrhœa.—

℞ Acidi tannici..... ʒ ij.
 Alcohol. pur.,
 Creosoti..... āā ʒ ss.
 Aquæ dest..... ʒ viij.

M. S. Add a tablespoonful to a quart of warm water and use three or four times a day as a vaginal injection.

—LIROLA, *Progrès Médical*, No. 6, 1896.

Syphilis.—The Société de Dermatologie (*Progrès Médical*, February 8th) has been considering the question of mercurial injections. The conclusions seem to be that their use should not be limited to severe cases, but that they are beneficial in all, and that injection is the best means of administering mercury, on account of its reliability, rapidity, and the intensity of its action. Le Pileur has treated six hundred cases with injections of gray oil, which he especially recommends. Hallopeau and others prefer injections of calomel.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATHS OF TWO VETERANS, SIR RUSSELL REYNOLDS AND SIR GEORGE JOHNSON—MEETING OF MEDICAL COUNCIL—A NURSING EXHIBITION—MEDICO-CHIRURGICAL SOCIETY—REHABILITATION OF GUAIAECUM—GENERAL MEDICAL COUNCIL'S SESSION—THE EXAMINATION SYSTEM—DUBLIN APOTHECARIES' HALL—PENAL CASES—MIDWIFERY INSTRUCTION—GUY'S HOSPITAL—PRINCE OF WALES AND HOSPITALS—ROYAL SOCIETY.

LONDON, June 5, 1896.

WHEN I was writing my last week's letter Sir Russell Reynolds still lingered in the hopeless condition to which my previous statement pointed. Though not appreciably different in the morning, he died the same afternoon, too late to add to my letter the sad but not unexpected news. His health had declined for more than a year. Last summer he was a good deal exhausted by the work entailed on him as president of the British Medical Association. Early in January serious illness was manifested in a sudden attack as he rose from the table at a dinner he had given to his colleagues at the College of Physicians. A little later he went to Hastings for a time, but did not gain strength. On March 23d, on returning from a drive, he slipped on his doorstep and sprained his ankle. He was taken to his bed, which from that time he did not leave, as pneumonia supervened. He survived the immediate attack, but the remainder of his life may be said to have been a gradual failure of strength.

John Russell Reynolds was born in 1828. His father was the Rev. John Reynolds. His grandfather was a physician and F.R.S. His brother, the Rev. H. Reynolds, D.D., principal of Cheshunt College, a learned and greatly esteemed theologian, survives him. The career of the late president of the College of Physicians has been all along successful. He graduated at the London University, carrying off gold medals and the distinction of "university medical scholar." He passed through the various stages at University College, to which he eventually became professor of medicine and physician to the hospital—positions he occupied for many years, where his teaching was most highly appreciated. His contributions to medical literature began with his essay on "Vertigo" in 1854, and his other writings on "Neurology" are very well known. He edited a "System of Medicine," by various writers, extending to five volumes, 1866-79. Up to the latter date this work is full and reliable, but so great has been the progress of medicine since that the "Twentieth Century" will probably push it aside as largely obsolete. His work on neurology was greatly appreciated abroad as well as at home. Several of his writings were translated into foreign languages and many learned societies delighted to enroll him among their members. He was elected a fellow of the Royal Society, served in most of the offices at the College of Physicians, becoming president in 1893, after which he was created a baronet, having been physician to the Queen's household from 1878. He has died honored of all his brethren for his sterling character and genuine worth, and a large number of the leaders of the profession were present at the funeral service on Tuesday (2d inst).

Another veteran has also fallen. Sir George Johnson, F.R.S., whose name will be familiar to your readers, died on Wednesday afternoon (June 3d), after a brief illness. He was in his usual health and spirits until Monday, when, on returning from a drive, he was

seized with hemiplegia. He regained consciousness, but gradually sank. He was in the seventy-eighth year of his age, and occupied a considerable position in the profession throughout a long and honorable career. For many years he was physician to Kings College Hospital and professor of clinical medicine, and on retiring was made consulting physician and emeritus professor. You will remember his views on cholera, which at one time excited much controversy. Only a few months ago he issued a volume on the subject, in which he reiterated his views with all his old energy and conviction. His writings on kidney diseases were also well known, and he had just completed a work on the "Pathology of the Contracted Granular Kidney," which narrowly escaped being a posthumous production, for I hear that the publishers only delivered copies on the day before he died. This work cannot fail to interest those who opposed his views of this subject as well as those who accepted them, as it will be his latest utterance, and no doubt many new facts will be weighed and his judgment pronounced in the light of the most recent additions to our knowledge.

Sir George was physician extraordinary to the Queen, a member of the senate of the London University, where he took his M.D. as long ago as 1844. In 1850 he became a fellow of the College of Physicians, where he passed through most of the official positions and became vice-president in 1887. In 1864 he published a couple of lectures he had delivered at the college on the laryngoscope, and he retained to the last a certain interest in laryngeal diseases, and consented to be president of the Second Laryngological Society—though it is hard to see why the specialists could not unite in a single society.

The General Medical Council met on Tuesday, when the three new members took their seats and the president was re-elected and delivered his address. Mr. Teale brought forward a resolution respecting the examinations, which was partly discussed and then referred to the education committee. The case of the Dublin Apothecaries' Hall was taken up the next day, but adjourned over yesterday, which was occupied with questions of professional misconduct. This being so, I, too, will adjourn further notice of the proceedings which are so unfinished.

A nursing exhibition has been open all the week, where various things are shown of more or less use to the sick or injured. Music, the new photography, and other attractions have been provided to induce those to come who are not sufficiently interested in nursing.

Many prescribers value guaiacum and serpentary so little that they would not object to see them expunged from the pharmacopœia. Sir Alfred Garrod believes in the virtues of both, especially guaiacum. Accordingly, he undertook its rehabilitation at the last meeting of the Medical and Chirurgical Society, in which somewhat skeptical atmosphere he claimed to have been successful in establishing the following points: (1) Guaiacum was innocuous and might be taken for an indefinite period of time, and looked upon as a condiment rather than as a drug, was as harmless as ginger or any other condiment. (2) Guaiacum possessed a considerable power, but less than colchicum, in directly relieving patients suffering from gouty inflammation of any part; it might be given whenever there was but little fever. (3) Guaiacum taken in the intervals of gouty attacks had a considerable power of averting their recurrence: in fact, it was a very powerful prophylactic. (4) Guaiacum did not appear to lose its prophylactic power by long-continued use. (5) There were a few persons who could not readily continue the use of guaiacum; for such cases there were other drugs whose action was in some respects similar, and perhaps serpentary was one of the most powerful of these. He had given it successfully in

gouty inflammation in the elderly subject, and as a prophylactic doubted not that it was possessed of considerable power. As to the origin of uric acid in the animal economy, instead of supposing that it was formed in the system by the metabolism of the nitrogenized tissues and then thrown out by the kidneys, he was of opinion that it was produced from urea and other nitrogenized bodies in the blood by the direct action of the kidney, and that when uric acid was contained in the blood this arose from the absorption from the kidney structures of the urate of ammonium, depending on the want of sufficient throwing-off powers in these tissues. He did not think that guaiacum affected the formation of uric acid, but that it acted directly on the kidney itself as a stimulant and enabled it to get rid of any accumulation in the tubules, and thus prevented absorption from them into the blood. In confirmation of this view, patients when taking guaiacum often had unusual deposits of urates in their urine.

Dr. Norman Moore had seen at least one hundred instances post-mortem of persons displaying the features in morbid anatomy which Sir Alfred B. Garrod had first shown to belong to this disease. Colchicum might be given for long periods with advantage and some success in warding off the attacks.

Dr. Murrell said that he could support Sir A. B. Garrod's conclusions as to the efficacy of guaiacum in chronic gout. He had used it during the last six years, not only for chronic gout, but for rheumatism, tonsillitis, and chronic bronchitis associated with the gouty taint. He favored a confection.

Dr. Haig agreed that guaiacum tended to ward off gouty manifestations, but could not accept the explanation offered as to the way in which the drug acted. Iodide of potassium provoked diuresis and dilatation of all the blood-vessels, with a fall of blood pressure. Lithia and ammonia had a similar action, as also had copaiba, tar, cannabis indica, certain salts of calcium, and certain bitters, such as chiretta, gentian, and possibly serpentary. Copaiba contained a large quantity of acid, and guaiacum agreed with it in this. He believed that all these drugs diminished the excretion of uric acid and kept the blood clear of it, and he had explained fully elsewhere the method of action of some of those drugs. He accepted the view that urate of ammonia was not formed from urea in the kidneys, but that the reverse took place. Much of the uric acid met with in disease was not formed in the system, but was introduced with animal food.

Dr. Ewart thought that the action of guaiacum upon the capillaries was not limited to the kidney, but extended to the whole system, and in particular to the capillaries of the muscles; indeed, the effect of guaiacum in relieving painful manifestations located in the muscles was well known. It was easy to imagine that any interference, however small, with the metabolism of the muscles must have an appreciable effect upon the juices, and as to the glandular system guaiacum acted in that way also, and was a recognized hepatic stimulant. If the drug were used over a long period in doses sufficient to cause a laxative action, this would influence gouty persons materially. He found tincture of iodine very useful in combination with guaiacum.

The president, Dr. Dickinson, said that in rheumatism guaiacum had been used at St. George's Hospital for at least a century, and was certainly much more successful than other remedies in use at the early part of that time. The treatment of acute rheumatism by guaiacum had been continued until twenty years ago, and even now it was used for chronic rheumatism. From his own experience he could speak very strongly as to its value in some forms of acute rheumatism as well as in gout. With regard to the relation of uric acid to gout, he placed himself in the position

of a disbeliever. There was no doubt of its presence, but he preserved doubts as to its being the real cause. Was it not what we might call a by-product? During convalescence from scarlet fever, when nephritis was present, it was not uncommon to find enormous quantities of uric acid passed, but that did not necessarily lead to gout.

Sir A. B. Garrod, in reply, said that one never missed finding urate of sodium deposited in the tissues after the slightest attack of gouty inflammation. He admitted the value of guaiacum in acute rheumatism, but many cases formerly treated as acute rheumatism were really instances of acute gout. He was convinced, also, that guaiacum would relieve muscular pains which were not gouty. Further, there could be no gouty symptom without the presence of urate of sodium in the blood, and this had no relation to the amount thrown out by the kidneys. Guaiacum might act by increasing the amount excreted, causing visible deposit, to which the patient would call attention.

LONDON, June 12, 1896.

THE most important subject discussed in the session of the General Medical Council which concluded on Tuesday was that brought forward by Mr. Teale in a resolution which is a very serious indictment of our examination system. The subject has for some time been forced on teachers by a very unpleasant experience, while students have groaned under the continually increasing demands upon them. Examinations have been multiplied and the ratio of rejections has increased at every step, so that Mr. Teale calculated that if every student took his share of plucks he would be rejected twice in his career. Of course, such averages are mere indications, and if not used carefully may mislead; but there is yet a more serious aspect of this question, viz., the continuous rise in the percentage of plucks. The more we multiply examinations the more fatal does each become, so that there is obviously good reason for the alarm that has been raised. Mr. Teale regarded the examinations as faulty on account of the element of chance which is almost inseparable from them, and also from avoidable circumstances, viz., the hurry with which some of them are conducted and the absurd questions which are too often set. This latter point he illustrated by a series of examples of the misguided energy of examiners.

The council is undoubtedly responsible for the manner of regulating the examinations which has resulted in a bitter cry from teachers and students, and it should lead to much searching of hearts by councillors and examiners. These last must be subjected to control. Every examiner exalts his own subject until the only plan of meeting his requirements is systematic cramming, to the neglect of clinical work. Thus we have sent up for examination men who can give parrot replies to questions framed from certain text-books, but who are at a loss as to how to put their knowledge to use by the bedside. Facts and rules are insisted on and are therefore accumulated by rote, while the more important part of true training is rendered impossible of attainment.

Mr. Teale would maintain the standard on subjects which it is essential for a practitioner to know and "retain the knowledge of," but would withdraw from public examinations those subjects which he should "know about," and let the schools teach and certify them. There is certainly some danger if this suggestion were adopted that the competition of the schools, which is too keen now, might lead to the perfunctory certification in these subjects of all who had attended the lectures, or, which is almost the same, paid the fees. Surely the qualifying body should not be relieved of its responsibility. Let us set up no school

examinations to worry the students more, but insist that the teaching is sufficient for a young man of average intelligence and increase the preliminary education so as to ensure the fitness of every student to enter on the curriculum prepared for his work.

The council, "without committing itself in any way to the views" brought forward, referred the matter to the education committee for consideration and report.

The Dublin Apothecaries' Hall made the proposal suggested by the privy council for the appointment of examiners by the medical council. This was discussed with the same acrimony that has marked the effort to shut up the hall in the interest of the Irish College of Physicians. No doubt the hall is useless. We have too many licensing bodies, and this ought not to have been one. But, having attained a legal status and being unwilling to commit the "happy despatch," the effort to get rid of it by a side-wind is mean. If the council is satisfied that its examinations deserve such condemnation, the acts provide a method of terminating its career in a straightforward manner. Eventually the council deferred any expression of opinion and directed communications to be made to the hall and to the College of Surgeons, with a view of bringing about a conjoint board. No doubt the hall will be ready enough to unite again; but will the college?

Three days were devoted to penal cases. Three names were ordered to be removed from the register for infamous conduct, of which the council, having heard the defence and deliberated *in camera*, found them guilty. Another case terminated in the announcement that the charge was not proved. A dental offender was found guilty and judgment postponed.

The council is a very expensive court for the trial of these cases. Moreover, its proceedings are often destitute of all appearance of judicial dignity. It is to be hoped some more appropriate tribunal may be entrusted with the trial of these cases. A body appointed by the council might, perhaps, be authorized by the next medical act. Lawyers make short work with any black sheep that gets into their ranks. Why should not doctors be provided with an equally efficient method?

The council resolved that in future the alternative of three months' attendance on the indoor practice of a lying-in hospital should be attendance on twenty labors, of which not less than five should be conducted throughout (including the whole puerperium), under the direct supervision of a registered practitioner.

A statement by Mr. Muir Mackenzie, as standing counsel, was made to the effect that he is not satisfied that it is necessary or advisable to seek to amend the penal clause of the act.

On Wednesday the Prince of Wales again raised his voice on behalf of hospitals—a cause he has often pleaded before. This time it was for Guy's Hospital, the income of which has been so reduced by the fall in the value of land that the governors are compelled to appeal to the public. The endowment provided by Thomas Guy for the maintenance of this hospital was, in accordance with his will, entirely invested in land. The rents proved sufficient until some fifteen years ago, when the depression began to be seriously felt. When all economies failed, even the closing of wards, £100,000 was raised by subscription to tide over what was hoped was only a temporary difficulty. But the fall in prices has increased until now, and an effort is being made to raise a fund to bring in £15,000 a year. To help toward this, a festival dinner and reception was arranged to be held at the Imperial Institute. It came off on Wednesday, when the prince presided with his usual grace and geniality, pleaded the cause of the hospital in a powerful speech, and accepted the office of president. The response was unprecedented, and

this festival will be memorable for the amount announced at it—a total of £167,528.

Of course, a great proportion of this sum had previously been sent forward or promised, but the amounts subscribed in the course of the festival were worthy of the occasion. The reception after dinner was attended by a great throng of fashionable society—so great that, as the weather was wet and the gardens accordingly deserted, there was quite a crush in some parts of the spacious buildings, especially about the staircases and some of more contracted parts. Still, on the whole, the thousands of ladies and gentlemen present met with very little inconvenience, and seemed thoroughly to enjoy the great reception, which did not disperse till long after midnight.

The previous day (Tuesday) the prince had accompanied his wife to Hackney, where Her Royal Highness opened a bazaar on behalf of the Band of Hope. On this occasion the prince expressed for himself and the Princess the pleasure it gave them to assist in this good work, and declared they had been delighted with their reception along the route and in the hall. Having gone round the stalls and made purchases, the royal visitors were entertained with a gymnastic performance by some of the children, and left amid loud plaudits, which were redoubled outside all along the route.

On Monday the prince attended a meeting of the council of the Hospital Sunday Fund, of which he is a vice-president. There he presented to Mr. Burdett an album containing the portraits of the council, and which, with an address they had voted him, was offered in commemoration of his successful efforts in increasing the fund. Mr. Burdett was naturally gratified that the prince should have come on this occasion.

With all this, I may safely say the prince has done some good work this week and emphasized his well-known interest in all efforts on behalf of the sick poor.

The Royal Society's *conversazione*—the "ladies' night," as it is familiarly called—was held on Wednesday and well attended, notwithstanding the counter-attraction mentioned above. The "X" rays and other exhibits were as attractive as usual.

Dr. Thomas Barlow has been appointed, in succession to the late Sir R. Reynolds, physician-in-ordinary to Her Majesty's household.

FOREIGN PRACTITIONERS IN FRANCE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In my number of your journal just received (May 9, 1896, p. 684) you refer to the "Rampant Protectionism for French Physicians," and the question is asked, "How many of the interlopers are American?"

Thinking this would interest your readers, I venture to give some details of the question.

All the French medical journals are full of what they call the invasion of the foreigners (doctors who come to France to practise medicine). This, although these foreigners are made to pass all the medical examinations that Frenchmen pass.

A late writer says: "These people come here to take advantage of the foolish public, who are attracted by anything that comes from afar off and that has a barbarous name. Most of these stranger doctors are Russians and Jews, who fly from their native soil to divide our bread with them, as they are tired of black bread."

Two new articles are proposed to the medical laws: 1st. All foreigners can enter the French faculties of medicine, but the diploma given will not entitle them to practise in France.

2d. No foreigner can practise medicine in France unless he has been naturalized French, has done his

military service, and has passed the examinations for *bachelier*, like Master of Arts.

It is therefore evident that great difficulties will be put in the way of any foreigner who wants to practise in France.

Up to the present the foreign Master of Arts degrees or similar ones have been accepted as sufficient for entrance in French faculties, and some allowance off has been made to holders of good medical diplomas.

In late years, however, foreign medical men have barely been allowed to enter the French schools and have been compelled to pass all the examinations (eleven in all). The medical examinations are called five, but are each divided in two, making ten, which, with the printed thesis examination, make eleven examinations in all.

The writer came in under this last ruling.

The "invasion" is mostly a Russian one and is the fault of the French themselves. In late years they have encouraged and shouted for everything Russian. Any student of a Russian school was admitted to the Paris faculties (males and females). This has led to the present overwhelming of the French doctors.

The Russians are poor men and women who do not care to return to their own inhospitable land, and stay to practise in France and with and upon French people. They speak excellent French as well as very often English and German, and practise among the French as well as the English or any others.

It is a very different matter with the English-speaking (English and American) doctors who practise in France. The better-class English and Americans travel much in France and pass seasons in its winter and summer health resorts, and they demand a physician of their own country and language when ill.

This has caused a certain number of English and American doctors to settle in France, and they practise only with their own country people, never accepting a French patient.

They have all had to pass the full examinations of the French faculty the same as the French students, and have as well a diploma from their own medical schools, thus having had a double education.

As the question is asked, perhaps it would be well for you to give the full list of all the American physicians now practising in France, as follows:

Aix-les-Bains: Dr. Thomas Linn (in summer).

Nice: Dr. Thomas Linn (in winter).

Paris: Drs. Austin, A. Clarke, B. F. Dearing, Pike, R. R. Good, G. Halsted-Boyland, Chamberlain, M. F. Hein, Magnin, Reiss, Mrs. Klumpe-Dejérine (wife of Professor Dejérine), Whitman.

Thus, twelve are in Paris, and one, Dr. Linn, at Nice and Aix-les-Bains and the rest of France.

The English doctors are about twelve also in Paris, eight in Nice, six in Cannes, five in Monte Carlo, six in Mentone, one in Beaulieu, and two in Hyères.

There are about, then, a dozen Americans in all France, and some twenty-eight English in south France and twelve in Paris; thus, forty of the latter in all France.

This surely is not a great "invasion" when the thousands of English and American invalids are considered.

The French doctors need to be told that the only competition they have is from the Russians, whom they have brought to France themselves, while, so far as the American and English doctors are concerned, they never practise among the French, and it is because they reside there that many English and American invalids make a stay in French resorts. AMERICUS.

Quinine is distinctly contraindicated in inflammation of the middle ear, of the skin, meninges, and the urinary and alimentary tracts.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 27, 1896:

	Cases.	Deaths.
Tuberculosis.....	145	110
Typhoid fever.....	7	1
Scarlet fever.....	66	5
Cerebro-spinal meningitis.....	0	4
Measles.....	178	15
Diphtheria.....	219	40
Small-pox.....	0	0

Mosquitoes and Malaria.—Dr. Manson believes that malaria may be and often is propagated through the agency of the mosquito. We quote his views from *The Lancet* of March 21, 1896, as follows: "I think I have advanced many cogent reasons for believing that the plasmodium malarie on leaving man, and as a normal step in its life history, becomes parasitic in the mosquito, and that in this insect it enters some cell—as any gregarine or coccidium would do—and probably develops into its reproductive sporulating form just as it does in the blood corpuscles of man. What then? How can its spores get out of the mosquito so as to increase and multiply and preserve its species from extinction when in the course of nature the mosquito dies? How, too, does it spread over the land, and how does it get back to man again? Before attempting to answer these questions, I must first describe very briefly a passage in the life of the mosquito. The female mosquito, after she has filled herself with blood—the male insect is not a bloodsucker—seeks out some dark and sheltered spot near stagnant water. At the end of about six days she quits her shelter, and, alighting on the surface of the water, deposits her eggs thereon. She then dies, and as a rule falls into the water beside her eggs. The eggs float about for a time and then in due course each gives birth to a tiny swimming larva. These larvæ, in virtue of a voracious appetite, grow apace, casting their skins several times to admit of growth. Later they pass into the nymph stage, during which, after a time, they float on the surface of the water. Finally, the shell of the nymph cracks along its dorsal surface and a young mosquito emerges. Standing, as on a raft, on the empty pelt the young mosquito floats on the surface of the water while its wings are drying and acquiring rigidity. When this is complete it flies away. The young mosquito larvæ, to satisfy their prodigious appetites, devour everything eatable they come across; and one of the first things they eat if they get the chance is the dead body of their parent, now soft and sodden from decomposition and long immersion. They even devour their own cast-off skins. In examining mosquito larvæ one often comes across specimens whose alimentary canals are stuffed with the scales, fragments of limbs, and other remains of the parental insect. As we have seen that the mosquito larva devours its own and its neighbor's exuviae, we can readily understand how, once gregarines have been introduced into a pool of water, the larval mosquitoes in that particular pool become infected by the parasite. But as the mature mosquito when she quits her nymph husk also contains numerous gregarines, we can also understand how she, too, carries the infection with her, scattering it about the country in her fæces or conveying it to any other pool where she may lay her eggs and afterward die. Her body is

then devoured by her progeny or by any other mosquito larvæ that already chance to be in the pool. Along with her body, of course, the larvæ swallow any gregarine germs it may contain if they have not already been picked up by the larvæ when feeding on the mud at the bottom of the pool. Does not this little story of the gregarine indicate the way, or a way, in which that other mosquito sporozoon—the plasmodium malariae—multiplies? Does it not indicate how this parasite, in which man is so much interested, passes from mosquito to larva, from larva to mosquito, in never-ending series? Does it not indicate how the plasmodium disease of mosquitoes spreads from pool to pool and is scattered broadcast about the country, and does it not indicate how it may get back to man again? We can readily understand how the mosquito-bred plasmodium may be swallowed by man in water, as so many disease germs are, and we can readily understand how it may be inhaled in dust. Mosquito-haunted pools dry up. The plasmodia in the larvæ and those that have been scattered about in the water, finding themselves stranded by the drought and so placed in a condition unfavorable for development, pass into a resting stage, just as they do when by quinine or other means man is rendered temporarily unsuited for their active life. The dried specimen of the pool, blown about by winds and currents of air, is inhaled by man, and so the plasmodium may find its way back again to the host from whom its ancestors had, perhaps, started generations back. I would conjecture that on entering man and on entering the larval mosquito it develops into a flagellated spore similar to the flagellated spore into which it develops in the mosquito's stomach. In this way it would be enabled to penetrate the mucous surfaces and get into the human blood cell. Many mosquitoes die without getting to water; all male mosquitoes die without seeking water. They may die far from water, blown away, as we know mosquitoes are, by high winds. The bodies of such mosquitoes fall in time on the soil and decompose. The parasites they contained pass into the resting stage, and in this form they also may be carried into the air by currents, or be blown about as dust, or be shaken out by man when he disturbs the soil. In this way the plasmodium may find a route back to man again. In this way, too, we may explain the occurrence of those cases of malaria which apparently, though not really, are unconnected with swamp or stagnant water. Such is my view of the life history of the malaria parasite, and the rôle of the mosquito with regard to it, and of the process by which man becomes infected."

Bacteriology of Air Passages.—In an article read before the Academy of Medicine, April 7th, by Dr. W. H. Thomson, he quotes from Dr. St. Clair Thomson and Dr. R. T. Hewlett, of the Bacteriological Department of the British Institute of Preventive Medicine, to the section on pathology at the last annual meeting of the British Medical Association, which led to special research as to the fate of micro-organisms in inspired air. They calculate that the lowest estimate of organisms inhaled every hour would be fifteen hundred, but in London atmosphere it must be common for fourteen thousand organisms to pass into the nasal cavities during one hour's tranquil breathing. Beginning with the trachea, they found that the mucus derived from the trachea of all animals recently killed in the laboratory was always sterile. The mucous membrane of a healthy nose only exceptionally shows any micro-organisms whatever. The interior of the great majority of normal nasal cavities is perfectly aseptic. The vestibule of the nares, the vibrissæ lining them, and all crusts forming there are generally swarming with bacteria. The vibrissæ seem to act as a filter,

and a large number of microbes meet their fate in the moist meshes of the hair which fringes the vestibule. This arrangement not only arrests the ingress of germs, but by the action of ciliated epithelium those which have penetrated into the nose are rapidly ejected.

Sanatorium Treatment of Phthisis.—Dr. Otis (*New York Medical Journal*, June 3, 1896) writes as follows: "It seems to me that it is to be deplored that the main object of all sanatorium treatment—namely, the hygienic—should in any way be obscured in these laudable attempts to establish special institutions for the treatment of consumption by the more specious claims of special methods of treatment or specifics. It is well to again repeat that up to the present time there has been discovered no specific which will cure consumption, and the best results have been, and are now, obtained by the hygienic, open-air treatment, as illustrated in the best-equipped and best-conducted sanatoriums. The extraordinary and unexpected, like the 'X' rays, may at any time happen in the discovery of the devoutly desired specific or immunizing serum; but when it does come, if ever, there will still be as great a need of sanatoriums as at present, where the damage left in the wake of the dislodged and routed bacillus and his confrères can be repaired, and the battered body gently and skilfully restored for further service."

Fractures of the Cranial Vault.—Dr. Senn says that operative interference is absolutely indicated under the following circumstances: 1. All open fractures, including gunshot and punctured fractures. 2. Depressed fractures attended by well-defined symptoms caused either by the depression or intracranial complications. 3. Rupture of the middle meningeal artery with or without fracture of the skull.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

TRANSACTIONS OF THE AMERICAN ORTHOPÆDIC ASSOCIATION. Ninth Session. Vol. VIII. 8vo, 335 pp. Illustrated.

DAME FORTUNE SMILED: A DOCTOR'S STORY. By Willis Barnes. 8vo, 335 pp. Arena Publishing Co., Boston, Mass.

THE METHODOICAL EXAMINATION OF THE EYE. By William Lang, F.R.C.S. 12mo, 96 pp. Illustrated. Longmans, Green & Co. New York.

TEXT-BOOK OF COMPARATIVE ANATOMY. By Dr. Arnold Lang, translated by Henry M. Bernard and Matilda Bernard. Part II. 8vo, 618 pp. Illustrated. Macmillan & Co. New York.

ANLEITENDE VORLESUNGEN FÜR DEN OPERATIONS-CURSUS AN DER LEICHE. Von Prof. E. von Bergmann und Dr. H. Koch, 12mo, 286 pages. Illustrated. August Hirschwald, Berlin, Germany.

THE TREATMENT OF PHTHISIS. By Arthur Ransome, M.D. 8vo, 237 pages. Smith, Elder & Co., London.

OCCASIONAL PAPERS ON MEDICAL SUBJECTS, 1855-1896. By W. Howship Dickinson, M.D. Longmans, Green & Co. New York.

THE STOMACH, ITS DISORDERS, AND HOW TO CURE THEM. By J. H. Kellogg, M.D. 12mo, 368 pages. Illustrated. Modern Medicine Publishing Company, Battle Creek, Mich.

OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By S. Ch. Boislignière, M.D. 12mo, 351 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, \$2.00.

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Original Articles.

A METHOD OF EXAMINING THE PELVIC CONTENTS WHICH RENDERS EXPLORATORY LAPAROTOMY UNNECESSARY IN INFLAMMATORY CONDITIONS OF THE ADNEXA UTERI, AND IN CERTAIN OTHER DISEASED STATES OF THE PELVIC VISCERA.

By W. R. PRYOR, M.D.,

PROFESSOR OF GYNECOLOGY, NEW YORK POLYCLINIC.

UP to two years ago the writer performed abdominal section upon certain patients who presented local and general symptoms strongly resembling pyosalpinx. Upon opening the abdomen, either a hydrosalpinx or broad-ligament cyst, or large cystic ovary, matted by recent lymph to an occluded tube, was found. Meeting such conditions, no method of treating them other than removal appeared safe. Again, other cases were encountered which were very obscure, and in which persistent pelvic pain with tenderness at the sides of the uterus demanded a clearing up of the diagnosis by abdominal section. In other words, we were forced in our fallibility to do a grave operation, in order to make a diagnosis.

The very uncertainty attaching to our diagnoses lead some to shamefully abuse the operation, using as an excuse the necessity for a clear diagnosis, and the words "exploratory laparotomy" became the attractive cloak behind which ignorance worked. The laparotomist, having once gotten in the belly, must have a token of his prowess, and absolutely normal organs were removed. It was in the consciousness, then, of the mistakes inherent in his specialty that the writer sought to develop a method of approaching the adnexa uteri in obscure cases which would be a radical departure from old procedures, and which would both clear up doubtful cases and stay the hand of the laparotomist. This operation will assuredly clearly draw the distinction between those who can and those who cannot do this sort of work. For, while the new operation is simple, yet is the space limited. There is no such gate to throw open as exists between the xiphoid and pubis. In front of the vaginal incision lie the uterus, uterine arteries, ureters, and bladder, behind it lies the rectum, and above are the coils of small intestine. The regional anatomy is intricate but fairly constant. I have this to congratulate myself upon, that experience as an apprentice is demanded to do this operation and a good deal of manual dexterity. Having these, the operation is easily performed, and is devoid of risk. Without them, none should try it.

Operation.—For two days before the operation the vagina is kept filled with a gauze dressing, soaking wet with bichloride solution, 1 to 5,000. At the second renewal of this dressing, twenty-four hours before the operation, the patient is shaved. This wet antiseptic dressing is applied for the purpose of loosening the superficial layers of vaginal epithelium, and it should be ample enough to spread out the vaginal

rugæ. The patient is placed in the lithotomy posture. At the time of operating the external genitalia are scrubbed with a one-per-cent. solution of lysol, followed by Thiersch's solution. The vagina is cleansed with the same solution, using for this purpose the hair brush which jewellers employ to clean watches.

The uterus is curetted, irrigated with a boiled one-per-cent. solution of salt, and its cavity swabbed out with iodoform gauze to remove débris. All instruments employed in this procedure are cast aside and

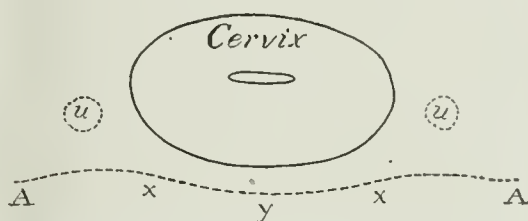


FIG. 1.—The cul-de-sac incision is made with scissors from *x-x*. Blunt tearing with the fingers is made out to the lateral vaginal walls to *A-A*. The level of the uterine arteries is much above this line of incision, approximately at *u*.

the vagina is again flushed out with Thiersch's solution. With stout, blunt traction forceps the uterus is pulled down, and the point at which the vagina is reflected from the cervix is demonstrated by moving the cervix up and down in the vaginal vault. This point of reflection is shown by a crescentic fold which appears just behind the cervix when the cervix is shoved up.

Picking up this fold in the middle with strong mouse-tooth forceps, the operator cuts through the vaginal mucous membrane at *y* (Fig. 1). This inci-

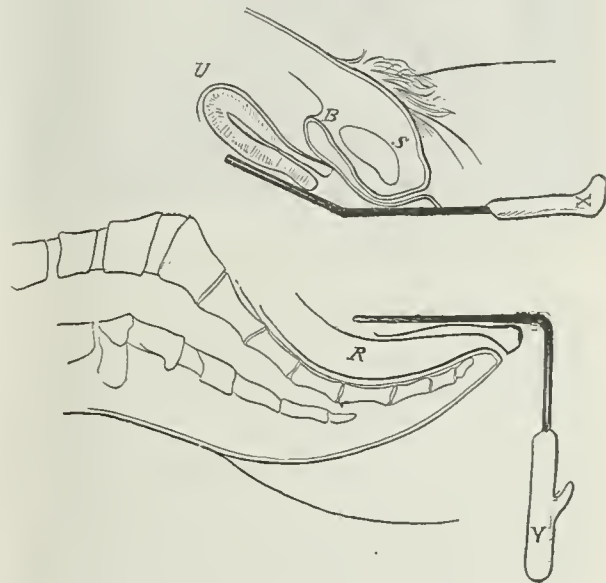


FIG. 2.—The uterus (*U*) is held up behind the symphysis (*S*) with the bladder (*B*) by the trowel (*A*), while the rectum (*R*) and posterior vaginal wall are pulled down by the retractor (*Y*).

sion is extended to each side to *x-x*, making a cut about an inch long, or a little less, usually, than the diameter of the cervix of a parous woman. The scissors cut through the vaginal mucosa only. The posterior flap is now grasped at its centre by stout forceps, and

while making down-traction upon the uterus and this flap the operator pushes his finger into the cul-de-sac up to the level of the internal os. If the finger has not already perforated the peritoneum, the cavity is wiped dry and the peritoneum picked up with forceps and cut with scissors. A digital examination of the pelvic contents is now made, still keeping up down-traction on the uterus. Having satisfied himself that an ocular inspection is necessary, the operator introduces two fingers into the opening in the cul-de-sac, and, separating them laterally, he tears the vaginal mucous membrane and peritoneum out to the points *A, A* (Fig. 1). Very rarely will the vaginal mucosa be found so stout that he cannot do this. Should it

demonstrated the probable existence of pus foci, to which the intestines are attached, these latter should be separated before putting the table into Trendelenburg's position, in order to prevent escape of pus into the abdominal cavity.

The intestines having been freed in such cases, a complete diaphragm of gauze pads is put between the pus foci and the intestines above, and the Trendelenburg position secured. But in those cases in which the purulent accumulation is extensive enough to cause any degree of adhesions, "exploratory incision" is not often necessary; for the diagnosis is generally sufficiently clear to indicate the proper form of radical operation. It is in the doubtful cases—cases of possible hydrosalpinx,

broad-ligament cyst, or large ovary with adherent inflamed tube, that we find the indication for this, as for the abdominal exploratory incision.

Tubal pregnancy, hydrosalpinx, broad-ligament cyst, ovarian cystoma, occluded tubes, pelvic adhesions, pyosalpinx, uterine fibroid—in fact, all the various lesions of the peritoneal face of the uterus and of its adnexa, I have found and demonstrated by this procedure.

To grasp the ovaries and tubes with Luer's forceps and sever their adhesions is easy.

Cysts of the ovary may be punctured, and so can blood clots in the ovarian stroma. The clear sterile fluid of a hydrosalpinx or broad-ligament cyst can be evacuated. Adhesions between an occluded tube and the ovary can be readily broken. In fact, by this means of exploring the pelvis, we can apply conservative measures to a class of cases which would be

subjected to great risk were conservatism attempted from above.

I have also succeeded in showing that a supposed cancerous involvement of the rectum was nothing but a mass of lymph about a diseased ovary and tube. In five cases I have demonstrated to spectators the vermiform appendix.

Absolutely and without mutilation can we make a positive diagnosis of the pelvic contents from the pelvic brim to the vagina. In a discussion of my operations later on, I will bring out certain other points relating to treatment.

Having satisfactorily examined the pelvis, all fluid is wiped away, the uterus again swabbed out, and now packed full of iodoform gauze. The gauze pads are now removed and a loose plug of iodoform gauze is inserted just within the edges of the vaginal rent; but it must fill the opening to prevent protrusion of small intestine. The uterus and this plug are replaced



FIG. 3.—The cul-de-sac is opened. The posterior vaginal wall is held down by the retractor, while with the trowel the uterus is shoved up against the bladder. The space obtained is estimated by comparing the length of the operator's index finger with the distance between the blades of the retractors. In this case it was $2\frac{1}{4}$ inches.

be so, he will lightly touch it with a scalpel in the direction in which he wishes the tissues to separate. The medium blade of the long Péan retractor is introduced into the pelvic cavity, the forceps on the posterior flap are removed, and the cervix is freed from the traction forceps. The Péan-Pryor trowel is now inserted into the pelvis and the uterus forced up behind the symphysis (Fig. 2). This will widely open up the pelvic cavity. Into this opening a gauze pad, to which is attached a stout string, is inserted to prevent descent of the intestines and to catch any sero-sanguinolent fluid.

The patient, still on the back and with legs bent upon the trunk, is thrown into Trendelenburg's position (Fig. 3). By gentle manipulation with small gauze pads held by Hunter's forceps, the intestines and omentum are made to enter the abdominal cavity. When it is found that the intestines are adherent, they are gently freed. Should the digital examination have

masse, and the vagina is filled with gauze. A self-retaining rubber catheter is inserted into the bladder, and the sphincter ani dilated. No morphine is given. The bowels are moved by salines in twenty-four hours, when light diet is begun. After two days the bladder is irrigated with boric-acid solution and the catheter removed. On the third day the patient is put in Sims' position and the uterine packing removed without irrigation. Whatever vaginal gauze has been taken out to do this is replaced by fresh dressing. I leave the cul-de-sac plug in for from seven to ten days, according to the character of the case. It is removed and replaced under a short chloroform narcosis. In doing this the patient is in Sims' position. The operator

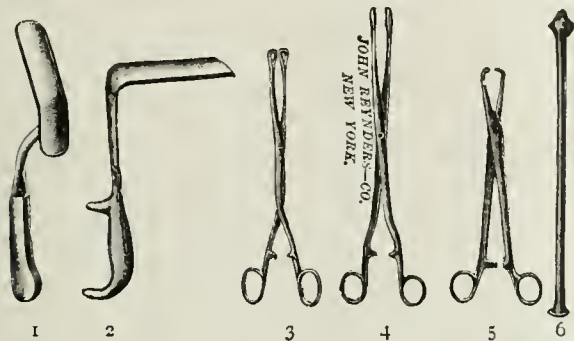


FIG. 4.—1, Péan-Pryor trowel; 2, Péan retractor; 3, Luer's pile forceps; 4, Hunter's sponge holder; 5, Pryor's traction forceps; 6, self-retaining catheter.

must be careful to support the cervix anteriorly with the trowel, so as not to disturb the lymph behind the uterus. A second dressing is made a week later, without pain, and repeated until the opening closes. I let the patient sit up in bed after the first dressing, get out of bed in two weeks, and become an office case between two and three weeks.

These incisions produce no ill results whatever. The lymph which forms behind the cervix is exceedingly evanescent. I would call the attention of the reader to the difference between the amount and character of the lymph which is thrown out about an antiseptic absorbent dressing and that which is the exponent of a pathogenic invasion. Even in cases of puerperal infection subjected to this operation the uterus is entirely movable in two months.

The cul-de-sac closes rapidly, and leaves a scar which is with difficulty found after a few months have passed.

The amount of room which I secure is amply sufficient for purposes of inspection. I enter the cul-de-sac in from one to five minutes. There are two layers anatomically—vaginal mucosa and peritoneum. One small vessel is severed, the azygos artery of the vagina. It is so insignificant that I have always found the few minutes' crushing with the heavy forceps while opening the peritoneum to be sufficient to control it. No nerves of sensation are severed. My incision is made below the line of the broad ligaments and uterine arteries with the accompanying ureters. The blunt tearing of the vagina is made parallel with the branches of the vaginal artery, and they are never wounded. Six instruments are needed for this operation and one assistant.

Roughly described, the distances from the cul-de-sac to the vulva and to the anterior abdominal skin are the same. When I open the cul-de-sac and attempt to separate the blades of my retractors, I find I get but little space unless I throw the woman into Trendelenburg's position. This is because complete relaxation of the pelvic muscles does not occur until they cease to feel the necessity for supporting the intra-abdominal pressure.

Even in an old nullipara with rigid muscles, I get from one and one-half to two and one-half inches be-

tween the blades of my retractors. My belief is that there no longer exists an indication for cœliotomy as an exploratory procedure, or for purposes of treating adhesions, adherent retropositions, occluded tubes, cystic ovaries, hydrosalpinx, or broad-ligament cyst.

The application of the procedure to adherent retropositions has been previously described.¹

Should a vaginal hysterectomy be indicated, the exploratory vaginal incision completes the first step of the radical operation. In case the operator deems it wise to open the abdomen, the vaginal opening made for exploration furnishes the rational drainage space. In other words, where exploration alone is demanded, and in certain cases now subjected to cœliotomy, the vaginal operation above described is a complete procedure; and in other cases in which radical work is indicated my operation is but preliminary to what is to follow.

The Results of the Conservative Vaginal Section and of Vaginal Hysterectomy, in Inflammatory Lesions of the Adnexa Uteri.—In order that operators may see how the above-described method of examining the pelvic contents modifies our work, I will tabulate the last fifty-three cases I have operated upon. The position of the patient in these cases occupies the same important relation to the operation that Trendelenburg's position does to suprapubic ablation of the uterus.

So long as the vaginal operation was the blind, bloody work which we first saw, it scarcely appealed to those of us who were used to the suprapubic operation. But now the operator can see every step of his dissection if he pleases to do so.

FIFTY-THREE CONSECUTIVE CASES OF CONSERVATIVE AND RADICAL OPERATIONS UPON THE ADNEXA UTERI, THROUGH THE VAGINA.

No.	Initials.	Age.	Lesions.	Operation.	Result.
1	R. B.	33	Retroversion with adhesions.	Cul-de-sac opened, uterus released and replaced.	Cured.
2	M. L.	35	do.	do.	do.
3	C. K.	21	Retroversion with adhesions; occluded tubes.	do.	Delivered at full term, May, 1896.
4	M. G.	..	do.	do.	Expects to be confined June, 1896.
5	C. S.	..	Retroversion with adhesions.	do.	Cured.
6	M. W.	19	do.	do.	do.
7	M. W.	39	Retroversion with adhesions; diffuse pelvic peritonitis.	do.	Improved.
8	F. de W.	20	Large cystic ovaries, retroversion with adhesions.	do.	Cured.
9	N. E.	21	Adherent retroversion.	do.	do.
10	L.	35	do.	do.	do.
11	B. W.	28	do.	do.	do.
12	M. Ch.	19	Left hydrosalpinx	Cul-de-sac incision, evacuation.	do.
13	H. M'F.	22	Laparotomy two years ago, right adnexa removed; general pelvic peritonitis; left salpingitis and ovariitis; tube occluded; retroversion with adhesions.	Cul-de-sac opened, uterus released; occluded tube opened, replacement.	do.
14	M. M.	40	One hydrosalpinx, one pyosalpinx; acute pelvic peritonitis, specific; acute alcoholism.	Cul-de-sac opened, all fluid accumulations evacuated; pelvic Mikulicz.	Symptomatically cured.
15	M. O'H.	21	Left gonorrhœic salpingitis; acute pelvic peritonitis.	Cul-de-sac opened, all adherent structures released; pelvic Mikulicz.	Cured.
16	N. O'B.	25	Acute pelvic peritonitis; bilateral salpingitis following induced abortion.	Cul-de-sac opened, adherent structures separated; pelvic Mikulicz.	do.
17	A. G.	22	Acute puerperal infection; retroflexion; diffuse pelvic peritonitis; septicæmia.	Cul-de-sac opened, large hydrosalpinx and broad-ligament cysts evacuated; pelvic Mikulicz.	do.
18	M. P.	24	Retroflexion; diffuse pelvic peritonitis; puerperal septicæmia.	Cul-de-sac opened, lymph planes broken up; large pelvic Mikulicz.	do.
19	K. H.	21	Acute bilateral pyosalpinx, specific, and peritonitis.	Cul-de-sac opened, tubes widely split open; pelvic Mikulicz.	Improved.

¹ N. Y. MEDICAL RECORD, July 20, 1895.

No.	Initials.	Age.	Lesions.	Operation.	Result.
20	H. L.	19	Bilateral chronic salpingitis.	Cul-de-sac opened, tubes released; gauze dressing as in retroversion cases.	Symptomatically cured.
21	M. L.	19	Diffuse pelvic suppuration; puerperal septicaemia.	Cul-de-sac opened, all pus foci opened; large pelvic Mikulicz.	do.
22	S. A.	39	Right pyosalpinx; left salpingitis.	Right salpingo-oophorectomy through cul-de-sac; forceps.	Cured.
23	J. S.	19	Bilateral pyosalpinx; acute peritonitis, specific.	Cul-de-sac opened, tubes split open, lymph planes separated; pelvic Mikulicz.	Symptomatically cured.
24	Mrs. Y.	21	Bilateral acute salpingitis and pelvic peritonitis; had been cured.	Cul-de-sac opened, tubes released, lymph planes separated; pelvic Mikulicz.	do.
25	M. H.	27	Puerperal septicaemia, repeated curettage, etc.	Cul-de-sac opened; pelvic Mikulicz.	Cured.
26	K. A.	22	Specific bilateral salpingitis and peritonitis; retroversion.	Cul-de-sac opened, etc.; pelvic Mikulicz.	do.
27	E. K.	35	Large tumor in pelvis on right side.	Cul-de-sac opened, tumor found to be an omental lipoma; adhesions severed; gauze packing.	do.
28	F. N.	23	Left pyosalpinx.	Left salpingo-oophorectomy through cul-de-sac; forceps.	do.
29	L. S.	30	Bilateral salpingitis; small fibroids.	Vaginal hysterectomy.	do.
30	M. F.	34	Bilateral tuberculous salpingitis.	do.	do.
31	L. W.	24	Abdominal sinus and diffuse pelvic suppuration about infected ligatures left after coeliotomy.	Vaginal hysterectomy; ligatures recovered.	do.
32	M. P.	21	Bilateral pyosalpinx; diffuse pelvic suppuration; large chancroids on vulva.	Vaginal hysterectomy.	do.
33	L. J.	29	General pelvic peritonitis due to infected ligatures after coeliotomy.	Vaginal hysterectomy; ligatures recovered.	do.
34	M. F.	19	Large ovarian apoplexy; acute salpingitis.	Vaginal salpingo-oophorectomy; forceps.	do.
35	M. B.	32	Bilateral salpingitis; suppurative, specific.	Vaginal hysterectomy.	do.
36	M. W.	34	Bilateral pyosalpinx.	do.	do.
37	C. C.	27	Diffuse pelvic peritonitis; puerperal septicaemia.	Cul-de-sac opened, lymph planes separated; pelvic Mikulicz.	do.
38	H. H.	27	Old ruptured ectopic gestation; sapraemia profound.	Cul-de-sac opened, putrid fluid and clotted blood evacuated.	do.
39	M. S.	40	Chronic bilateral salpingitis; repeated attacks.	Vaginal hysterectomy.	do.
40	L. Z.	35	Bilateral pyosalpinx.	do.	do.
41	A. H.	35	do.	Vaginal hysterectomy (broncho-pneumonia)	do.
42	A. C.	39	Diffuse pelvic suppuration.	Vaginal hysterectomy.	do.
43	T. P.	22	Ruptured ectopic gestation; salpingitis on other side.	Vaginal hysterectomy (broncho-pneumonia)	do.
44	H. H.	(?)	Bilateral pyosalpinx.	Vaginal hysterectomy; secondary hemorrhage from left ovarian artery; laparotomy.	do.
45	M. F.	23	Left pyosalpinx and diffuse pelvic peritonitis; laparotomy a year before for right pus tube.	Vaginal hysterectomy.	do.
46	O. H.	21	Bilateral pyosalpinx.	do.	do.
47	S. H.	28	Unruptured tubal pregnancy of right side, chronic salpingitis of left.	do.	do.
48	S. A. (See case 22).	39	Left pyosalpinx.	do.	do.
49	— S.	46	Old ectopic, which had ruptured into right broad ligament; diffuse pelvic suppuration.	do.	do.
50	M. S.	44	Bilateral pyosalpinx.	do.	do.
51	J. K.	23	Bilateral suppurative salpingitis.	do.	do.
52	L. G.	46	Bilateral pyosalpinx and diffuse pelvic suppuration.	do.	do.
53	B. W.	28	Bilateral chronic salpingitis; general pelvic adhesions; many previous minor operations, etc.	do.	do.

Number of cases.....	53
Hysterectomies.....	22
Vaginal salpingo-oophorectomies.....	3
Retroversion with adhesions.....	12
Acute puerperal infections.....	5
Ectopic gestation, {	
Pyosalpinx, { Evacuation; }.....	11
Hydrosalpinx, { pelvic Mikulicz, }	
Broad ligature cyst, }	
Died.....	

The operation of breaking up adhesions through the cul-de-sac and replacing the uterus without suture I have previously described. My persistent use of this operation is due to the fact that I have always succeeded in relieving my patients. After the cul-de-sac closes, I employ such plastic work on the vagina as may be necessary. The operation supplants the hysterorrhaphy entirely. Two of the women I have delivered. The scar showed no tendency to break, and during gestation neither attempted to abort. I have not been able to trace all the cases, and others may have become pregnant.

I have always considered hydrosalpinx and broad-ligament cysts as perfectly innocent affairs. The cul-de-sac method furnishes a safe way of dealing with them without removal.

All infections do not result in pyosalpinx, but often nothing is left but firmly adherent and closed tubes. These women suffer a great deal at times from spasmodic pain. Not the gross lesions as found by examination, but the subjective symptom, pain, brings them to the operating table. Coeliotomy appears too severe an operation for dealing with merely occluded and adherent tubes. The cul-de-sac operation enables the surgeon to sever all adhesions and to open these agglutinated fimbriae.

We are approaching the position in this work which calls for a halt and review of what we have previously done. There can be no question that it is much more satisfactory to the surgeon to make a clean radical operation of every case of pus in the pelvis which he meets. But, viewed from the standpoint of the woman, the sudden artificial menopause is about as distressing as the pus tubes. This is especially true when young women, who have never had children, are spayed. In such cases, then, I believe our surgery must be modified by extraneous circumstances very largely, and if we can afford that measure of relief which will enable these women to be up and about and still menstruate, we have done our full duty to them. Cure them symptomatically and leave them physiological, partially at least!

The cases numbered 13, 14, 15, 16, 19, 20, 22, 23, 24, and 26 were all treated by the conservative vaginal section, no structures being removed. This method must not be confounded with the trocar puncture. I always make a very wide incision in the cul-de-sac, and split open the pus sacs so that they can be packed with gauze.

When nature effects a cure of repeated inflammations, it is by means of a fibrosis of the tissues. We see such tissues in old whores who have had many attacks of gonorrhœa and many applications of curette and caustic. Now, in this cul-de-sac work on pus tubes we attempt to secure an obliteration of the affected tube.

I have designated my gauze packing a pelvic Mikulicz, as the best descriptive term. The gauze is packed tightly into the pelvis, to act not as a drain, but as an occluding dressing.

Eight months after the cul-de-sac operation I did a suprapubic hysterectomy upon Case XXIII. I found both tubes practically masses of fibrous tissue. The right ovary was attached high at the pelvic brim to a diseased appendix vermiformis. It was the abdominal rather than the pelvic lesion which indicated the radical operation.

Pyosalpinx of one side I have treated through the vagina, removing the tube between forceps. I do not like the operation. I had opportunity to see the result of this work also. In Case XXII. I carried my conservatism too far in my attempt to save the left tube. The patient subsequently, months afterward, developed a pyosalpinx on the left side. When the hysterectomy was done, I found the area of first interference per-

fectly smooth and no evidence of recent lymph about the right stump. I do not like to put forceps in among the intestines, even though they be surrounded by gauze. Should they touch the intestines, slough would probably result within a few hours. As for ligatures, we cannot apply these sufficiently close to the cornu to be safely effective.

If we dissect the bladder away from the uterus, we can get at the cornu from in front and tie off a pus tube. But the traumatism here is more severe than with cœliotomy. In the present state of our knowledge, it is wiser to remove single pyosalpinx through the abdomen.

The exploratory cul-de-sac operation adds nothing to the danger of the cœliotomy. It rather lessens it by furnishing a perfect drainage space.

The fact that I have, in five of my cases, been enabled to demonstrate the vermiform appendix through the cul-de-sac indicates a possible way to evacuate appendiceal abscesses in women. These abscesses are so usually associated with pyosalpinx that the surgeon in approaching them by the usual laparotomy incision, does not empty the entire pus formation. He could do this from the cul-de-sac without difficulty.

There have been a number of cases of pus tubes which I have subjected to suprapubic operation, having shown through the cul-de-sac that the lesions were abdominal in their importance because of important intestinal complications.¹

The vaginal hysterectomies were for all the various conditions of pus in the pelvis, except a pus tube opening into the intestine. Since beginning my vaginal work, I have not met with one of these. Sometimes I split the uterus, but more often I leave it entire, so that my intra-uterine traction forceps can hold. I never make the Ségond incision, as I believe it displaces the uterine arteries, as well as the ureters. I make my incision behind the base of the broad ligaments (Fig. 1) and then carry it around the cervix. Having separated the bladder above the level of the ureters, I introduce the index fingers of both hands into the cul-de-sac and the middle fingers between the bladder and uterus, and gradually separate the two hands. In this way, I force the bladder and ureters outward without disturbing the vascular supply of the uterus.

But in diffuse pelvic suppuration, and in certain other cases, the difficulties must be divided by splitting the uterus in two. We can, in this way, deal with each side separately.

My method of dressing these cases is radically different from that employed in France. The French surgeons use two narrow strips of gauze as drains.

When I have completed my operation, I make a careful ocular inspection of the pelvis, the table being in Trendelenburg's position. If there be no bleeding points, I put in one piece of folded gauze between the forceps of each side and the vagina. I then pack in the gauze in squares, one end being up as high as the tips of the forceps, and the other in the vagina. From four to eight of these pieces are necessary to fill the vagina and pelvis. But if vessels are found leaking, small anastomotic branches other than the ovarian and uterine trunks, I put the gauze in as follows:

Having protected the vagina against forceps pressure, as before, I insert one square of gauze alongside one pair of forceps and against the oozing points. I then take the long Péan narrow retractor (it is good for nothing else), and crowd this piece of gauze hard against the forceps and side of the pelvis. Another piece of gauze is put in, the retractor removed and placed over this square of gauze, and it is also crowded hard against the other piece. In this way, alternately inserting the squares of gauze and pressing them

together against the side of the pelvis, when we insert the last piece and remove the retractor for the last time, we have a column of dressing from one set of forceps to the other, which exercises hæmostatic pressure from one lateral pelvic wall to the other. If one likes, he can use enough pressure to control the iliac arteries. The important point is to get the pressure from side to side, rather than between the movable, hollow viscera, bladder, and bowel. The uterine artery could be perfectly controlled in this way.

I remove the forceps in two days. The first dressing comes out under a chloroform narcosis of a few minutes, on the eighth to fourteenth day. Each piece of gauze is put in as a square, is four inches wide and a yard long, so that when the eight pieces are inserted there is an abundance of absorbant dressing to remain over a week. The self-retaining catheter comes out with the forceps, after washing the bladder.

In reviewing this work as a whole, the greatest satisfaction is felt upon contemplating the five cases of puerperal septicæmia and the cases of pus in the pelvis conservatively treated. I am almost inclined to state that a hysterectomy should not be done until this cul-de-sac evacuation of pus and pelvic Mikulicz packing have been tried and failed.

Not a case in this series would have been treated a few years ago in any way other than by cœliotomy. In many parts of Europe and, I regret to say, in certain American cities, very many of those cases would have been subjected to hysterectomy, which I have avoided. The two women who have borne children would have been castrated if cœliotomy had been done. Every one of the adherent retroposition cases presented more or less marked tubal involvement. They have all got their tubes and ovaries, except in Case VII. in which the patient was subjected to a necessary hysterectomy eight months later. But if the reader considers me extreme in my conservatism, I would like to offer him the following proposition: the evacuation of purulent sacs in the pelvis with the use of properly applied dressings, will symptomatically cure eighty per cent. of such cases, and will preserve the menstrual function to them all; the cases not so cured are relieved of acute symptoms, and the radical operation can be done at the elective time.

When I meet with a case of pus in the pelvis, I always think that the man who first saw the patient is to blame. The way to stop operations like hysterectomy for pus is to prevent suppuration. When I have to do a hysterectomy in a pus case, I must admit to a sense of humiliation very often. The sooner we recognize that pelvic inflammation is a surgical disease and should be surgically treated, the better for women. The application here of the great surgical truth, that the way to check infection is by cutting off the original source of infection and draining away its complications, is beautifully illustrated in half my cases.

And, given anything like a decent chance, the wonderful reparative power of the pelvic viscera will bring about a symptomatic cure, at least.

The day is passed when he who gives opium and comforting words for peritonitis can be secure. The responsibility is too great to assume.

Urination after Labor.—1. Urination after labor, in the majority of cases, follows spontaneously. 2. Catheterization is but exceptionally required: if it be necessary, it should be deferred as long as possible. 3. It is only indicated when the bladder assumes abnormal proportions, or if retention occurs. 4. Catheterization is liable to occasion two evils—cystitis, in spite of all precautions, and dependence of the bladder for a time upon the catheter.—N. RECHT, *Rev. Internationale de Bibliog. Méd.*

¹ The New York Polyclinic, February 15, 1896.

THE IDEATIVE FACULTIES AND SELF-CONSCIOUSNESS IN THE LOWER ANIMALS.

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WITHOUT entering into a detailed exegesis of what mind is, it may be safely affirmed that mind, in some form or other, exists not (as is erroneously believed by the masses) in the brain alone, but throughout the entire animal organism. It can be easily demonstrated that muscle, even when separated from the body, has memory and that it retains this function of the mind until morbid, degenerative, lethal, or putrefactive changes set in; likewise, it can be easily shown that throughout the organism there are scattered many brains (ganglia), which, in some of the lowest animals at least, do not differ histologically from those that are recognized as being true brains. Recent microscopic investigations lead me to believe that certain of these ganglia or pseudo-brains are the centres of senses not possessed by man; for instance, the sense of direction (homing instinct) and the sense of mute, though absolutely intelligent, communication. It is not the purpose of this paper, however, to enter at this time into a description of the histological characteristics of these ganglia, nor to detail the experiments made by myself in my endeavors to locate sense centres. I wish rather to call the reader's attention to some original observations in the psychology of the lower animals, by which I propose to demonstrate the fact that animals exceedingly low in the scale of life, as well as animals high in that scale, give unmistakable evidences of ideation, ratiocination, and even of abstract thought. This last quality of the mind, abstract thought, has been heretofore considered distinctly and distinctively a possession of man alone of all created beings; but I hold and think it capable of demonstration that all animals in which are to be found cerebra, cerebella, optic thalami, and corpora striata, and in which the phenomena of dreaming are noticeable, are able to engage in abstract thought to a certain extent. Some of the higher animals are, in my opinion, in a measure self-conscious—the degree of self-consciousness approximating that of an infant of two and one-half or three years. The foregoing propositions will be discussed in their proper turns as they are brought out in the progress of this paper.

Memory of locality, of route, is to be found in many animals of exceedingly low organization. While engaged in watching a water louse, I saw it swim to a hydra, tear off one of its buds, and then swim some distance away to a small bit of mud, behind which it hid until it had devoured its tender morsel. Again it swam back to the hydra, and again plucked from it one of its young; again it swam back to the little mud-heap, behind which it once more ensconced itself until through with its meal. When we remember that this little creature was among entirely new surroundings (for I had dipped it from a pond in a tablespoonful of water which I had poured into a saucer), we will appreciate the fact that the water louse evinced conscious determination and no little memory. It probably discovered the hydra accidentally; it then, as soon as it had secured its prey, swam away, seeking some spot where it could eat its food without molestation. But when it sought the hydra again and then swam back to its sheltering mudheap, it showed that it remembered the route to and from its source of food supply and its temporary hiding-place.

H. J. Carter, F.R.S., says, in his "Annals of Natural History," that he once saw an actinophrys approach a ruptured fungal cell from which starch grains were escaping. It seized one of these starch grains and went to some distance away, where it incepted it. It then returned to the ruptured cell and obtained an-

other starch grain, which it carried off in a like manner. "All this," says he, "was repeated several times, showing that the actinophrys instinctively knew that those were nutritious grains, that they were contained in this cell, and that, although each time after incepting a grain it went away to some distance, *it knew how to find its way back to the cell again which furnished this nutriment.*" I have taken the liberty of italicizing a portion of the above quotation, for it is certainly a most wonderful instance of memory of route in an animal of such minute size and low organization. This entertaining writer and close observer also writes as follows in the above-mentioned book: "On another occasion I saw an actinophrys station itself close to a ripe spore cell of pythium, which was situated upon a filament of *spirogyra crassa*, and as the young ciliated monadic germs issued forth, one after another, from the dehiscent spore cell, the actinophrys remained by it and caught every one of them, even to the last, when it retired to another part of the field, as if instinctively conscious that there was nothing more to be got at the old place."

At the base of the large terminal ganglion in the neuro-cephalic system of the common garden snail, lying immediately below and between its two "horns," will be found, I am satisfied, the centre governing its sense of direction. For, when this portion of this ganglion is destroyed, the snail loses its ability of returning to its home when carried only a short distance away; otherwise, it can find its way back to its domicile when taken what must be to it a very great distance away, indeed. Beneath the stone coping of a brick wall surrounding the front of my lawn, and which, on the side toward my residence, is almost flush with the ground, many garden snails find a cool, moist, and congenial home. Last summer I took six of these snails, and after marking them with a paint of zinc oxide and gum arabic, set them free on the lawn. In time, four of these marked snails returned to their home beneath the stone coping; two of them were probably destroyed by enemies. Again the same number of snails were marked, after the base of the above-mentioned ganglion had been destroyed, and likewise set free. Although they lived and were to be observed now and then on the trees and bushes of the lawn, none of them ever returned to the place from which they were taken beneath the stone coping. I have performed this experiment repeatedly, always with like results.

The ant has the sense of direction in a marked degree, and, although I have not exactly located its centre, am convinced that it is to be found at the base of the cephalic ganglia. It is very interesting to watch a marked ant during her journey back to her nest, after she has been carried away and placed among unfamiliar scenes and surroundings. At first, owing to her fright, she will dash away helter-skelter; but soon recovering, she will head in the direction of home, and moderate her pace until she creeps along at a very cautious and circumspect gait indeed. Every now and then she will climb a tall grass blade or weed and take observations. After a while, she sees certain landmarks, and her speed becomes faster; soon the surrounding country becomes familiar, and she ceases to climb blades of grass, etc.; now she is in the midst of well-known scenes, and at last she fairly races into her nest.

In this instance the ant is led at first by her sense of direction alone; as soon, however, as she comes to country which she has hunted over and with which she is familiar, memory comes into play and the sense of direction ceases to act, or, if it acts at all, it acts unconsciously. Bees, wasps, and some of the beetles, likewise, have the sense of direction highly developed, as do most of the mammalia. The habit that some

animals have of returning to their homes from great distances is well known, and I do not propose, therefore, to enter into details concerning it; yet the following instance is so unique that I cannot refrain from mentioning it. In the fall of 1861, if I remember the year correctly, a gentleman living in Vincennes, Ind., went to visit his father at Lebanon, Ky. When he started back home his father gave him a yoke of steers, which he drove to Vincennes *via* Louisville, Ky. Shortly after his arrival home the steers escaped from the field in which they were confined, made their way to the Ohio River, which they swam at Owensboro, Ky., one hundred and sixty miles below Louisville, and in a week or so were discovered one morning at the gate of their old home at Lebanon. Led by their sense of direction alone, for they were young and had never been off the farm at Lebanon until their owner gave them to his son, they made their way home, several hundreds of miles, over a route utterly unknown to them.

It is a well-known fact that many of the higher animals remember individuals for long periods of time, when they are separated from such individuals for such periods of time and are then again brought in contact with them. It is not generally known, however, that some of the lower animals likewise possess this psychological trait, and yet they do.

For several months a large black hunting-spider lived beneath a table in my room, and it was my custom to give her, daily, crippled flies and other insects. She soon became very tame, would come out on the table as soon as I entered the room, and would even take food from my fingers. She would come out, also, when other persons entered the room, but would dart beneath the table as soon as she discovered that it was not I, thus showing that she recognized me as an individual. I was absent from home for a week, but this spider recognized me as soon as I came into the room on my return, clearly indicating that she had remembered my individuality for a week at least.

Again, a friend sent me two Floridian chameleons, which dwelt in my desk and which in course of time became very tame. My desk is a combination book-case and writing-table, and these creatures passed most of their time among the books, changing color so perfectly, especially when alarmed, that it took a very sharp eye indeed to descry them when they were quiescent. When I sat at my desk writing they would jump down on my head or shoulders and explore my entire body, running here and there and everywhere about me, sometimes tickling me with their sharp little claws until I, too, was forced into making a voyage of discovery, in order to bring them once more to the light. But let a stranger enter the room, and, presto! they were gone in the twinkling of an eye. I left home on one occasion and was gone for two months. When I came into my room and sat down at my desk, I looked about for my little pets, but could not see them. I had come to the conclusion that they had either died or escaped from the room, when suddenly I saw a tiny little head peep out from between two books and as suddenly disappear. I pulled out a writing-pad and went to work, keeping a watch, however, for my shy little friends. They gradually became bolder and bolder, until all at once they seemed to recognize me, first one and then the other leaping to my shoulders. In a few moments they were making their usual voyage over my person. In this instance these lizards remembered me after an absence of at least two months; it took them about two hours to fully recall my personality, yet they did it in the end. Some insects have such good memories and are so amenable to instruction that they can be taught to perform little evolutions, draw miniature vehicles, feign death, etc., at the command or signal of their trainer. There are

many people alive to-day who witnessed the performances of a troupe of trained fleas, which was on exhibition in the larger cities of the United States some thirty or forty years ago. Great must be the intelligence of a creature so minute to learn to do things so utterly foreign to its nature, and greater still must be the memory which could retain and remember such instruction for days, weeks, and months!

Instinct is, in a certain sense, a process of ratiocination, though its immediate operations may not be due to reason. Instinct involves mental operations; if it did not it would be simply reflex action. It is heredity under a special name; the father transmits his mental peculiarities as well as his corporeal individualities to his offspring. The experiences of thousands of years leave their imprint on the succeeding generations, until deductions and conclusions drawn from these experiences no longer require any special act of reason in order to bring about certain results. These results, which were at first the outcome of special acts of ratiocination, or accidental happenings leading to the good of the creature or creatures in which they occurred, finally become habitual or instinctive.

These special acts of ratiocination are of daily, of hourly occurrence in the lives of countless myriads of the lower animals, and which escape our observation because of the obtuseness of our senses. Every now and then, however, the observer is able to chronicle such an act of reason, and thus adduce the proposition that if the creature or creatures were continually placed in surroundings requiring a like act of reason, that act would eventually become habitual and instinctive on the part of that creature or those creatures. I have witnessed hundreds of acts of intelligent ratiocination in the lower animals that were not called forth by experience and which had not a single factor of heredity. For instance, several years ago I noticed that one of the combs in a beehive, owing to the extreme heat, had become melted at the top and was in great danger of falling to the floor. The bees had noticed this impending calamity long before I had, and had already set about averting it. They rapidly threw out a buttress or supporting pillar from the comb next to the one in danger, and joined it firmly to it, thus shoring it up and preventing its fall in a most effectual manner. When they had made everything strong and secure, they went to the top of the comb and re-attached it to the ceiling of the hive. After this had been done to their satisfaction, they removed the shoring pillar and used the wax elsewhere. In this instance, there was an immediate adaptation of themselves to surrounding circumstances, in which they averted and prevented an utterly unforeseen and unheard-of catastrophe by means as effectual as they were intelligent. Could man do more or reason better? Here was an experience which had not happened to them in hundreds and hundreds of generations perhaps; which perhaps had never happened to them before, and yet when it did happen their quick intelligence readily grasped the situation and they at once set about remedying the evil.

The higher animals, such as the dog, the cat, the horse, the monkey, etc., are continually giving evidences of acts of special ratiocination, in which instinct plays no part. They are of such common occurrence that "he who runs may read;" therefore, I will here give only one, an instance of intelligent ratiocination in a dog, whereby the animal saved its life. The following is from a letter that I received from a friend: "The dog, a water spaniel, had gone after a stick flung upon the ice of a pond about twenty feet distant from shore. The water was about five feet deep. The ice gave way. The dog went under the water several times in swimming about the enlarged space made by attempting to regain the surface

of the ice, which gave way under his weight. He became thoroughly chilled by much confused swimming about in a circle, seeking some point at which the ice would bear his weight. I reached a limb to him, and calling him by name shortly got his attention. He placed his paws upon the ice and seemed to listen intently as I extended the limb toward him, the ice, meanwhile, sinking under his weight as he looked at me. He caught the limb between his teeth and I assisted him by pulling him toward me upon the thicker ice inshore. Finally, the ice became strong enough about fifteen feet from shore to sustain his weight. So, still with his teeth locked on the stick, I pulled him on the thicker ice and across the surface to the shore." I learned from my friend that the dog was completely exhausted when he reached shore and remained prone upon the ground for quite a while. He would have been drowned unquestionably had he not recognized and seized the only available means for saving his life.

It will be exceedingly difficult, if not altogether impossible, to demonstrate positively and absolutely that animals lower than man possess the faculty of abstract thought, yet analogically and inferentially the proposition is of easy demonstration. Man possesses two kinds of consciousness—an active, vigilant, co-ordinating consciousness, the seat of which is in the cortical portion of the brain; and a passive, pseudo-dormant, and, to a certain extent, incoherent and non-co-ordinating consciousness, whose seat is in the great ganglia at the base of the brain, viz., the optic thalami and corpora striata, and in other ganglia situated in the spinal cord and elsewhere in the body. We can readily prove the truth of this by observing certain phenomena which are to be noticed daily among ourselves. A man falls into a "brown study," loses himself in abstract thought, and if gently approached without being startled he may be asked questions which he will answer intelligently without any conscious act on his part. His ganglionic consciousness for the time being holds him beneath its sway, yet his active consciousness is not so much obtunded but that he can answer questions intelligently. My fox terrier has a brain which in all essential particulars does not differ from that of man; my observation teaches me that his mind, so far as memory and the emotions are concerned, is the same in kind though not in degree as that of man. I am also convinced by actual experimentation that he falls into "brown studies" just as man does; therefore, why deny him the possession in some degree of the faculty of abstract thought? I do not mean to say that my dog can commune with himself in regard to ethics and aesthetics; his power of abstract thought is in its embryonic state, for I am more than convinced that it has passed through its germ state.

Again, when active consciousness is stilled in slumber, subconsciousness or ganglionic consciousness sometimes remains awake and makes itself evident in dreams. The lack of rational thought co-ordination in subconsciousness is shown by the more or less extravagance and incoherence of dreams. Everything, no matter how unnatural and extravagant, occurring to the dreamer is accepted by him as being natural and consistent; when, however, his active consciousness is aroused, he at once recognizes the incoherence of his dreams. I hold emphatically that all dreams, when closely studied, will show extravagance and incoherence; a dream may seem at first glance to be entirely coherent, but if the remembrance of the dream be perfect and it be closely studied, numerous incoherences will always be discovered.

Many of the higher animals dream, notably the monkey, the cat, and the dog. I have repeatedly observed my dog while he was under dream influence, and have

even been able to predicate the substance of his dream from his actions. Like man, the dog is unable sometimes to differentiate between his waking and dreaming thoughts; he confounds the one with the other, and follows out in his waking state the ideas suggested by his dreams. This with man is always a momentary delusion; with the dog, however, it may last for a minute or two. Thus, I have seen my dog chase imaginary rats around my room after being aroused while in the midst of a dream. His chagrin when he "came to himself" and saw me laughing at him was always strikingly apparent. Finally, I have seen my dog, seemingly after giving the subject some thought, jump up and rush out to the stables and engage in a hunt after rats. The quality of abstraction in such ideation is not very high, it is true; nevertheless, it is present to a certain extent.

To prove that self-consciousness is present in some of the higher animals is even more difficult than is the demonstrating of abstract thought in such animals; yet, inferentially and analogically, it can be done. Inference and analogy are powerful and legitimate *instrumenta logicorum*, and should, therefore, carry with them great weight.

Many of the higher animals recognize to a certain extent the rights of property. For instance, in 1879, two very intelligent chimpanzees were on exhibition at Central Park. One of these animals claimed as her property a particular blanket, and, notwithstanding the fact that there were other blankets in the cage in which they were confined, always covered herself with this blanket. She would take it away from her companion whenever she wished to use it. Again, two turkeys on my place deposited their eggs in the same nest. The hen which first built and used the nest regarded the spot as her individual home; therefore, whenever she found the other hen's egg in the nest, she would break it with her beak and then carry it some distance away. This I have seen her do repeatedly. Many dogs and cats regard certain rugs, cushions, etc., as their own property, and resent any interference with them. It seems to me, that in all such instances these animals regard themselves as individuals; that they recognize the psychical as well as physical difference between the *ego* and the *tu* part as soon as they begin to regard things as property. I do not mean to say that their self-consciousness reaches the exalted state as that which is to be found in mature man. I do mean to say, however, that it approximates that of infants of two and one-half and three years. Anthropologists hold that as soon as man began to recognize property rights he took a gigantic mental stride, and in proof of this proposition they cite the mental degradation of those races which have not arrived at such knowledge. From this analysis of mind as it is to be observed in the lower animals, I deduce the conclusion that it is the same in kind as that of man, though differing in degree.

Salaries of Medical Teachers in Vienna.—The Vienna correspondent of *The Lancet* says that a bill has been submitted to the Austrian legislature the object of which is to increase the salaries of the professors in the universities of the empire. Hitherto there have been three scales—namely, \$900 a year for the professors in Vienna, \$830 for those in Prague, and \$775 for those in other towns, the professor also receiving fees for his lectures. In Austria lectures are delivered five times a week, and the fees are fixed at \$2.50 a half-year. Teachers have now the choice between the above salaries with the fees for lectures and the augmented salary with gratuitous lectures, which has been fixed at \$1,330, \$1,500 and \$1,685. "Extraordinary" teachers will be paid \$665 and the priv-docents will be unpaid, as hitherto.

CEDEMA IN GRAVES' DISEASE—REPORT OF A CASE OF CEDEMA OF THE EYELIDS—THYROIDECTOMY.¹

By J. ARTHUR BOOTH, M.D.,

NEW YORK.

BESIDES the three diagnostic symptoms usually found in Graves' disease, there are a number of others which, added to this well-known triad, finally present a symptomatology at once unique, mysterious, and of extreme interest. Although these other seemingly unimportant symptoms have attracted less attention than those by which the disease is sometimes designated—namely, exophthalmic goitre—one of them, œdema, is perhaps worthy of further consideration.

These various forms of swelling may be described as consisting of three varieties: (1) Œdema of cardiac origin. It may be due to mitral disease coexisting with Graves'. (2) Œdema of nervous origin, as is seen in slight swelling of the insteps and lower legs, which does not tend to increase. Valvular lesions of the heart are absent. (3) Transitory œdema. This is the rarest class, the œdema here being limited to various parts of the face, neck, arms, and hands. The cheeks and eyelids are favorite positions, and sometimes both limbs of one side of the body may be affected. In discussing this symptom it will be convenient to consider it (1) as commonly met with, and (2) its occurrence in what I deem a rare locality, the eyelids.

(1) It consists in a circumscribed swelling or puffiness, not pitting on pressure, not stationary, and in most cases confined to the ankle, upper part of the foot, or lower part of the thigh. Sometimes the œdema may be general over the whole body, but generally it is circumscribed. Rendu saw it in the supraclavicular and Germain Sée in the infraclavicular hollows; Burton, Baumler, and O'Neil in the ankles; Millard and Benedikt upon the hands; Osler and Reinhold on the face, neck, and hands. Slight swelling of the ankles and feet has been observed in one-third of the cases by Arthur Maude. Millard collected ten cases. In one of these, a very severe form of œdema of the lower part of the body suddenly appeared, and after three weeks' duration passed away simultaneously with the onset of an acute attack of diarrhœa. Marie noted its presence in the legs in two cases, and in one the swelling reached to the umbilicus. Möbins calls attention to its occurrence in the lower extremities. Besides those cited by the above authorities, cases are reported by West, Stierlin, O'Neil, Goix, and Buschan. In none of the cases did examination show any evidences of varicose veins or kidney disease.

Judging from the above data, it appears evident that œdema is frequently present in Graves' disease, although from a perusal of our own literature on this subject one would be justified in forming an opposite opinion. In twenty-seven cases seen by the writer, this symptom was noted in only one, and in this patient the swelling consisted of a slight but distinct puffiness of the dorsum of the hands.

Various reasons have been given and theories formulated in explanation of these dropsies. According to Marie, it is not to be explained by the existence of a cardiac lesion; it being sufficient to have *une fatigue du cœur*, or a tendency to dilatation, which is common in Graves' disease. Bienfait and Debove ascribe this symptom to asystole; Germain Sée and Möbins to peripheral vasomotor disturbance. Maude states that these forms of localized œdema are evidently of neuropathic origin, and are, in fact, manifestations of

peripheral neuritis; also to be compared to the conditions described as hysterical neuritis. The comparison is also striking between these localized cedemas and those seen in beri-beri, which is clearly a peripheral neuritis.

(2) I wish now to speak of the presence of this symptom in the eyelids. Its occurrence in this locality is rarely seen, and attention has been called to it by only a few authorities. R. Vigouroux¹ says that false œdema of the eyelids is a frequent symptom, and ascribes the swelling to a paresis of the orbicularis; stating that when contraction of that muscle is affected by an electric current the swelling disappears, driven back by the pressure of the subcutaneous fascia. In contradiction to this statement, I may add that in the patient I am about to present repeated trials by electricity brought about no such result. Hector Mackenzie² found the eyelids œdematous in five cases, all of old standing. Gowers³ mentions the occurrence of swelling of the eyelids in a patient after apparent recovery from other symptoms.



With this brief reference to the bibliography of the subject, I take pleasure in presenting a patient in whom this œdema of the eyelids is present to a marked degree, although the exophthalmos is hardly noticeable. The history is as follows:

Nellie C—, aged seventeen; single; seen November 5, 1895. When six years old a sister, taking her in her arms, made a pretence of throwing her out of the window. She was very much frightened, and an attack of what was called brain fever followed. She was confined to the bed for several months, and during this time had a number of convulsions, but finally made a good recovery. She remained well until the appearance of menstruation six years later; about this time, when thirteen years old, a swelling of the upper lids of both eyes was noticed, which has gradually increased and now has become so noticeable as to attract attention. This symptom is more marked in winter than summer.

She now complains of frequent attacks of palpitation of the heart, accompanied by throbbing in the neck and profuse perspiration; also of general nervousness and occasional headache. She has neves

¹ Read before the American Neurological Association, June 5, 1896.

² Progrès Médical, 1887.

³ Lancet, 1890.

⁴ "Diseases of the Nervous System," vol. ii.

noticed any prominence of eyes, enlargement of the neck, or swelling of the hands or feet. On examination the patient presents the appearance of a case of Graves' disease. When we examine the eyes, however, no exophthalmos is discovered, but, instead, a very marked and peculiar œdema of both upper lids, as is shown in the accompanying photograph. It is not a true œdema; no pitting follows pressure and it does not cause the closure of the lids, such as is produced by ordinary œdema. Movements of the eyes and lids are harmonious. On inspection there is no decided prominence of the thyroid gland, but on palpation swelling and a diffused hardness of both lobes is made out. The heart action is agitated and pulse rate rapid, averaging 120 beats to the minute. With the exception of loud hæmic murmurs at the base, the heart is normal. Face, neck, and both hands are covered with beads of perspiration. There is a slight tremor of the fingers.

(One month later (December 5th) prominence of the left eye appeared. Having been unable to do any work for some time, even to the attending of minor household duties, the patient willingly consented to operative interference, and on December 15th she was admitted to St. Luke's Hospital, where a few days later the right lobe of the thyroid was removed by Dr. B. F. Curtis. Her recovery from the effects of the operation was rapid and the progress of the case up to the present time has been entirely satisfactory. It is now six months since the operation, and during this time there has been a complete disappearance of all nervousness; the throbbing and palpitation have ceased, and with two exceptions the pulse has not been above 90, most of the time varying between 80 and 86. Although the improvement in the symptoms just mentioned has been marked, the peculiar œdematous swelling of the eyelids still persists, that of the left being greater than before the operation.

Conclusions.—The following conclusions may be legitimately drawn from this brief contribution: (1) Slight degrees of œdema, situated in the extremities, are of common occurrence in Graves' disease, but this symptom limited to the eyelids is very seldom seen. (2) In distinguishing these various forms of swelling, it is necessary to be guided by the position and degree. If situated only on the face and upper limbs, or if unsymmetrical, it is entirely of nervous origin, and it may be so if it affects the feet, but it is only slight and temporary. (3) These dropsies are evidently of vasomotor origin and are probably due to a paralysis of the vasoconstrictor nerves, manifestations of peripheral neuritis. (4) Limited to the eyelids, it may be due to a paresis of the orbicularis. If this be true, however, it is strange we do not meet with it in other palsies of this muscle. (5) Thyroidectomy, carefully performed and by one cognizant of the occasional complications, is not such a dangerous operation as is generally believed. (6) From operative interference in Graves' disease we may expect an improvement in the rapidity of the pulse, cessation of the disturbing attacks of palpitation, and a cure of many of the subjective phenomena.

Gold Combinations.—1. The chloride of gold and sodium of commerce, so called, is not such in fact, but merely chloride of gold mixed with chloride of sodium; therefore for any chemical purpose chloride of gold only need be considered. 2. Chloride of gold is an extremely unstable compound, its identity being readily destroyed by light or air, while the addition of the least amount of organic matter will almost instantly convert it into albuminate, which upon contact with the mucous membrane or skin surface (albumin being thus formed) is extremely difficult of solution—T. H. STUCKY.

ELIMINATION, ANTISEPSIS, AND STARVATION IN THE TREATMENT OF TYPHOID FEVER.¹

By H. S. McCONNEL, M.D.,
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THAT typhoid fever is a self-limited disease, that the system having absorbed the poison the disease must run its course through the different stages, I do not believe, and the physician who now treats this disease on the so-called rational or let-alone plan, is as criminally negligent as the surgeon who to-day in treating wounds ignores asepsis. This may seem a bold and unwarranted statement, yet if it is not true, all the time, labor, and money spent in the bacteriological study of typhoid fever have been in vain, our conclusions erroneous, and the bacillus typhosus is a myth. Accepting the micro-organism theory, believing that the point of attack is in the alimentary canal, that the characteristic symptoms are due to the absorption of the toxin, and are the result of the local activity of the specific bacilli, and that a case is grave or mild dependent upon the quantity of said toxin in the blood, are we not compelled to grant the truth of the above?

If Eberth's bacillus is the cause—the corroboration of Elsner's observations seems to place this beyond doubt—and it is ably assisted by the bacillus coli communis, a treatment based upon this pathology and directed to the exclusion and annihilation of these bacilli is certainly a rational one, and when pathology and treatment go hand in hand with a diminished death rate, and at the same time the patients are more comfortable than by any former methods, we are certainly justified in the above statement.

To fulfil all the indications there are three essential features that we must bear in mind.

First, the prevention of the introduction into the digestive tract of any specific bacilli.

Second, expulsion and destruction of all bacilli in the alimentary canal, and the elimination of the products of their labor.

Third, rendering the canal thoroughly aseptic, making it sweet and clean, and keeping it, as nearly as possible, in this condition.

The first is best accomplished by permitting nothing but boiled water and the remedies to enter the stomach, and by keeping the mouth, teeth, nostrils, hands, finger nails, whiskers, and the excretory outlets aseptic. The latter precaution is very important, and these parts should be thoroughly washed after each evacuation. The room must be cleared of all unnecessary articles of furniture and clothing, and all vessels must be kept surgically clean. Milk or any kind of food should remain in the room no longer than is required. The apartment should be well lighted and the temperature not above 65°.

The second object can be accomplished by giving three five-grain powders of calomel at hourly intervals, followed with Rochelle salts until there is free catharsis. The patient must have no less than two free passages every twenty-four hours during the fever. If the salts and an occasional dose of calomel will not do this, we must resort to some more active cathartic. Though contrary to what we were all taught, and what is still being taught, purgatives reduce to a minimum the liability to hemorrhage or perforation. The ulceration of Peyer's patches is not typhoid fever. It is caused by the direct irritation of the bacterial poison, and, as Professor Thistle has so ably demonstrated, the extent of the ulceration is in proportion to the degree of concentration and duration of contact. By purgatives we increase the quantity of the intestinal fluids,

¹ Read before the meeting of the Society of the State of Pennsylvania, at Harrisburg, May 19, 1896.

dilute the toxin and expel it, and thereby decrease the danger from its local action upon the glands; we restrict blood contamination, reduce the number and activity of the bacilli, and permit the restoration of the disabled tissue.

The third indication is met by guaiacol, salol, or any of the other intestinal antiseptics. For the first few days I prefer salol, after that guaiacol. An enema morning and evening, of a large quantity of salt and cold water, must be given regardless of the condition of the bowels. All food, and this includes milk, must be prohibited for three days. Recent investigations prove that in typhoid fever very little, if any, hydrochloric acid or pepsin is secreted, and Professor Thompson says the stomach is similar to that of a new born babe's. Yet in the discussion of typhoid fever a few weeks since before the Cleveland Medical Society, one of its members said he endeavored to have all his typhoid patients take nine pints of milk in twenty-four hours, and in a large number of cases the daily average was over eight pints. Jenner says that a pint of milk is equal to a full-sized mutton chop. Think of it! nine mutton chops to a fever patient in one day. Is this not absurd? Is it not injurious? Is it not malpractice? And, to make it worse, this is forced upon a patient who, except in rare instances, has no appetite, who even loathes the sight or taste of food. If a strong, active, and healthy laborer was to consult you about some uncomfortable feeling in his stomach, and told you he ate nine mutton chops per day, if you did not tell him he was a swine you would think so. Recalling the fact that hydrochloric acid is nature's preventive of putrefactive changes, and the formation of dangerous ptomaines in the digestive tract, we see that a fever patient stuffed in this manner is surrounded with perils so great that the danger from the bacillus typhosus sinks into utter insignificance. The patient is weak from fever and toxæmia, not from want of food. Increased feeding does not imply increased nourishment, but oftener diminishes it from overworking the already enfeebled stomach.

Jenner years ago called attention to the injury from overfeeding, and said he had often seen delirium, fever, and restlessness subside after the expulsion of large curds of undigested milk. It will be said this is retrogression. The starvation plan was active a century hence. Well and good. If you will exclude bleeding, tartar emetic, and salivation, the treatment then was excellent. Over sixty years ago Eberle's treatment was as follows: Plenty of bland drinks, no food, and purgatives; the latter were given to free the intestinal tract of all irritating and poisonous substances, and he preferred the neutral salts as a purgative. That was good treatment then for typhoid fever, and it is one of the elements of the best treatment to-day.

Page upon page has been written upon the injurious effects of the coal-tar antipyretics, and very few upon excessive feeding, yet the danger of the former is small compared with the latter. It is this almost universal habit of overfeeding, cramming the patient with large quantities of concentrated nourishment, that makes antipyretic measures so frequently necessary.

In the MEDICAL RECORD of June 14, 1893, I called the attention of the profession to the beneficial effects in infantile intestinal diseases of withholding all food for twenty-four hours or more, and the giving of hot water ad libitum. The rapid improvement under this method in most cases, the great comfort afforded the little patients, induced me to try it in typhoid fever, and I can assure you that I have no cause to regret it.

Lutton, of Rheims, in 1880, extolled the withholding of food and giving large quantities of water; he would give no nourishment until the beginning of the

third week. He claimed that this prevented the increase of typhoid germs. As I said above, all food must be positively prohibited for three days. After this it may be allowed when the patient is unmistakably hungry. About the fourth day the patient may interpret an empty feeling for hunger, but this is no indication for food. I had one patient seventeen days without food; temperature first week 104° F. in the morning and 105° F. in the evening. This patient had organic heart disease, required no alcoholic stimulants, and made a good convalescence. Another was for fifteen days without food, and thirty-two went from seven to twelve days. They can have all the water they desire, but it must be sterilized, and preferably hot. It should be administered in definite quantities and at regular intervals. The large quantity of water attenuates the poison and assists the purgatives.

Having stated the indications, I shall tell how I meet them. After free catharsis I order twelve powders each consisting of phenacetin and salol, five grains each, and calomel, one-eighth grain, and give one powder every three hours. I do not administer the phenacetin as an antipyretic, but experience has taught me that no drug will relieve the headache and muscular pains so promptly as this. I now give guaiacol in from five to eight drops every three hours, and continue it for some time after convalescence. I order half a teacupful of hot water every hour, and to impress the importance of this I place a tablet of bromide of potash in a tumbler of water and order a spoonful of this to be given in the hot water every hour. When the temperature is under 102° F. I have the body sponged off with cold water every two or three hours. When the temperature is above 102° F. I apply guaiacol to the right iliac region, from five to thirty drops every three hours. It is applied in the manner directed by my friend, Dr. H. G. McCormack, of Williamsport, Pa. In only one case did this fail me, and this one was a case of relapse. While I could not reduce the temperature below 105° F. for over twenty-four hours, no one can tell how high it would have gone had this not been used. Upon speaking to Dr. McCormack of this he argued that it had not been properly applied. Here he is in error, for the same very competent trained nurse had controlled the temperature with this remedy throughout the primary attack, and at the time above mentioned was applying as before and afterward with good results. We applied it hourly for a while and thirty drops each time. It could not have been due to the impurity of the drug, for we used the original package from a thoroughly reliable manufacturer.

When heart sounds are weak I give strychnine nitrate, and in one case I gave one-sixtieth of a grain every hour for six days. After this I gave it every two hours, alternating with whiskey. In two cases with diarrhoea I did not try to stop it. The greatest trouble I have is in keeping the bowels sufficiently open. When the appetite returns any time after the third day I give milk, two tablespoonfuls of milk in two tablespoonfuls of water every three hours; then gradually I allow fruit juice, mashed potatoes, soft-boiled eggs. If for any reason the diluted milk is distasteful I give malted milk. I never order beef tea or any of the so-called extracts, as I believe them harmful in this disease.

In a series of thirty-four cases treated as above I have had one death. This was of a lady of seventy years, who, one very cold day jumped out of bed and sat upon the floor. Lobar pneumonia developed next day and she died on the fifth day. One patient had two relapses, three had each a relapse, and one had a hemorrhage. The average duration of the disease was 18.3 days. This treatment faithfully carried out will materially shorten the duration of the

disease, will give the patient the greatest comfort possible, he will have no tympanites, the tongue will be moist, and there will be very little restlessness or delirium. When convalescence is established he will have a stomach that, from its long rest, will be capable of easily and thoroughly digesting food.

I have avoided saying anything about the Brandt method for two reasons. First, I have had no practical experience with it; second, it is impractical in a country practice. I have faith in it, and believe all that its friends claim for it.

I desire to acknowledge my indebtedness to Prof. W. B. Thistle, of Toronto, who has so earnestly and ably advocated the eliminative method; also to Dr. C. E. Page, of Boston, who gave me the courage of my convictions in withholding food and using hot water systematically; and to Dr. McCormack, who has taught us all how and when to use this valuable drug, guaiacol.

SARCOMA OF THE ANTERIOR MEDIAS- TINUM, WITH REPORT OF A CASE PRE- SENTING A RARE COMPLICATION.¹

By JOSEPH B. POTSDAMER, A.M., M.D.,

PHILADELPHIA.

THE rarity of this affection, the difficulty of arriving at a diagnosis, and the unusual symptom met with in the case I recently had under treatment, are the reasons for introducing this subject for discussion this evening.

The total number of cases of mediastinal sarcomas on record is one hundred and seven, of which forty occurred in the anterior mediastinum, ten in the posterior, one in the anterior and middle, three in the anterior and posterior, eight in the entire, three in the middle, and one in the whole thorax. The reports of the other cases were not complete enough for classification.

Hare, in his study of mediastinal tumors, reveals the fact that out of ninety-eight cases, thirty-one were primary, five secondary; the others were not stated. From the metastatic nature of sarcoma, one would be led to believe that it would be found as a secondary growth in this region, but all observers report to the contrary. In the cases in which other parts of the body were involved, the mediastinum escaped.

Sex is a predisposing cause, three males being attacked to one female. Age has some influence, the largest number of males falling victims between the ages of thirty and thirty-five, females between thirty-five and forty.

Sarcoma is the most frequent form of malignant disease found in this region. Pepper and Stengel, in an elaborate paper on mediastinal tumors, published in the Transactions of the Association of American Physicians, vol. x., demonstrate that cases of cancer predominated prior to the time of accurate histological study; but since then sarcomas are far more numerous. The same authorities assert that it is not always possible to distinctly differentiate between lymphadenomatous and sarcomatous growths.

The metastasis of sarcoma is through the blood-vessels, excepting the small-round-celled variety, which may spread through the lymphatics, this being the usual channel of lymphadenomas.

The lympho-sarcomas are found most frequently; next the round-celled sarcoma; and, lastly, the spindle-celled.

A sarcomatous growth may find its origin in any of the following tissues, named in the order of frequency: thymus gland, pericardium, periosteum of the

sternum, mediastinal connective tissue, and thyroid body. Virchow has pointed out that a sarcoma with a regular outline grows from the thymus gland.

The symptoms of a case of this kind may be negative for a long time. The patient may never present the appearance of a cachexia.

Dyspnoea may be constant, intermittent, or absent. If the tumor is in the posterior mediastinum it is the former; if in the anterior chamber it is apt to be absent, or, if present, to be intermittent, changing with the position of the patient. Pressure symptoms, such as palpitation, faintness, or irregular action of the heart, are never as marked as in cases of aneurism, and are frequently absent. The symptoms are dependent on the seat and size of the growth, and may develop as the case progresses.

Cough is an early symptom in tumors of the posterior mediastinum, but may be absent if the growth is in the anterior. It is usually dry and ineffectual. Occasionally there is a frothy expectoration tinged with blood. Should there be any expectoration it should be subjected to microscopic examination, with a view of establishing the diagnosis. Free hamoptysis may occur. Pain is not frequently met with, as the tumor rarely causes erosion of the sternum and it moulds itself to the other organs, thus avoiding pressure. Fever is never present, unless there is an inflammatory complication of the lungs or pleura. Dysphagia is not to be considered in tumors of the anterior mediastinum.

Physical signs may be negative. The veins of the face and neck may appear turgid, but then the growth will be found of considerable size. The contour of the chest may be altered, one side being larger than the other. The sternum may be prominent. Transmitted aortic pulsation is rarely noticeable.

Percussion is of assistance only in growths of considerable size; otherwise it is impossible to distinguish cardiac and sternal dulness from that of a growth. On auscultation we are apt to find the heart sounds muffled and distant.

The duration of the disease depends upon the symptoms. Death may occur as early as the second month. As long as the local symptoms are in abeyance, the patient may live a long time.

L. A. N—, aged forty-three, married, Bohemian, height, five feet nine inches; weight, two hundred and ten pounds; father of five children, consulted me for the first time on June 14, 1895. I have been his family physician for five years, during which time he never was sick. During the past year I noticed that he experienced difficulty in breathing on slight exertion, but he attributed it to his obesity. He was of regular habits and was a moderate beer drinker. Five months prior to the beginning of this illness, Dr. George Roessler examined him for life insurance. The doctor informed me that the urine was normal but of low specific gravity, and that the heart sounds were slightly muffled, as if the organ was fatty. Otherwise he found the applicant normal.

On my first visit I elicited the following history: Both parents living, old and in perfect health; brothers and sisters all living and well. Patient's last illness began on June 5, 1895. He had pain in the left chest and hypochondriac region and shortness of breath, for which symptoms he consulted a doctor who happened to be in his store. The physician diagnosed pleurisy, and assured the patient that he would be well in a few days, as he was free from fever. The doctor saw Mr. N— every other day, and finding the temperature normal made light of the case. During this time the dyspnoea was increasing and I was called in. On examination I found the patient sitting on the edge of the bed, gasping for breath. Face flushed, expression anxious. Pulse, 100; temperature, 98.6°

¹ Read before the James Aitken Meigs Medical Association, November 21, 1895.

F.; respiration, 44. No œdema in any part of the body. Heart sounds normal, but muffled and distant. No apparent increase in cardiac dulness. Marked dullness on percussion over the left side of the chest as high as the fourth rib. No respiratory murmurs or râles below this line. No râles or friction sounds in any part of the chest. Left lung showed signs of compression. Occasional dry cough. Radial pulses equal.

Diagnosis: Mediastinal tumor of unknown origin with pleural effusion.

Treatment: Liquor ammonii acetatis, two drachms, every hour until copious perspiration set in; then every two hours.

June 15th, A.M.—Patient perspired freely during the night, and decided improvement in breathing followed. Temperature, normal; pulse, 100; respiration, 32. I ordered large doses of acetate of potassium and infusion of digitalis and a saline purge. That evening condition unchanged.

June 16th.—Temperature, normal; pulse, 104; respiration, 40. Patient passed large quantities of urine and bowels moved freely. Breathing very much embarrassed. No change at the evening visit. Dr. Dercum met me in consultation, and on aspiration we drew off one hundred ounces of bloody serum, which was followed by immediate relief. The doctor agreed to the diagnosis.

June 17th.—Temperature, 98.6° F.; pulse, 100; respiration, 20. Patient passed the first good night since he was taken sick. Breathing not at all embarrassed. Careful examination of the chest did not reveal any friction or other abnormal sound. The patient continued to improve until June 25th, when he appeared well but weak. During this time the breathing was normal.

June 22d.—Dr. Dercum re-examined the patient and agreed to the absence of any visible cause for the effusion.

June 25th, A.M.—Examination of the patient's chest showed left lung in normal position and no effusion. About 5 P.M. Mr. N— arose to allow his bed to be arranged, when suddenly he had a return of the dyspnoea. I saw him one hour later. Pulse, 104; temperature, 100.4° F.; respiration, 40. Dyspnoea very bad. Percussion and auscultation revealed the left pleural cavity full of fluid. At 10 P.M., with the assistance of Dr. Strittmatter, one hundred ounces of fluid were withdrawn from the cavity.

June 26th, A.M.—Patient felt well but weak. Pulse, 100; temperature, 100.4° F.; respiration, 24. Dyspnoea returned about 1 P.M., and by 5 P.M. was as bad as ever. On aspiration I withdrew seventy ounces.

From this time until his admission to the Jewish Hospital on June 30th, the dyspnoea gradually increased. Theappings were made between the seventh and eighth ribs, to the left of a line midway between the axillary and nipple lines. Repeated examinations of the urine were made, and it was always found normal, even to the specific gravity.

Dr. Knipe, chief resident physician of the hospital, has kindly furnished me with the history of the case until the time of the patient's death. I will only quote the following interesting facts:

July 3d.—Aspirated and withdrew one hundred and twelve ounces.

July 4th.—Breathing labored. Inserted drainage tube.

July 6th.—Two convulsions. In the afternoon re-inserted a drainage-tube and withdrew forty-eight ounces of fluid.

July 8th.—Patient died.

A study of the temperature chart shows that the morning temperature was normal except on four occasions, it twice being 100.4° F., once 97° F., and once

97.6° F. The evening temperature was above 100° F. on eight different occasions.

Especial attention must be called to the fact of the long interval that elapsed between the first aspiration and the refilling of the cavity, a period of nine days, during which time the patient never suffered from even a slight attack of dyspnoea. Again, we must note the sudden and overwhelming effusion.

A post-mortem examination was made twenty-four hours after death. All the organs were normal in appearance and size. The pleura was healthy and did not exhibit any evidence of a pleurisy or a deposit of sarcomatous tissue. On turning back the sternum a large mass was seen overlying the heart, which appeared as a mass of fat. Careful enucleation of it revealed a tumor of regular outlines, apparently not attached to any of the surrounding tissues. Microscopical examination showed it to be a round-celled sarcoma. From these facts we concluded that it had its origin in the thymus gland. The tumor weighed two and three-fourth pounds. The heart was not displaced.

From the nature of the fluid we should suspect malignant disease, but the acute onset of all the symptoms, together with the perfect health and good physical condition of the patient and the absence of any cachexia, would lead us to exclude that view.

A number of the cases on record were attended by pleural effusions, but they were all caused by some involvement of the pleura or lung tissue, or both, and in none was there sudden effusion. In not any of the cases was the effusion so marked as to be the cause for seeking relief. In searching the literature I found but one case that might be a parallel one. In the early part of the eighteenth century Boerhaave reported "a case of sudden and terrible death." On post-mortem examination a saponaceous tumor was found in the anterior mediastinum, and there was considerable effusion in the right pleural cavity.

As the post-mortem examination in my case did not reveal any cause for the effusion, I hope the discussion will bring forth some plausible explanation. My opinion is that the sudden change of position disturbed the relation of the tumor to the large vessels, causing the calibre of one or more of them to become diminished or obliterated for a time, thus giving rise to the effusion.

1333 FRANKLIN STREET, PHILADELPHIA.

Advances in Skiagraphy.—Dr. Arthur W. Goodspeed, of the University of Pennsylvania, has succeeded in obtaining a skiagraph of the upper portion of the trunk of his own body, as well as the lower part, showing the entire pelvis, the hip-joints, and a portion of the thigh bones, after an exposure of forty-five minutes. The result indicates that less time would have sufficed for the purpose. The tube used by Dr. Goodspeed is of his own design, and consists of a four-inch bulb with a branch on either side through which are introduced the electrodes, each of which is covered with blue enamel. One electrode consists of an aluminium disc, which is placed at one end of the tube, and the other terminates in a platinum disc, about one inch in diameter, which is placed at the centre of the tube and at an angle of forty-five degrees to the first disc. The tube is exhausted to about one-millionth of an atmosphere. A Ruhmkorff coil, with a ten-inch spark, is used, the primary current being broken two thousand times a minute by a motor. Dr. Goodspeed has undertaken to produce a series of pictures that shall show the normal condition of the bones of the human body in a state of health, and that shall serve as a means of comparison with abnormal or diseased conditions.

Clinical Department.

LOCAL APPLICATION OF TERCHLORIDE OF ANTIMONY IN A CASE OF EPITHELIOMA OF THE FACE.

By JOHN O. PALMER, M.D.,

AUBURN, N. Y.

ON November 26, 1895, the writer found himself confronted by an epithelioma covering an irregular oval space about two and a half inches by three and a half inches, extending from the tragus of the left ear to the outer canthus of the corresponding eye.

The edges of this ulcer were very much elevated and angry in appearance, and the whole surface was discharging an offensive purulent secretion, and at times bleeding freely.

In view of the extreme age of my patient (a married lady, eighty-one years of age, and the mother of a large family) and her enfeebled condition, the knife seemed to be out of the question. I therefore decided to give the case such benefit as might accrue from some form of escharotic.

Having seen excellent results in the hands of Dr. Carter S. Cole, of New York City, in similar cases by the use of the terchloride of antimony, I began its use on the above date.

After thoroughly cleansing the entire surface of its secretion and washing it with bichloride of mercury, 1 to 1,000, this powerful solution was applied over an area of about one-half the sore, including that section adjacent to the eye, as it seemed to be making most rapid inroads at this point and involving the most important tissue. The application was thus limited, as to have covered a larger surface would have invited too severe a shock in so weak a subject.

The action of the escharotic on the diseased tissue (which alone it attacks) formed a good crust, and the reaction was as good as could be expected, although the pain was considerable.

The subsequent secretion from the uncovered part of the sore was very offensive, and, while it loosened and carried away some of the crust, there was a fairly good cover left on perhaps one-third of the ulcer.

The dressing following this and all subsequent applications was two-per-cent. carbolic acid on sterilized gauze, and this was covered by rubber protective tissue. Also one-quarter of a grain of morphine sulphate and hot whiskey sling were exhibited.

On November 29th, third day, another application of the antimony was made over sufficient space to leave a good crust over the entire upper one-half. The shock at this time was rather worse, and there followed an extensive swelling. Salines and diuretics reduced this in a few days and she rallied remarkably well, so that on December 4th I was enabled to cover the entire sore.

This time I stimulated thoroughly and applied a solution of cocaine for ten minutes previous to the treatment. The secretion loosened a little of the lower part of the crust, and the swelling completely closed her eyes and caused much distress and apprehension. She also developed a temperature of 101° F. and a pulse of 115.

This condition yielded, however, to eliminative treatment and quinine, and she went on to a good reaction. The secretion loosened and brought away the crust pretty freely, and by December 20th it was all off and the sore began to look more auspicious, although the ulcerous surface was but little more than half its original size.

On December 22d after a hypodermic of morphine sulphate, one-fourth grain, with atropine sulphate,

one-seventy-fifth grain, and free stimulation, the antimony was again applied over the entire surface. There followed no untoward symptom other than a severe conjunctivitis, which was controlled by cocaine and boric acid in camphor water.

By the 28th the crust was all gone, the discharge was nil, the pain had entirely disappeared, the disease was conquered, and a healthy healing surface of about one inch by one and a half inches was all that remained to mark the site of the original epithelioma.

I regard this as a thoroughly satisfactory result of this recently revived treatment of these malignant affections of the face.

The writer desires to make acknowledgment to Dr. Carter S. Cole, with whom he had correspondence during the course of the treatment.

My apology for so full detail in this report is that there was about as much to contend with as was possible to conceive, in the age and feeble condition of the patient, together with the size and location of the sore. If I may have encouraged the profession to boldly attack this class of cases, I shall feel rewarded for my efforts.

A CASE OF ELECTRICAL CHOREA.¹

By AUGUSTUS A. ESHNER, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC,
PHYSICIAN TO THE PHILADELPHIA HOSPITAL.

THE case of electrical chorea that I shall herewith report does not belong to the type of disease described by Dubini in 1846.²

It represents rather a form of myoclonus in which the contractions occur at irregular intervals and are shock-like in character, resembling those induced by the interrupted electric current. These peculiarities seem to distinguish the affection from the ordinary type of chorea, and there is nothing to suggest an hysterical origin. Of the thirty-eight cases reported by Dubini thirty-six proved fatal, but no appreciable lesions were found after death. Treatment seemed to be without avail. Young people between the ages of seven and twenty years especially were affected. Fright was believed to be the usual cause. Among the premonitory symptoms were sleeplessness, anorexia, and prostration. The attack proper set in with rhythmic, shock-like contractions, usually in a given case of the same character throughout and involving the same muscles. The movements ceased during sleep. As the case progressed the involvement became more extensive, and finally the parts affected were paralyzed. The paroxysms lasted from four to ten minutes each and were repeated several times daily. The usual duration of the attack was from one to five or six months.

The case that I have to report is in a patient under observation at the Nervous Dispensary of Howard Hospital, in the service of Dr. Lewis Brinton, to whose kindness I am indebted for the privilege of making this report. It occurs in a woman, twenty-three years old, without special neurotic family history; though there is a marked history of tuberculosis on the side of the father. The patient herself has been married, but does not live with her husband, and has been delivered of a six-months dead-born child. She has had the jerking movements which she presents since the age of seven years. These are of a peculiar shock-like character and involve especially the arms and forearms, though movements can also be observed at times in the face. They are variable in intensity, ceasing entirely during sleep and being less

¹ Report read before the Philadelphia Neurological Society, April 27, 1896.

² Ann. Univ. di Med., cxvii., p. 5.

pronounced when the patient is calm and quiet; they are also absent when the patient is walking, although a jerk occurs with the first step. The patient can knit and write with facility, jerking very little in the performance of these acts. She thinks the movements may have been rather less pronounced during such attacks of illness as she may have suffered from. The knee-jerks are exaggerated, and feeble ankle-clonus can be elicited on the left. The onset of the movements followed the fright of being locked in a wardrobe. The heart and lungs present no abnormality.

I think this case may be safely called one of chorea, though not of true Sydenham or of Dubini type. There is reason to believe that chorea, as seen in its various forms, is not a single affection and that all cases do not have a uniform pathology. We are able now to distinguish Sydenham, Huntington, Dubini, hysterical, and post-hemiplegic varieties, and the future may perhaps bring us knowledge of others. The character of the symptoms suggests that the seat of the disease is the cerebral cortex, and the clinical course of cases would indicate that the disturbance may be functional (habit-chorea), nutritional (Sydenham's chorea, hysterical chorea), structural (Huntington's chorea), or organic (post-hemiplegic chorea).

REPORT OF A CASE OF BURSITIS.

BY H. M. GARDNER, M.D.

ATHOL, MASS.

MRS. R—, fifty years of age; health good until July, 1895, when her knee was injured by the breaking of a jack-screw. A physician was called, and subsequently three others; but all treatment was of no avail. The knee grew worse and pain was constant. I was called to see the patient and found her unable to move without crutches, which she had used three months. Her leg was œdematous from the toes to the trunk, and her general condition was poor. I applied a rubber bandage the whole length of the limb, and prescribed a tonic. This was Wednesday. Friday of the same week I called again and found the leg one mass of vesicles, with a marked diminution in the swelling. I opened the vesicles, washed the leg antiseptically, dusted with iodoform, and encased the whole limb in a plaster bandage. I told the patient I would return in ten days, but did not until eighteen days had passed, when to my surprise my patient met me at the door. She had removed the plaster the day before and complete recovery had taken place. In a case of eight months' standing this result may seem remarkable, nevertheless it is true. I never treated a similar case in this way, but shall any others that I may have.

HORSE SERUM IN CONSUMPTION — REPORT OF RECOVERIES AND IMPROVEMENTS.

BY J. A. DUNWODY, M.D.,

CRIPPLE CREEK, COL.

I WILL begin with my own individual case.

CASE I.—J. A. D—, male, white, aged thirty. On July 26, 1895, upon physical examination the upper two-thirds of the left lung was found to be infiltrated; numerous moist râles could be heard throughout this portion, and there was expectoration of a muco-purulent character, about two ounces during the twenty-four hours. Weight, one hundred and twenty-five pounds. Microscopic examination showed tubercle bacilli. Range of temperature was from 99° to 100° F., and this continued until August 2d, when I was attacked with acute pleurisy on the left side,

which confined me to my bed for ten days. The temperature ranged then from 100° to 102.5° F. for a week, after which time it fell to 99° to 100° F., until September 18th, when it became 98.5° F. The injections of serum were begun on July 26, 1895, with ten millimetres and rapidly increased to forty-five millimetres, and were then reduced to thirty millimetres, which quantity was maintained continuously, notwithstanding the attack of pleurisy, until December 24, 1895, at which time a small abscess was produced, owing to the want of proper care by the physician giving the injection. Weight at this time (December 24th) had increased to one hundred and forty-three pounds; the expectoration had nearly ceased, there not being enough for microscopical examination. Physical examination revealed the absence of all râles; there was clear vesicular respiration throughout the affected portion of the lung, though somewhat weak in character. The right lung was not affected at all. On March 24th I was attacked with la grippe, during which time my weight was reduced to one hundred and thirty-four pounds and cough returned for a short while, with loss of appetite, etc. On April 13th I resumed the daily injection of thirty millimetres of serum, with resulting increase of weight of two pounds and cessation of cough at this time, April 23d. I have used no other treatment at all—the injections of serum alone. This point in my case proves conclusively the great mistake of stopping the use of the serum too soon, or before the lung tissue has been restored to its full strength and vitality.

CASE II.—H. H—, white, female, aged four years, weight twenty-seven pounds. Date of examination, January 3, 1896. Left lung almost completely consolidated; no vesicular respiration; bronchophony quite distinct; cough quite distressing at times; range of temperature, 99° to 100° F. in afternoon. I began on January 3, 1896, with the injection of serum, four millimetres, and rapidly increased to twelve millimetres daily. The right lung showed no lesion. During the first six weeks of sero-therapy patient increased in weight four and a half pounds, and has maintained this weight (thirty-one and a half pounds) until the present time. Upon physical examination on April 8th, I find that there is some vesicular respiration throughout the affected lung. Cough has almost entirely ceased. During the last three weeks the injections have been somewhat irregular, as the little patient lives two miles away from my office, and has had a mild attack of scarlet fever which has been quite prevalent where she lives.

CASE III.—Mr. S—, white, male, aged forty-six; weight, one hundred and thirty-five pounds. Date of examination, March 16, 1896. Left lung almost completely consolidated; no vesicular respiration, quite dull and flat upon percussion; small tuberculous ulcer upon the epiglottis and vocal cords, affecting the voice; expectoration about four ounces daily. Patient stated that he was first affected with tuberculosis in October, 1894. A daily injection of thirty millimetres of serum was begun immediately. There was considerable erythema in this case, which gradually disappeared, though the serum was given daily. On examination April 21st, I found that there had been wonderful improvement in the condition of the lung; there was already some slight vesicular respiration throughout the lung. Expectoration had diminished about one-half, or to two ounces in twenty-four hours. He had increased four pounds in weight. When this patient commenced the daily injections he could walk only a short distance without extreme fatigue. Now he states that he can walk at least half a mile without any discomfort at all.

CASE VI.—J. B—, male, white, aged twenty one. Date of examination, February 15, 1896. The patient

stated that he had had tuberculosis since the spring of 1893, and that his normal weight used to be one hundred and forty-three pounds. The left lung at the time of examination was in the same condition as in the preceding case: no vesicular respiration, dull and flat upon percussion. He weighed at that time one hundred and fifteen pounds, and was much emaciated. The patient is difficult to control, and comes only irregularly for injections. He has not gained in weight. There is evidence that he is addicted to masturbation. Upon examination on April 21st, I can find very little or no improvement in this case, and there is very little hope of his ever being relieved. (Such cases cannot be expected to recover by any mode of treatment short of the miraculous.)

I have given here a history of these cases sufficiently full, I trust, to enable the reader to form a judgment. I am thoroughly convinced that sero-therapy is in the line of right treatment, that will eventually rid the dread disease (tuberculosis) of all its terrors and its fatal record.

Progress of Medical Science.

Achillodynia.—From an editorial writer in the *Boston Medical and Surgical Journal* we learn that two years ago Albert described and named a condition of the foot characterized by pain on walking and standing, located at the insertion of the tendo Achillis, but disappearing in the sitting or lying positions. In addition to this, a small swelling is to be noticed, apparently due to the thickening at the insertion of the tendo Achillis. The swelling, which is as hard as the tendon, in some instances is slightly sensitive to the touch. It appears as if the bone itself is enlarged. Rössler reports nine cases of this affection, which he is inclined to consider the result of the inflammation of the bursa between the tendon at its insertion and the projection of the os calcis. In one of these cases only was there any evidence of presence of fluid in the bursa on palpation, but an experimental injection of fluid into this bursa upon a cadaver did not give clear evidence of fluctuation owing to the tenseness of the structures. Schüller found in two obstinate cases of this affection reddening and thickening of the walls of the bursa and synovial fluid, which was manifest on operation of the case. He demonstrated the existence of the bursa in a large number of cadavers. In one hundred and forty cadavers he found twenty-five bursæ; and in twenty cases of new-born children, synovial membrane was found in this region. In a number of investigations upon cadavers, Rössler found frequently thickening of the cartilage and hyperostosis of that portion of the os calcis which forms the anterior wall of the bursa, constituting a bursitis deformans, the result of chronic irritation similar in his opinion to the formation of callus. Weinlechner reports operating upon a case of this sort in a patient twenty-one years of age; the bursa was incised and curetted and a bony prominence chiselled off. The same affection has been described by Kirmisson as peritendinous arthritis, and is mentioned by Heinecke in his work on the "Anatomy and Pathology of the Tendon Sheaths and Bursa." The affection is apparently in some instances induced by injury. Cases have been cited where the origin is attributed to influenza and to gonorrhœa. In one case apparently the affection was rheumatic. Treatment can be operative or conservative; the latter includes the application of wet sponges with compression and later massage; the former—incision into the bursa, curetting the bursal wall, and removal of projecting bone. Under the

name of "subtendinous exostosis," Dr. E. G. Brackett reported a case of an affection similar to that described by Rössler. A few of these cases had been observed by Brackett independently of the work of the German observers. In the one operated upon six months ago and recently reported, the affection was considered by the patient to have resulted from a sudden strain in jumping, which was followed by a swelling on the outside of the tendo Achillis; this was tender to the touch and caused pain in walking. The swelling was on either side of and between the tendon, but was greater on the outer than on the inner side; and on account of the resulting disability the patient was obliged to walk upon crutches for a year and a half. Any attempt to walk without crutches was followed by an increase in the swelling and sensitiveness at the side of the insertion of the tendon. A hard swelling was felt on the back of the heel, with slight puffiness and fluctuation on each side of the tendon. On cutting down upon the swelling a hard bony growth was discovered on the upper portion of the os calcis; the tendon was split, and the growth was found to occupy the upper portion of the exterior surface of the os calcis, and presented a sharp projection under the tendon and slightly above its insertion, in such a position that on every step in walking the tendon would be stretched over a sharp projection of bone. The tumor was removed by a chisel; the patient made a complete recovery. A subsequent case has since been observed by Dr. Goldthwait; and the probabilities are that the affection is more common than has been supposed, but has been overlooked from the fact that attention has not been called to the subject.

Strapping the Chest in Phthisis.—Dr. Tidley (*British Medical Journal*) suggests the following advantages: 1. In early phthisis (catarrhal stage), to give comparative rest and relaxation to the affected lung tissue. 2. In the stage of consolidation, to secure the same results, thereby limiting the risk of extension, and to promote elimination of the disease products by improving the circulation in and about the diseased area, and to facilitate expectoration. 3. In the stage of cavitation, to promote closing of cavities by directing healthy lung to encroach on the diseased area, instead of relying on natural processes of cicatrization. 4. Diminished tendency to hemorrhage by reduced tension on vessels and cicatricial traction on vessel walls. 5. The ultimate object is to obtain a smaller thoracic cavity filled with healthy lung, instead of an enlarged thoracic cavity partly filled with diseased lung.

Cold Baths in Delirium Tremens.—Dr. Letulle speaks of the various drugs that have been used and recommends cold baths, not a simple douche, but immersion of the whole body in water at the temperature of 64.4° F. The head should be cooled by large waves of water. The bath should last eight, twelve, or fifteen minutes according to the reaction of the patient. The baths may be repeated every two or three hours. It is concluded that these baths possess a sedative and calming action upon these cases.—*La Presse Médicale*, 1896, No. 4, p. 20.

Whooping-Cough.—Dr. Fisher concludes from the results he has obtained in the quinine treatment of pertussis that it is the best remedy for whooping cough at present known for the following reasons: (1) It diminishes the number of attacks essentially in five days at the latest. (2) It reduces even the most vehement whooping-cough to a mild bronchitis in from twelve to fifteen days. (3) It influences most favorably a possibly existing broncho-pneumonia. (4) It often stimulates the appetite.

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LATENT AND LARVAL TUBERCULOSIS.

As certain conditions are necessary for the lodgment and propagation of the tubercle bacillus in the human body, an intelligent prophylaxis will look to the maintenance of the normal mechanism by which such invasion is ordinarily repelled and by which also the process of spontaneous recovery from the developed disease is brought about. From the same point of view, it is obvious that success in the treatment of tuberculosis depends largely upon its early recognition. Here, however, we encounter a serious difficulty, as the disease may develop without giving rise for a time to appreciable manifestations, and these may not appear until the morbid process has made considerable progress.

It is a well-known fact, long observed, that tuberculous lesions are often found after death when their existence during life had not attracted especial attention or had even escaped observation. So well established is this fact that the Germans have adopted an axiom that every one ultimately becomes infected with tuberculosis. The multiplication of the tubercle bacilli and the generation of toxins occasion only local effects until the intensity of the process has reached such a degree that the resulting products gain entrance into the circulation and thus give rise to constitutional manifestations.

Maragliano,¹ in an address recently delivered, discusses the question of latent and larval tuberculosis and offers a number of interesting and valuable considerations bearing upon that subject. When tuberculosis is present without subjective or objective symptoms, he goes on to say, the latency may pursue one of three courses: (*a*) It may persist indefinitely; (*b*) it may be limited in duration; or (*c*) it may be intermittent in occurrence. When the latency is persistent the infection is beyond the range of certain detection, the processes of auto-therapy or auto-serum-therapy sufficing to control the advance of the disease. Late in the history of the case there may be some impairment of resonance, in consequence of the presence of new-formed cicatricial connective tissue. When the latency is limited in duration, the infection—for a variable period not manifest—suddenly makes its appearance. In this group belong cases in which without previous symptoms hæmoptysis occurs; also those in which manifestations of tuberculosis make

their appearance in connection with some acute infectious process. The duration of this limited latency is variable and uncertain. The transition from latent to manifest tuberculosis may be viewed as an evidence of increased intensity of infection or of diminished bodily resistance, or perhaps a combination of the two. The developed disease may (*a*) progress, (*b*) remain stationary, or (*c*) subside, perhaps permanently, perhaps to recur.

Larval tuberculosis is that in which typical manifestations of infiltration are wanting, although other symptoms of the infection are present. This type of the disease may appear in one of two forms: (1) dystrophic, (2) typhoid. The first is characterized by progressive disturbance of nutrition. The patient gradually fails, anæmia develops, the heart becomes enfeebled and the pulse rapid, the appetite is lost and the digestion impaired, debility ensues and mental depression results. As a rule, there is an absence of fever, and physical signs may appear only late. The typhoid form of larval tuberculosis is from the beginning attended with fever, to which derangements of innervation are early added. The fever is at first intermittent, later becoming remittent or subcontinuous. The general strength may be maintained. Exacerbations closely resembling attacks of typhoid fever are repeated from time to time. In some cases both types of the disease may be present.

The manifestations of larval tuberculosis are to be attributed to intoxication with the products of bacterial activity and vary as one or other poison predominates. The symptoms of tuberculosis may be masked, whatever the localization of the lesion; but this is most often the case when the lungs and the lymphatic glands are involved.

The diagnosis of larval tuberculosis must be made by exclusion, the greatest care in observation being exercised. Tuberculosis of persistent latency is beyond recognition; if the latency is intermittent the history of the case is of the utmost diagnostic significance. In some cases in which doubt exists after the exhaustion of all therapeutic resources, Maragliano suggests a study of the toxicity of the blood-serum. He has found that from three to five cubic centimetres of blood-serum from a patient suffering from tuberculous toxæmia for each kilogram of body weight is sufficient to cause death in rabbits. The best means, however, of detecting the existence of latent tuberculosis is the intelligent use of tuberculin injected beneath the skin. Some individuals will react to injections usually from one to three milligrams and never exceeding ten milligrams, with fever and physical signs such as râles at an apex, with harsh breathing, etc. Others will not react to this dosage, but after an injection of twenty-five milligrams will present swelling of lymphatic glands and localized signs in the lungs or other organ.

The existence of tuberculosis being thus established, the treatment will be general or general and specific. The first includes all measures capable of improving the general nutrition and increasing the bodily resistance. The last includes the judicious use of tuberculin or antitoxic serum.

¹ Berliner klinische Wochenschrift, 1896, Nos. 19 and 20.

ANTI-VIVISECTION EXTREMISM.

THE pernicious influence that may result from the utterances of certain well-meaning but misguided individuals, including medical men, is admirably illustrated by a circular recently issued by the American Anti-vivisection Society. In this remarkable communication an appeal is made to the public not to circulate stories about "alleged mad dogs, and the terrible results to human beings bitten by them. Such accounts frighten people into nervous disorders and cause brutal treatment of animals suspected of madness; and yet there is upon record a great mass of testimony from physicians asserting the extreme rarity of hydrophobia even in the dog, while many medical men of wide experience are of the opinion that if it develops in human beings at all, it is only on rare occasions. The condition of hysterical excitement described as 'hydrophobia' is merely a series of symptoms due usually to a dread of the disease, such dread being caused by realistic reports acting upon the imaginations of persons scratched or bitten by animals suspected of rabies." To this statement are added the opinions of a number of medical men, most of whom are not known as investigators or clinicians of wide modern experience, who contend for the non-existence of hydrophobia, because the disease has never been recognized by them. There are still some medical men who are unwilling to admit that hysteria is a genuine disease, apart from simulation, but if there is any great clinical truth that has of late received general professional acceptance it is that hysteria is a reality, just as much as typhoid fever or pneumonia. Those who deny that there is such a disorder as hydrophobia may as well deny that there is such a disease as hysteria. Perhaps, however, the scientific world is wrong and the dissenters are right. No doubt the anti-vivisectionists are as nearly right as they usually are. To a judicial mind it must seem the supremest folly to base a conclusion solely upon negative evidence and to deny the existence of that which has not come under one's personal observation. So long as there are some who oppose the bacillary doctrine of disease, so long will there be some who deny the existence of hydrophobia in man and rabies in animals. Conservative anti-vivisection is a legitimate agitation and will receive the support of all right-minded people, but a blind fanaticism will defeat its own ends. No cause can fail in the end that is based upon truth and none succeed promulgated upon error.

THE PATHOGENESIS OF ABDOMINAL FAT NECROSIS.

ONE of the most obscure conditions with which the clinician has to deal is that known as fat necrosis, many years ago observed by Ponfick in bone marrow and later described by his assistant Balser as occurring in the pancreas. The condition has since been frequently noted in association with pancreatic disease, especially hemorrhage, although it may occur independently. The white necrotic areas, of varying

size, have been shown by Langerhans to contain lime in combination with fatty acids.

Of the cause and mode of origin of this condition there is as yet little definite knowledge. It has been induced in the dog by injecting pancreatic extract into the fatty tissue, and in cats by ligation of the pancreas or its vessels and by transplantation of pancreatic tissue. In two cases Welch found the bacillus coli communis. Stockton in two cases found bacilli of varying size, some with square and some with rounded extremities.

The latest contribution to the pathology of this interesting subject is made by Ponfick,¹ who has succeeded in isolating from the fluid obtained from an area of subperitoneal hemorrhagic infiltration upon the posterior wall of the abdomen, in a fatal case of fat necrosis, a bacillus morphologically resembling both the bacterium coli commune and the typhoid bacillus, but differing from both of these in culture and in pathogenic properties. The organism is described as a fairly large bacillus, with rounded extremities, about two or three times as long as it is thick, and possessing pathogenic activity toward white mice and rabbits. It is capable of independent movement, stains readily with aniline colors, and does not liquefy gelatin. In cultures it proved to be a facultative anaerobe. The patient was a corpulent man, forty-three years old, who died in the course of a few days with symptoms of intestinal obstruction.

News of the Week.

Obituary Notes.—DR. J. B. TAYLOR died on June 16th, at San Angelo, Tex. Some weeks ago he was thrown from his horse and received a compound fracture of the arm, from which septicæmia developed. Dr. Taylor was born in New York fifty years ago, and practised here until he was obliged to remove to Texas on account of his health.—DR. AUGUSTUS S. KIDDER died in this city on July 5th, of pulmonary tuberculosis. He was born in New Hampshire in 1840, was graduated from Dartmouth College in 1860, and later from the Philadelphia Dental College. Immediately upon graduation he came to this city, where he practised dentistry to within a short time before his death.—DR. JAMES D. BROWDER died on his plantation at Gallion, Hale County, Ala., on June 27th. He was a graduate of Jefferson Medical College and engaged for a time in the practice of medicine in Philadelphia.

The Third International Congress of Dermatology.—At this congress, which, as already announced, will be held in London, from August 4th to 8th, there will be a museum of drawings, casts, models, naked-eye preparations, microscopic specimens, works, and atlases pertaining to diseases of the skin. There will also be an exhibition of clinical cases and demonstrations of the same, at 9 A.M. and 2 P.M. of August 5th, 6th, and 7th, and at 9 A.M. of August 8th. Any one having anything to contribute to this department is requested to address Dr. James Galloway, 21 Queen

¹ Berliner klinische Wochenschrift, 1896, No. 17, p. 865.

Anne Street, Cavendish Square, W., London. There will also be an exhibition of cultures and microscopical preparations of organisms connected with the skin and its diseases. Any communications in regard to this department should be addressed to H. G. Plimmer, Esq., Wunderbau, Sydenham, London. The social side of the congress will be: 1st, an informal reception at the International Hall, Piccadilly Circus, on August 3d, from 9 to 12 P.M.; 2d, a reception by the lord mayor and lady mayoress, at the Mansion House, on August 5th, from 9 to 11 P.M.; 3d, a dinner to the foreign members, at the Hotel Cecil, on August 7th. It is advised that foreigners should arrive in London not later than Sunday, August 2d, as Monday, August 3d, is a public holiday.

Dr. George E. de Schweinitz has been elected professor of ophthalmology in Jefferson Medical College, in succession to Dr. William Thomson, resigned; Drs. D. Braden Kyle and William S. Jones, clinical professors of laryngology; and Dr. H. F. Harris, assistant professor of pathology and bacteriology.

The Chalfont Epileptic Colony.—A home for twenty women has been added to the epileptic colony at Chalfont, England, where formerly there has been provision for men only.

The Marine Hospital, at New Orleans, has recently been sold by the federal government to the city for \$25,700. It was built many years ago at a cost, including the purchase of the ground, of between \$600,000 and \$700,000, and was never occupied.

Robbed and then Imprisoned.—A physician in this city suffered recently from the depredations of an office thief, and in the kindness of his heart called upon his colleagues in the neighborhood to warn them. One of the latter, so far from being grateful for the warning, took the doctor himself for a thief, and had him arrested as a suspicious character.

The French Surgical Association will hold its tenth annual meeting in Paris during the week ending October 24, 1896, under the presidency of Professor Terrier. The two subjects for set discussion are "The Surgical Treatment of Clubfoot," to be opened by M. Forgue, of Montpellier, and "The Treatment of Prolapse of the Genital Organs," to be opened by M. Bouilly, of Paris. The secretary-general of the association is M. Lucien Picqué, No. 8 Rue de l'Isly, Paris.

Lepers in Paris.—Dr. Hallopeau, writing to the *Matin*, says that there are over one hundred lepers living in Paris without any attempt at isolation, most of them having come from other countries for medical treatment. Recently one was found on the street and taken to the Hôpital St. Louis, where there are now twelve under treatment.

To Drive Away Flies.—Dr. H. S. Baketel, of Derry, N. H., writes: "Many practitioners of medicine among the poorer classes are greatly annoyed by flies in the sick-room. The annoyance to the patient is doubly great. Such, at least, was my experience not

long since on New York's great east side. An excellent safeguard against these pests is the sweet-pea flower. The *Lathyrus maritimus*, the purple variety, grows near the seacoast from New Jersey around to Oregon, and beside the coasts of the Great Lakes. The *Lathyrus ochroleucus* is found on the hillsides from New England to Minnesota, and even further West. It is distinguished by its small, yellowish-white flower. Either of these varieties can be grown in the sick-room, and the sweet odor emanated seems very offensive to the ordinary house fly."

Pathological Society of Philadelphia.—A stated meeting of the Pathological Society of Philadelphia was held on the evening of June 11th, the president, Dr. J. H. Musser, in the chair. Dr. J. Dutton Steele presented specimens of verrucose mitral endocarditis, aneurism of the abdominal aorta, right-sided sclerotic endocarditis, and a greatly dilated heart, giving rise during life to symptoms suggestive of both aneurism of the arch of the aorta and mediastinal tumor, such as dilatation of the veins of the chest: œdema, at first unilateral, but later becoming bilateral; and inequality of the pulses. Dr. F. A. Packard presented two specimens of right-sided endocarditis. Dr. D. Riesman exhibited a specimen of fibrous pericarditis, with hypertrophy and dilatation of the heart and partially patulous ductus arteriosus, from a girl with a history of rheumatism followed by chorea. Dr. Joseph Sailer showed the heart of an infant a few days old, exhibiting right-sided malignant endocarditis, and made a report of three cases of chronic endocarditis in association with pulmonary tuberculosis. Dr. Alfred Stengel presented a series of stomachs from cases of pernicious anemia and exhibiting atrophy of the gastric tubules, one of which was an extremely small viscus, not so large as an ordinary fist and with greatly thickened walls, from an adult woman. Dr. Stengel also showed intensely anthracotic lungs from the body of a coal-miner. Dr. A. O. J. Kelly presented a specimen of carcinoma of the stomach.

Methodist Hospital of Philadelphia.—Dr. Joseph P. Tunis has been elected visiting surgeon to the Methodist Hospital of Philadelphia, succeeding Dr. H. R. Wharton, who has resigned.

Dr. A. C. Abbott, hitherto first assistant, has been elected professor of hygiene in the University of Pennsylvania, in succession to Dr. John S. Billings, resigned.

The National Conference of State Boards of Health, recently held at Chicago, elected the following officers: *President*, Dr. C. A. Ruggles, of Stockton, Cal.; *Vice-President*, Dr. Benjamin Lee, of Philadelphia; *Secretary and Treasurer*, Dr. C. O. Probst, of Columbus, O.

Spanish Army Surgeons.—The Spanish government has raised the age limit for those desiring to enter the army medical service from thirty to forty years, on condition that those so admitted shall serve in Cuba until the close of the war.

American Physicians Honored in China.—Dr. Eli Barr Landis, ex-resident physician of the Lancaster County Hospital and Insane Asylum, has recently received the Order of the Double Dragon from the Emperor of China in recognition of services rendered by him during the war between China and Japan. The same distinction had already been bestowed on another American medical missionary, Dr. B. C. Atterbury, for work in connection with the Red Cross Society in the late war.

The Second International Congress of Gynecology and Obstetrics will be held in Geneva, Switzerland, from August 31st to September 5th inclusive. The sessions of the congress will be held in the grand hall of the university. The following are the subjects for the set discussions and the names of those who will open the same:

Gynecology: 1. "Treatment of Pelvic Suppurations." Referees.—Drs. Bouilly, Paris; Kelly, Baltimore; Zweifel, Leipzig. 2. "Surgical Treatment of Uterine Retro-Deviations." Referees.—Drs. Küstner, Breslau; Pozzi, Paris; Polk, New York. 3. "What Method of Closing the Abdomen Presents the Best Guarantee against Abscesses, Eventrations, and Hernias?" Referee.—Dr. Granville-Bantock, London.

Obstetrics: 1. "Relative Frequency and Most Common Forms of Pelvic Contractions in Different Races, Groups of Countries, or Continents." Referees.—Drs. F. Barnes, London; Dohrn, Königsberg; Fochier, Lyons; Kufferath, Brussels; Jentzer, Geneva; Lusk, New York; Rein, St. Petersburg; Pawlik, Prague; Pestalozza, Pavia; Treub, Leyden. 2. "Treatment of Eclampsia." Referees.—Drs. Charles, Brussels; Charpentier, Paris; Halbertsma, Utrecht; Löhlein, Giessen; Mangiagalli, Milan-Pavia; Parvin, Philadelphia; Smyly, Dublin.

The official languages of the congress will be English, French, and German. An exposition of gynecological and obstetrical instruments and appliances will be held during the congress week. As the national exposition of Switzerland will be held at the same time as the congress, those intending to be present are advised to secure hotel accommodations in advance. Further information may be obtained by addressing the secretary-general for North America, Dr. Fernand Henrotin, 353 La Salle Avenue, Chicago, Ill.

International Congress of Criminal Anthropology.—The fourth International Congress of Criminal Anthropology will be held at Geneva on August 24th to 29th. M. Adrien Lachenal, president of the Swiss Confederation, is honorary president of the congress. Dr. Paul Ladame is president of the organizing committee.

The Right to Practise in England on an American Diploma.—An English court has recently decided that an American physician with a genuine diploma from a recognized medical school is at liberty to practise medicine in Great Britain, but must not assume any titles implying that he is a registered British practitioner. The case was that of an American who appended to his name the letters, "M.D., U. S.

A.," and the court held that there was no attempt to claim qualifications other than those implied. The Medical Defence Union, which undertook the prosecution, was condemned to pay costs amounting to about £800.

Unwelcome Newspaper Notoriety.—Dr. Warren L. Babcock, of the St. Lawrence State Hospital, writes: "The undersigned desires to disclaim any responsibility for the sensational reports which have been going the rounds of the New York newspapers during the past week regarding an alleged insanity cure. The article in the *Sunday Journal* of July 5th especially merits repudiation and condemnation. No interview was granted the reporter, the affixing of my signature at the end of the alleged interview was a bold forgery, and no original discovery has been made or new treatment adopted. The illustrations are wholly imaginary in every particular, instead of being reproductions from photographs. The work to which the sensational article crudely refers will be published in its proper place—a medical journal—as soon as the results of investigation will warrant."

Fees from Clergymen.—The question of accepting or demanding a fee for medical services rendered a clergyman has reached the stage of open discussion in Scotland. Dr. D. Campbell Black, of Glasgow, recently read a paper on the subject before a local medical society, in which he said that, while he believed that poverty and suffering would never appeal in vain to the worthy disciple of Hippocrates, he distinctly failed to see why, "because a man is a clergyman, he is entitled to sponge, particularly on a young and poor practitioner of medicine."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending July 4, 1896: June 29th.—Surgeon I. G. Heneberger, detached from the marine rendezvous, New York, and ordered to the hospital, Widow's Island; Passed Assistant Surgeon E. S. Bogert, ordered to the New York Navy Yard, July 2d; Passed Assistant Surgeon T. C. Craig, detached from the New York navy yard, July 2d, and ordered to the marine rendezvous, New York. July 2d.—Passed Assistant Surgeon W. F. Arnold, detached from special duty in China and Japan and ordered to return home; Assistant Surgeon H. F. Parrish, ordered to the naval laboratory, New York City.

An Income Tax on Physicians.—Louisville, Ky., has imposed a license tax upon physicians, graded according to their income. In case the income is less than \$2,000 the annual license shall be \$10; \$2,000 and over and less than \$5,000, the license will be \$20; where the annual income is as much as \$5,000 but less than \$10,000, the license is \$40; all whose yearly business amounts to \$10,000 or over, shall pay a license of \$100. The *Louisville Medical Monthly* says that the medical societies of Louisville have appointed committees to confer with each other and take steps to test the legality of the law. A test case will be submitted to the court, and until this is done all physicians are requested to resist payment of the license.

Society Reports.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Thirtieth Annual Meeting, Held at Asbury Park, June 23 and 24, 1896.

WILLIAM ELMER, M.D., OF TRENTON, PRESIDENT.

Report of Committee on Arrangements.—DR. HENRY MITCHELL, in presenting this report, stated that Asbury Park was free from certain noises which were such a nuisance in other cities. By ordinance peddlers and hucksters were not allowed to cry their wares in the streets. An ordinance had also been recently passed, requiring that all milkmen obtain a license, which they could do only on showing that the milk was pure, clean, from healthy cows properly kept. (Before their departure the delegates became convinced that this ordinance had not yet been fully complied with.) Another interesting feature of Asbury Park was that it kept a record book of all hotels and houses receiving summer visitors, giving all the facts relating to their sanitary condition—cellar area, ventilation, water supply, diseases which had occurred in them, etc. All interested could avail themselves of this information. The society was extended a warm welcome to this healthful seaside resort.

Permanent Delegates.—All of the permanent delegates proposed by the district societies were elected.

DR. ALFRED MERCER read his report as treasurer, which showed a balance of over thirty-five hundred dollars.

DR. E. L. B. GODFREY, corresponding secretary, in his report read some communications, one from DR. STERNBERG, relating to vivisection, and DR. DANIEL STORCK offered a resolution against the vivisection bill before Congress relating to the District of Columbia. The resolution passed through the hands of a committee and was then adopted unanimously.

Honorary Members.—Dr. A. Jacobi, of New York, and Dr. V. M. D. Marcy, of Cape May, were elected honorary members.

Purulent Conjunctivitis.—DR. W. B. JOHNSON, in the absence of the chairman of the committee, Dr. Kipp, read the report of the committee appointed last year to inquire whether the methods for the prevention of conjunctivitis of the new-born in hospitals accomplished what was claimed for them by their respective authors, and if so, to recommend that which, in their opinion, was best adapted for use in private practice. Personal observation, interview with physicians in large lying-in hospitals, and study of the literature of the subject had forced upon them the conviction that the development of purulent conjunctivitis of the new-born could be prevented by disinfection of the eye, and that the method recommended for this purpose by Professor Credé, of Leipsic, accomplished all that was claimed for it by its distinguished author. It was suggested that the society request the State board of health to publish Credé's method in the form of a circular and distribute it freely, and that the State board of medical examiners do not grant a license to practise midwifery to persons not familiar with this method. The Credé method consisted in carefully dropping upon the cornea one or two drops of a two-per-cent. solution of nitrate of silver. It should be applied in all cases just after or before cleansing the child.

DR. P. A. HARRIS made some remarks on the resolution to adopt the report, which was done.

Bovine Tuberculosis.—In the absence of Dr. Stickler, chairman of the committee, DR. YOUNG presented a brief report, stating that the subject had not been brought before the committee of the last legislature.

which was adverse, but the prospect for the future was more hopeful. The committee was continued.

Health of New Jersey.—DR. H. W. ELMER, chairman of the standing committee, read a summary of reports from physicians throughout the State on the health of their respective sections. The State had been comparatively free from epidemics, but there had been considerable grippe.

In discussing the report, DR. E. L. B. GODFREY called attention to the diminished mortality rate from typhoid fever in Cooper Hospital, Camden, since the introduction of the Brandt bath treatment. The average stay of the patients in the hospital had been reduced from fifty-two to thirty-three days. On the average, the patients were out of danger by the fifteenth day.

Clinical Observations on Auto-Intoxication of Gastro-Intestinal Origin.—DR. PHILIP MARVEL, of Atlantic City, in a paper of some length on the subject of auto-intoxication, acknowledged our indebtedness to Bouchardt, gave a definition of auto-intoxication, spoke of the toxicity of the urine, bile, and other secretions, dwelt more especially upon the influence of overeating, and related several interesting cases of acute and subacute or chronic nature.

Whence the origin of these poisons? All toxic substances existing in the excretions must be produced by decomposition of animal or vegetable food received within the body, by fermentative action of bacteria, and disintegration and restoration of cell life within the body itself. In the maintenance of life there was constant repetition of the processes of building up and breaking down.

Atlantic City, being a pleasure resort, gave many examples of the effects of overeating. Among symptoms of acute auto-infection from undigested food were tympanites, burning sensation, eructation of gases, acid vomiting, diarrhœa, increased formation of sulphuretted hydrogen, stools of greenish color, cramps, vertigo, headache, lightness of head, etc. There might be cramps, coma, and death. In one of his acute cases the patient died the second day, and congenital absence of one kidney was found, but the one present was healthy.

Demonstration of Bassini's Operation.—DR. S. E. MILLIKEN, of New York, demonstrated this method by drawings. He was first to describe it in this country, in a paper published in the MEDICAL RECORD some years ago. Those who opposed it then had since adopted it, and to-day it was the operation almost universally performed. He used kangaroo tendon, burying the sutures, and found non-suppurative essential to success. The patient was kept abed three weeks; no truss was worn subsequently.

DR. DANIEL STORCK, of Camden, had had no failures with the Bassini method, while Dr. Milliken admitted that he had.

DR. BENJAMIN and DR. P. A. HARRIS also made some remarks on the paper.

The Relations of Physicians and Pharmacists.—At the last annual meeting a committee, co-operating with a committee from the New Jersey State Pharmaceutical Association, proposed a code of ethics for the guidance of physicians and pharmacists in their relations to one another. This proposed code had been sent out in circular form to the physicians of the State for suggestions, preparatory to action at this meeting. Although it had been adopted by the State Pharmaceutical Association, evidently it did not meet with the approval of the majority of physicians, for as soon as it had been read it was voted, before debate could take place upon its merits, that action be indefinitely postponed. Dr. Shephard remarked that we could not regulate the conduct of pharmacists. Later a resolution was adopted, assuring Dr. Henry

Coit, chairman of the committee, and its other members and the pharmacists, that no discourtesy had been meant by this action.

Revision of By-Laws.—DR. HENRY MITCHELL, chairman of the committee on the revision of by-laws, read the report, and with a few exceptions it was adopted as read. The proposition to require the nominating committee to report three names instead of one for third vice-president (who is always advanced to president) was rejected through fear the election should too often fall to Essex County, in which Newark is situated.

Annual Address of the President.—DR. WILLIAM ELMER, JR., of Trenton, chose for his address "The Relation of the Physician to Sanitary Science." The subject was treated in a scholarly and instructive way, and the necessity for sanitary observance was impressed from a moral, social, and economic, as well as physical point of view. He said the education of the masses was the real groundwork of the national health. Disease was directly antagonistic to their interests as wage earners, and tended to the degeneration of the race.

"Statistics of our large cities show that about one-half of all deaths occurring are in children under five years of age, and a large percentage of these deaths takes place during the heated term, being attributed to cholera infantum. This waste of life in its early period is unnatural, and it should be inquired into, and as far as practicable removed. Crowded, badly ventilated, and poorly drained apartments, vitiated food, milk supply, hereditary diseases, and want of maternal care are the principal factors in the death rate of the slums of cities. The law compelling vaccination should be rigidly enforced and a school record of it should be kept. The teachers should know the early symptoms of communicable diseases and take suitable measures for protection. School authorities, in connection with local boards of health, can do much toward decreasing the spread of contagious diseases. 'Educate the people,' is the watchword of sanitary science, and the schoolroom is the place for its beginning. Filtration of the water supply of our large cities is a matter of importance that cannot be overestimated. Filtration is of greater importance than the purity of the source. The process of filtration is now being planned for Cincinnati. That the result will greatly diminish the prevalence of typhoid fever and acute intestinal diseases is unquestioned, as is shown by the statistics of certain European cities.

"According to Rochard, the economic value of an individual is what he has cost his family, the community, or the State, for his living, development, and education until he reaches the age when he can restore it by his own labor. This valuation has been variously estimated by different investigators. Chadwick, of England, considers a laborer equal to a permanent deposit of about \$980. Farr gives about \$780 as the average of value of each human life. F. F. Smith places the loss to a community by a death from typhoid fever at \$2,000, and, with this as a basis, Professor Mason, of Rensselaer Polytechnic Institute of Troy, in a recently issued book, estimates the yearly loss to a city of one thousand inhabitants, where there are seventy-five deaths from typhoid fever (estimating ten cases to one death) as nearly \$200,000." A pure water supply would prevent all this.

Among other things referred to as evidence of advance in medical science, Dr. Elmer mentioned regulations regarding tuberculosis, quarantine against cholera and other infectious diseases, etc.

A vote of thanks was extended to the president for his able address.

Fibroid Tumors of the Uterus Obstructing Labor; Their Subsequent Disappearance.—DR. GEORGE

H. BALLERAY read a paper, giving the histories of three cases of large fibroids of the uterus which had disappeared after labor. They had caused marked obstruction during labor. Other cases were cited in which such tumors had disappeared during or after pregnancy, the reason for which was not known. He would try to deliver by version, but should elytrotomy or Cæsarean section be demanded, he would certainly choose the latter.

DRS. W. B. JOHNSON, BENJAMIN, J. W. S. GOULEY, P. A. HARRIS, A. M. COOPER, and CURT discussed the paper. Dr. Gouley would explain the disappearance of such tumors after or during pregnancy on the belief that they were myomata, not fibromata; that they were composed of tissue like the uterine muscle, and with these underwent involution after labor, or became merged with them and flattened out during growth of pregnancy.

Princeton Laboratory and Bacteriological Diagnosis.—DR. M. RAVENEL, of Princeton Laboratory, spoke of the work being done in the bacteriological and microscopical lines in that laboratory, and showed cultures of bacilli of diphtheria, tuberculosis, etc., and microscopical slides. Last winter the legislature passed a bill providing for a State appropriation to enable this laboratory to make examinations of cultures and specimens sent them by physicians free, but it was vetoed by the governor for economical reasons. The society adopted resolutions requesting that such a bill be made the law, and a committee of three was appointed to appear before the committee of the legislature.

Medical Directory.—DR. H. R. BALDWIN said he had received a communication from Dr. Daniel Lewis, editor of the "Medical Directory of New York," in which he wrote that on receipt of one hundred subscriptions at one dollar each from New Jersey physicians, he would add the office hours of physicians residing in that State.

Is the Therapy of Antitoxin, Nuclein, and Thyroid Extracts so Fully Established as to Receive the Endorsement of the Profession?—This was the rather cumbersome title of a discussion presented at the last annual meeting. It was opened with a paper by DR. ALEXANDER McALISTER, who had devoted most of his attention to the antitoxin treatment of diphtheria.

Since January, 1895, he had treated forty-five cases of diphtheria with antitoxin, most of them in hospitals at Camden; only three had died—one of paralysis of the heart, one had rheumatic complications, one died of sepsis. There was a mild degree of diphtheritic paralysis in eleven, all recovering. The duration of the disease was shortened, urgent symptoms were quickly relieved, the results were most gratifying. Antitoxin was of marvellous value in laryngeal cases.

Dr. McAlister had immunized twenty-one cases. Two of these afterward had mild diphtheria. Dr. L. Emmet Holt, he said, regarded the evidence as most overwhelmingly in favor of the use of antitoxin. Statistics were then quoted, most of which are probably known to the readers of the MEDICAL RECORD. Dr. McAlister gave no personal experience with nuclein solution and thyroid extract.

DR. BARKER, of Trenton, related one case which would indicate the necessity for some caution in the use of antitoxin. He had employed nuclein solution to advantage in a case of Pott's disease of the spine and some other cases in children.

DR. W. B. JOHNSON had been called to intubate in about one hundred cases of diphtheria, and in about twenty of these cases the physicians had used antitoxin. Out of the twenty about fifteen had recovered, or seventy-five per cent.; whereas out of the whole one hundred cases only about thirty-eight per cent. had

recovered—more than twice as many recovering with antitoxin than without.

DR. DELAND, of Philadelphia, after stating the case in a judicial way, thought it must be admitted that there was in all parts of the world a decrease in the death rate from diphtheria under antitoxin treatment, and that, when administered within twenty-four or forty-eight hours, the serum exercised a beneficial influence upon the disease.

Dr. Deland had obtained no results from thyroid extract in goitre, but in some cases of obesity it had given good results.

DR. R. C. NEWTON referred to the extremely favorable statistics for antitoxin collected by the American Pediatric Society.

DR. STOKES had collected the cases in which physicians had used antitoxin in Burlington County, sixty-eight cases, with eight deaths.

DR. TITUS said he had used it in sixteen cases, all recovering but one, which was moribund when treated.

DR. F. B. CANTWELL said they had almost ceased to dread diphtheritic croup in the St. Francis Hospital, Trenton, since the use of antitoxin.

DR. BENJAMIN had reviewed statistics of about twenty thousand cases of diphtheria, and claimed there had not been a decrease in the death rate. When charged that he had not himself used antitoxin, he replied that he was not justified in doing so, because he had had one hundred per cent. recoveries from other treatment.

DR. BISHOP, of New York, said they had found thyroid extract of no value in Graves' disease at the clinic for nervous diseases, College of Physicians and Surgeons.

Antisepsis and Antiseptics from the Standpoint of the General Practitioner.—DR. C. R. P. FISHER, third vice-president, selected this topic for his essay. He held that asepsis depending upon perfect cleanliness was impossible for the general practitioner, especially in country practice, and that attempts at cleanliness should be supplemented by antisepsis in cleansing the hands and instruments, the field of operation, and the external genitals in confinement cases. He was opposed to routine irrigation of the vagina before labor, or in the absence of special indication.

There was some discussion upon this paper by Drs. SILBERS, HARRIS, and others.

Chloroform Narcosis.—DR. FLOY McEWIN, of Newark, read a full and practical paper upon this subject, dwelling principally on the indications and contraindications for chloroform, preparation of the patient for anæsthesia, and the manner of exhibiting chloroform by inhalation. He emphasized the fact that the anæsthetizer must give his whole attention to the administration of the drug.

Officers.—*President*, Dr. T. J. Smith; *First Vice-President*, Dr. D. C. English; *Second Vice-President*, Dr. C. R. P. Fisher; *Third Vice-President*, Dr. A. M. Halsey; *Corresponding Secretary*, Dr. E. L. B. Godfrey; *Recording Secretary*, Dr. William Pierson; *Treasurer*, Dr. Archibald Mercer.

The next meeting will be held in Atlantic City, on the fourth Tuesday in June, 1897.

Epileptic Colony.—Before adjournment the society adopted a resolution asking State legislation in the establishing of an epileptic colony.

The Abscess of Hip-Joint Disease.—Dr. McCurdy says the general surgeon has as a first principle the excision of all abscesses no matter where found, while the orthopædic is so conservative that he never opens an abscess nor even aspirates. Between these extremes is the orthopædic surgeon who excises and cures if necessary, or leaves alone if the case is running a harmless course.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-Second Annual Meeting, Held at Philadelphia, Pa., on Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896.

PRESIDENT, F. X. DERCUM, M.D., OF PHILADELPHIA.

First Day—Wednesday, June 3d.

President's Address.—The president, DR. F. X. DERCUM, of Philadelphia, delivered an address entitled "The Functions of the Neuron." He dwelt at great length upon the various views advanced by Nansen, and quoted several abstracts from this well-known author's work. Speaking of naked axis cylinders, Dr. Dercum stated that they were in all likelihood a physiological impossibility in the cerebrum, for were they numerous we could suppose nothing but a constant overflow of stimuli from one cell to another, and consequent inco-ordination not only of thought but also of action. This is the view advanced by Nansen. The speaker stated that the question had arisen in his mind as to whether the neuron was not an absolutely fixed morphological element, and whether it did not possess a certain, though perhaps limited, power of movement. Continuing, he said: "Realizing the practical value and the wide application of this idea, I have examined the literature to see whether a similar interpretation of nervous phenomena has occurred to others, and to gather such facts if any could be brought forward in its support. I found that this thought had occurred independently to three observers, one in Germany and two in France. Ramon Cajal, however, opposes the theory of the mobility of the neuron, and maintains, on the other hand, that the neuroglia cells possess a great deal of mobility. He points out, for instance, that the neuroglia cells of the cortex are at times stellate and at others much elongated. Their processes have numerous short arborescent and plumed collaterals. Two phases can be observed in them: first, a state of contraction, in which the cell body becomes augmented while the processes become shortened and the secondary branches disappear; and secondly, a state of relaxation, during which the processes of the neuroglia cells are again elongated. Ramon Cajal further maintains that the processes of the neuroglia cells in reality represent an insulating or non-conducting material, and that during the period of relaxation they penetrate between the arborizations of the nerve cells and their protoplasmic processes, and render difficult or impossible the passage of nerve currents. On the other hand, when the processes of neuroglia cells are retracted the various nerve-cell processes which they formerly separated from each other are now permitted to come into contact. To me it seems as though Ramon Cajal admits the very thing against which he contends.

"Turning our attention for the moment to the subject of hysteria, we will see what a flood of light may be cast upon this hitherto so obscure and mysterious subject. Take the simple example of an hysterical paralysis and see how easily it may be explained. The neurons of a certain area of the cortex, for instance, retract the terminal branches of the neuraxon to such an extent that the latter are no longer in contact or sufficiently near to the neurons in the spinal cord which supply the muscles of the paralyzed parts. When power is suddenly re-established in hysterically palsied limbs, it simply means that the terminal branches of the cortical neuraxon, previously contracted, are again extended so as to re-establish the proper relations with the spinal neurons. It would be interesting to follow out the ideas here brought forward in their application to the various phenomena presented by hysteria.

"Turning to hypnotism, we can see what a ready ex-

planation it affords for the phenomena presented: and leaving this field entirely, we can see what an enormous value this interpretation of cortical action is for normal mental phenomena, taking, for example, the familiar instance of sleep. Numerous other ideas also suggest themselves in relation with the view here advanced, but time will not permit of my further discussing it."

Acute Non-Suppurative Hemorrhagic Encephalitis.—DR. J. J. PUTNAM, of Boston, read a paper with this title. The reader first sketched the literature of the disease, which has been mainly contributed by the German writers, the latest of whom is Oppenheim, of Berlin. The principal symptom groups are: 1, That described by Wernicke, as due to hemorrhagic softening mainly confined to the neighborhood of the third ventricle; 2, that described by Strümpell and others, as attending more diffuse lesions of the hemispheres; 3, it is possible that the hemiplegia of children may be due to a similar lesion involving the cortex, as Strümpell formerly suggested, and certain acute spinal lesions may belong in a similar category. Oppenheim has reported a number of cases, showing that, however grave the symptoms of this disease may be, the outcome may be favorable. The reader's case was that of a young boy who was attacked suddenly, two weeks after having been ill with the mumps, with paralysis of motion of both eyes and lids, deafness, coma, impairment of swallowing, right hemiparesis, and double optic neuritis. At the end of three months, however, he had recovered, except for slight double vision and slight impairment of hearing and eyesight, and except that ever since the illness he had been subject to epileptiform attacks of short duration. These attacks are gradually becoming less frequent. Reference was also made to another case reported by the reader in 1892, in which, besides other serious cerebral symptoms, including double optic neuritis, temporary loss of hearing had also occurred. The cases reported by Oppenheim were given in outline and the interesting fact noted that his patients, like the one here referred to, were mainly children. An analysis of these reported cases was also presented.

DR. L. C. GRAY, of New York, asked if any of these cases had retraction of the neck.

DR. PUTNAM answered that he was not certain as to its presence in his own cases, but it was present in the other reported cases.

DR. GRAY thought that the best macroscopical description of hemorrhagic encephalitis had been given by Flam some years ago. All cases seen by him (Gray) had proved fatal. In many instances the diagnosis was attended with extreme difficulty. He had generally been willing to diagnose these cases as meningitis.

DR. JOSEPH COLLINS, of New York, had observed a case of hemorrhagic encephalitis, with autopsy, which corresponded with the description given by Oppenheim. He read the report of the autopsy, which showed old leptomenigitis, hemorrhagic encephalitis, and a pachymenigitis hemorrhagica. There was no case on record in which these three conditions have been found associated.

DR. B. SACHS, of New York, said that the recognition of this form of cerebral disease showed a distinct advance in neurology. He had observed four cases. Two patients recovered and two died. In one case there was some doubt as to whether it was meningitis or not, as there was slight retraction of the neck but no positive coma. He looked upon it as a milder disease than basilar meningitis. In one of the patients who recovered, the cerebral symptoms appeared simultaneously with the fever. The former lasted four days, leaving the patient with slight ptosis and paresis of the external rectus.

DR. GRAY asked if fatal cases have shown more violent symptoms than those that recovered.

DR. PUTNAM replied that in some of the more violent cases the patients recovered. In general, the rapid development of severe coma is considered an unfavorable sign. It is frequently quite difficult to distinguish this condition from meningitis. He believes that the severity of the symptoms depends on the amount of poison absorbed into the circulation. We do not yet know the exact significance of retraction of the neck, which is a very unreliable diagnostic sign. In one of his own cases of influenza with symptoms of encephalitis occurring in an elderly person, the brain was found only oedematous. Sometimes changes are unrecognizable with the naked eye.

Cerebral Complications of Reynaud's Disease.—

This was the title of a paper by DR. WILLIAM OSLER, of Baltimore. After referring to the frequency with which Reynaud's disease is met with in forms of insanity, he said that in a few cases cerebral manifestations, due apparently to vascular changes similar to those which develop in the peripheral parts, had been described. In the case of a man in his wards, already reported in 1891 by Dr. H. M. Thomas, in which epileptic attacks occurred in the winter months only, in connection with local asphyxia and superficial necrosis of the ears, the patient had also hæmoglobinuria. In another case, that of a woman aged fifty-two, during a period of six years, local syncope and asphyxia occurred at intervals in the fingers and hand of the right side, sometimes with aphasia, and on several occasions with transient paralysis of the right arm and leg. In the final attack the patient died with gangrene of the right hand and arm. The case of Weiss is believed to be the only other instance in which aphasia complicated the disease. In a third patient "falling attacks" of an indefinite character occurred in a young girl, with local asphyxia of the legs between the knees and ankles.

DR. RIGGS asked Dr. Osler how often he had seen death follow this disease.

DR. OSLER answered that it was rarely fatal. This was the second fatal case with which he was familiar. The literature, however, indicated a number of fatal cases. He considered the complications as having no direct relation with the disease. The associated conditions were rarely serious.

Tumor of the Thalamus.—DR. WALTER CHANNING, of Boston, read a paper with this title. The patient was an unmarried woman of good heredity, and by occupation a school teacher. She was of an active, nervous temperament, and the subject of hay fever and asthma until the spring of 1895, when she was under the care of a so-called "hay-fever specialist" and escaped the usual attack. Before admission to the hospital, November 29, 1895, she had been for some weeks mildly exhilarated and extravagant in her ideas, but not enough so to interfere with her work until the 22d. The only physical symptoms she had complained of were headache and insomnia. Her disease was diagnosed by an alienist of experience as mild acute mania when she came to the hospital. Since her death her friends have stated that she had weakness of the left arm before leaving them, but nothing was said of this when she entered. She was mildly exhilarated, with expansive delusions and hallucinations of taste and smell. She was unable to stand because of weakness in the left leg, and her left arm was weaker than the right, there being no power to move it above the elbow. Headache, not severe or localized, existed. There was little nausea. The pupils were equal in size and reacted to light. The eyes did not follow the finger. There was no ophthalmoscopic examination. The weakness in the left side was not so marked at the beginning as to attract special attention. It was

later that its significance became apparent. Patella reflex slightly exaggerated and alike on both sides; plantar reflex moderate; urine: color normal, reaction acid, specific gravity 1.022; urea normal, uric acid in excess; blood count: reds, 4,804,000; whites, 12,400. The mild maniacal excitement continued for the first week after admission. The patient was very restless in the bed, moving her head from side to side and throwing her right arm overhead. She also often folded her arms rigidly across the chest and clenched the fingers. After the first week she slowly sank into a stupor, from which it was difficult to rouse her. The physical symptoms of central disturbance became rapidly more marked. There was entire loss of motion in the left arm, left leg, and later right leg, and extreme extension of both legs. The jaw became relaxed, interfering with respiration. The tongue fell back in the mouth. Breathing became jerky and irregular toward the end, and finally the relaxed jaw could not be replaced and death ensued. The autopsy was made by Dr. E. Wyllis Taylor, of Boston, who found a boggy, cyst-like mass extending back an inch behind the posterior border of the optic thalamus and forward to the junction of the caudate nucleus with the thalamus, the mass apparently involving the latter in its entire extent. Microscopical examination proved the tumor to be a vacuolar glioma. The mental symptoms in this case seem to have been quite unlike those of the usual cases of brain tumor recorded, in which are found depression, dulness, irritability, stupor, and even pronounced dementia. Several interesting questions arise, as, for instance: Which symptoms probably presented themselves first, the mental or physical? Why should there be so much mental disturbance in such a case? Was the mental trouble an accident and independent of the tumor? If not, how can it be satisfactorily explained? What diagnostic value do mental symptoms possess in cases of brain tumor?

DR. WHARTON SINKLER, of Philadelphia, thought that the appearance of mental symptoms in thalamus tumors was of much clinical interest. In his experience somnolence and mental symptoms were of frequent occurrence.

The Ectal Relations of the Right and Left Parietal and Paroccipital Fissures.—This was the title of a paper by DR. BURT G. WILDER, of Ithaca. The parietal and paroccipital fissures may be either completely separated by an isthmus or apparently continuous. When so continuous ectally, there may still be an ental and concealed vadum or shallow. Disregarding the vadum on the present occasion, the ectal relations of the two fissures may be designated as either continuity or separation. That continuity occurs more frequently on the left side has been noted by Ecker, Cunningham, and the writer. Hitherto, however, statistics have included unmated hemispheres as well as mates from the same individuals. The following statement is based upon the cerebrums of fifty-eight adults of both sexes and various nationalities and characters. The speaker had examined forty-eight; the other ten having been accurately recorded by Bischoff, Dana, Jensen, and Mills.

So far as these fifty-eight individuals are concerned, the most common combination, viz., left continuity and right separation, is decidedly the rule with the moral and educated, less frequent with the ignorant, the insane, and negroes, and does not occur at all in murderers. The only instance of the reverse combination (left separation and right continuity) was afforded by an insane Swiss woman. The only two known to be left-handed represented the more frequent combination of left continuity and right separation. These statistics suggest many special queries and problems, some of which were briefly indicated. But the speaker

wished this to be regarded as a preliminary communication, and asked the co-operation of other members in the effort to obtain satisfactory results of larger numbers, particularly of brains of well-born, moral, and educated persons. For this purpose a blank form was outlined.

Does Antisyphilitic Treatment Prevent the Occurrence of the Diseases of the Nervous System which are Considered Syphilitic in Origin?—DR. JOSEPH COLLINS, of New York, read this paper and pointed out that certain diseases of the nervous system occur sequentially to syphilis with such frequency that they are rightfully looked upon as syphilitic in their origin. These diseases are tabes, general paralysis, syphilitic spinal paralysis, and such exudative conditions as cerebral thrombosis. After briefly reporting the history and treatment in nearly one hundred cases observed in hospital, dispensary, and private practice, the writer concluded as follows:

1. Exudative and degenerative diseases due to syphilis are most liable to show themselves at the end of the third and beginning of the fourth decade of life.
2. Thorough and prolonged administration of anti-syphilitic remedies during the activity of the virus does not seem to materially advance this time limit.
3. That active and prolonged antisyphilitic treatment does seem to prevent the development of such diseases as locomotor ataxia and general paresis. This is true of degenerative diseases, though treatment may, however, have some effect in preventing the exudative diseases of the nervous system, such as syphilis of the spinal cord, disease of the blood-vessels, etc.
4. Cases of tabes and general paresis in which syphilis is confessed, and in which treatment has been most desultory and incomplete, are not more liable to the early development or to the severe manifestations of either of these two diseases than those in which the treatment has been all it should be.
5. That the administration of antisyphilitic measures in the most approved way does not fulfil the requirements of cure, and that syphilis is often an incurable disease.

DR. PUTNAM referred to a case that had received prolonged and thorough antisyphilitic treatment, yet symptoms of degenerative nervous disease appeared later in life.

DR. GRAY said that the facts in Dr. Collins' paper were not detailed as to the symptoms of syphilis nor as to the exact treatment. In many instances of suspected syphilis an absolutely positive diagnosis is at times almost impossible.

DR. SACHS agreed on the whole with the conclusions of the reader of the paper. In the vast majority of cases, however, the treatment of syphilis does not prevent the development of tabes or general paresis. A better way to have arranged statistics would have been to take all cases of syphilis and ascertain if they developed nervous disease later in life. The worst cases of syphilis of the nervous system occur in those who have never received any treatment. He spoke of such a person who had developed pronounced general paresis one year after the initial infection. In late cases it is often difficult to prove the relationship between syphilis and the nerve lesion. We should be careful about adopting Dr. Collins' views.

DR. P. C. KNAPP, of Boston, agreed with Dr. Sachs, and did not believe it wise to refuse antisyphilitic treatment when it seemed to be indicated. He asked Dr. Collins if his cases showed that the development of nervous disease bore any relation to the severity or character of the primary or secondary manifestations of syphilis. When the cutaneous symptoms were pronounced there was usually less nervous disturbance.

DR. OSLER said that his experience was opposed to

the views of Dr. Collins. The majority of severe cases of nervous disease occurring in syphilitics were in those who had either been badly treated or not treated at all. Early, thorough, systematic, and prolonged treatment will prevent the development of degenerative disease of the nervous system in later life.

DR. N. E. BRILL, of New York, asked how the reader could reconcile with his statistics the fact that anti-syphilitic treatment frequently cures incipient tabes and paretic dementia.

DR. DILLER had seen nervous disease develop in spite of early antisiphilitic treatment.

DR. PRESTON expressed the opinion that the irregularity with which endarteritis occurs is often overlooked. He was unable yet to establish the relationship between antisiphilitic treatment and endarteritis. Nervous disease has been of a milder type in those who have received careful early treatment, and more marked in those who have not.

DR. PATRICK said that the author's statistics did not prove that treatment was ineffectual, and that the nervous diseases might be due to other causes. When vigorous treatment is carried out for a brief period and then discontinued, late syphilitic disease of the nervous system is more likely to develop.

THE PRESIDENT maintained that it was hardly fair to draw conclusions from two diseases such as tabes and general paresis, as the reader acknowledged that they were not always due to syphilis. The degenerative affections may occur in cases that have been thoroughly treated.

DR. COLLINS, in closing the discussion, said that he wished it understood that he had no theories to advance, but had merely tabulated the results of these cases. Particular inquiry had been made in the cases detailed as to the kind of treatment, and in many instances satisfactory knowledge had been obtained. In cases which had been referred to by one of the speakers, in which the symptoms of tabes and general paresis disappeared under antisiphilitic treatment, he was not willing to concede that these were genuine cases of tabes or general paresis, but cases of pseudo-tabes and pseudo-paresis, in which the lesion was an exudative one and not a degenerative one, such as is characteristic of these two diseases, and it was his belief that in these cases antisiphilitic treatment was of benefit. He had purposely refrained from saying anything of gummata and had confined himself to the systematic syphilitic diseases of the nervous system.

Prognosis and Duration of Attacks of Mental Disease.—This was the title of a paper by DR. HENRY R. STEDMAN, of Boston.

DR. CHANNING called attention to the fact that a general misunderstanding occurs in the community as to the curability of insanity. It is much more curable than is supposed. General paresis should not be classified among the insanities. The character of the disease has changed in the last fifty years, and our views and classification have therefore changed.

DR. GRAY said that to speak of insanity as an entity was as if one were to speak of all disease as an entity, and then go back to the old Carlyle tables of mortality for the prognosis of coryza, pneumonia, tuberculosis, typhoid fever, and cholera, while to refer to the old statistics of Pliny Earle was like referring to the hospital results of thirty or forty years ago for guidance in the treatment of the present day. If we are to accept the statistics of results of the insane asylums, we are justified in analyzing their record, and then we are startled to find that no new type of mental disease, no original pathological observation, no new departure in treatment, and not one text-book has ever come from an American asylum, despite the millions of dollars and thousands of patients they have had at their command.

Second Day—Thursday, June 4th.

Progressive Muscular Atrophy of Sudden Onset.

—This was the title of a paper by DR. THEODORE DILLER, of Pittsburg. He related the details of a case which came under his observation three years ago, and stated that the sudden onset of palsy followed by atrophy and the absence of sensory phenomena led him to diagnose the case as one of poliomyelitis adultorum. The beginning of the patient's trouble was in an ophthalmoplegia. After an absence of two years the man again came under his care, when the atrophy and loss of power in the muscles had markedly increased. The biceps, triceps, scapular, and ulnar groups had become involved and the finer movements of the fingers were lost, as was also the power of supination. At this time the patient was unable to adjust or remove his clothing unaided. There was a marked decrease in the response both to galvanism and faradism in the paralyzed muscles. Dr. Diller considered the case could be fairly regarded as one of progressive muscular atrophy, as the progressive feature was for two years the most important feature of the case. Ophthalmoplegia as a symptom of progressive muscular atrophy must be rare, for but scant references are made to it in literature. Strychnine had a very marked effect in staying the progress of the disease.

Pitting about the Hair Cups a Trophic Change in the Skin in Certain Nervous Disorders of Central Origin.—DR. WILLIAM BROWNING, of Brooklyn, described a presumably hitherto unrecognized alteration in the skin. From some seven or eight years' observation of such cases he was able to give the limits of its occurrence. So far it has been seen only in progressive muscular atrophy of spinal origin or in cases complicated with atrophy evidently likewise due to chronic precornual disease. In other troubles attended by atrophy, as infantile palsy, neuritis, pseudo-hypertrophy, etc., it has not been found. It is hoped that it may prove a useful help in differential diagnosis, especially between the forms due to peripheral and central disease. The change consists of an areola-like faint depression, frequently oval, in the direction of the lines in the skin, though it may be irregular or circular in form, about the exit of each hair. Usually the depression is a trifle paler than the surrounding skin, resembling, but not really being, a minute scar. It is not observed in specially hairy regions like the scalp, but only over the seat of muscular atrophy, notably on the leg and thigh, though also on the upper extremities. All his patients had reached or passed middle life. A drawing to show the appearance in one case was exhibited.

A Case of Syringomyelia, Limited to One Posterior Horn in the Cervical Region, with Arthropathy of the Shoulder-Joint and Ascending Degeneration in the Pyramidal Tracts.—This was a paper by DR. F. X. DERCUM and DR. WILLIAM G. SPILLER, of Philadelphia. Three years after a strain of the back the patient began to suffer from pains in the legs, a band-like pain about the lower part of the chest, weakness in the lower limbs, and a spastic gait. Complete paraplegia with contractures, more marked on the right side, wasting of the lower limbs and paralysis of bladder and rectum developed later. Cutaneous sensibility was lost in the legs and upon the trunk as high as the nipple on the right side and a little above the umbilicus on the left. The sense of temperature was absolutely lost over the right arm, the right shoulder and the right side of the neck, and also upon the adjacent part of the right side of the trunk above the nipple line. There was some analgesia of the right arm. The right shoulder-joint began to swell and from rupture of the capsular ligament cellulitis with redness and local heat was produced, but with little or

no pain. In extension the humerus assumed the position of a subglenoid luxation. Death was due to exhaustion.

At the autopsy the capsule of the right shoulder-joint was found much thickened and roughened on the inner surface. The head of the humerus had disappeared, the bone having been eroded to some little distance below the surgical neck. A cystic tumor was found in the axilla containing a friable fatty material. The surface of the glenoid cavity was much eroded, roughened, and porous; it was abnormally large and extensive bony deposit had taken place along its edges. The coracoid process exhibited a thick and firm accretion around its entire edge.

Sections were made from the level of nearly every spinal root and from many spinal ganglia.

By the microscopic examination degeneration was found of the crossed pyramidal tract as high as the substantia reticularis of the second cervical segment and of the direct pyramidal as high as the motor decussation upon the right side, and for a short distance of the crossed pyramidal upon the left. This was believed to be ascending on account of the following facts:

1. Absence of any microscopic lesion above the medulla oblongata.

2. Degeneration of the crossed and direct pyramidal tracts on the same side of the cervical cord, intense in the lower cervical region near the lesion and diminishing gradually in intensity in the cervical segments, and finally becoming very indistinct in the upper cervical region.

3. Absence of all degeneration in the anterior pyramids.

4. Long duration of a chronic process.

While certain association fibres may be considered degenerated in these columns, the entire antero-lateral column contains such fibres, and the degeneration was notably in the area occupied by the crossed and the direct pyramidal tract. This ascending sclerosis was probably in greater part due to destruction of motor fibres deprived of their function.

Degeneration of the direct cerebellar tracts and of the tracts of Gowers was traced as far as the inferior peduncles of the cerebellum.

Intense pachymeningitis was noticed from the second lumbar segment to the exit of the third dorsal roots.

The arthropathy of the right shoulder was not due to any special changes in the cord or spinal ganglia.

The posterior roots were not affected even when the pachymeningitis was most intense; the anterior at one part of the dorsal cord were degenerated.

In the entire cervical region as high as the second cervical segment the cavity was limited to the right posterior horn.

The gliosis extended from the extreme end of the conus terminalis to the second cervical segment. The microscopic examination explained satisfactorily the symptoms observed in life.

Rapidly Fatal Cerebritis Resembling Cerebro-Spinal Meningitis.—This was a joint paper by DR. JAMES HENDRIE LLOYD and DR. JOSEPH SAILER, of Philadelphia. The writers called attention to the fact that fulminating cases of the infectious diseases, such as small-pox, scarlatina, measles, typhoid fever, and spotted fever, occur in which the diagnosis is exceedingly obscure and the disease is usually quickly fatal. These cases as a rule have their most marked symptoms in the nervous system. There is delirium passing into coma, with depressed cardiac and respiratory centres, with high fever, and in the cases of the exanthema often a purpuric or hemorrhagic eruption not always characteristic. These cases demand especially two things, first, the determination of the exact effects

upon the nervous system, and second, the determination of the microbe or toxic agent at work in any given case. The writers could attempt only the former study, as the paper was not intended to deal with the bacteriology of the subject.

The patient was a man, aged twenty-four years, who was taken suddenly with a chill followed by fever and intense cephalalgia and radialgia. The patient passed rapidly into a condition of delirium merging into coma. Third-nerve paralysis supervened, and on the third day a copious purpuric eruption appeared. This eruption presented ecchymosis, and on the hands lesions like erythema nodosum. Blood and pus were found in the urine and vomiting of blood occurred before death. The patient died on the sixth day. The autopsy revealed disseminated local lesions in the cerebrum, mid-brain, pons, and post-oblongata; some migrated leucocytes in the perivascular spaces, little involvement of the membrane, and a diffused nephritis. From extensive microscopic research the writers were able to report a disseminated local cerebritis. The infection had invaded the brain by way of the connective-tissue structures, blood-vessels, etc., and the nerve tissues proper were invaded secondarily. From the clinical standpoint the case probably comes under the head of "spotted fever."

DR. OSLER said he would have liked to hear in regard to the condition of the kidneys in the case reported. The diagnosis of cerebritis and encephalitis can be readily made between cases of infectious fever and the former. Unless the basal meninges are involved we cannot make a positive diagnosis of meningitis, as all those symptoms, such as retraction of the head and clonic contractions of the muscles, may be present in pneumonia and yet nothing be found at the autopsy.

DR. PUTNAM agreed with the previous speaker that so-called meningeal symptoms may occur without meningitis.

DR. CHARLES K. MILLS and DR. WILLIAM G. SPILNER, of Philadelphia, reported the following case: The patient had never had earache, but had suffered during the summer of 1895 from severe headache. On December 20, 1895, he became unconscious and had three general convulsions which resembled those of epilepsy. It was noticed that he was partially paralyzed on the right side and that he could not talk properly. His condition later improved very much. On January 29, 1896, he had another attack of partial unconsciousness without convulsions, but with aphasia and decided paralysis. On admission to the hospital he was in a condition of stupor, he did not speak when addressed, and had almost total right-sided paralysis, incontinence of urine and feces, and entire loss of pain and touch sense over the paralyzed side. He was found to have right homonymous hemianopsia, and double papillitis, most marked in the left eye. Death occurred February 26, 1896. There was no evidence at any time of middle-ear disease. At the autopsy an abscess was found in the left hemisphere, just above the level of the callosum. Both tympanic membranes were normal. Microscopic examination of the pus from the cerebral abscess revealed only the ordinary staphylococcus pyogenes aureus. The occurrence of epileptiform convulsions at the time of the first attack of unconsciousness, probably due to irritation of the motor fibres within the internal capsule, is worthy of note as an instance of the difficulty in diagnosing cortical lesions. It is not known in what portion of the body these convulsions began. The diagnosis was made of some morbid process located at the posterior part of the internal capsule involving the optic radiations and causing pressure. The abscess occupied the posterior part of the external capsule, a portion of the lenticular nucleus, and extended

downward into the subthalamie region, but to all appearances had not cut the fibres of the optic radiations nor those of the internal capsule. The loss of function in these tracts was probably due to pressure. The white matter of the first temporal gyrus was almost entirely destroyed, and fibres from the upper anterior part of the second temporal were also cut. As the cavity was very near the periphery of the first temporal convolution it would not have been difficult for the surgeon to have emptied it. Hearing was probably not seriously affected, although word deafness appeared to be present. In view of the frequency of cerebral abscess after suppurative processes in the lungs, it may be added that merely spots of catarrhal pneumonia were found in both lungs at the autopsy. No degeneration was noticed anywhere in the motor tract. At all parts a good half-inch of sound tissue existed at the posterior part of the internal capsule in the area corresponding to the optic radiations and the tract of Türck. It has been claimed by Déjérine that fibres arise in the temporal lobe (especially in the second and third convolutions), pass inward below the putamen, join the posterior part of the internal capsule in the subthalamie region, and then form approximately the external fifth of the cerebral peduncle. No fibres from the occipital lobe are found in this lateral bundle of the crus. Déjérine has found this tract of Türck degenerated in six cases of lesions involving the middle and inferior part of the temporal lobe.

In this case the fibres from the first temporal gyrus were almost entirely destroyed as well as those from the upper anterior part of the second temporal convolution, and as no degeneration has been found within the lateral bundle of the peduncle by the method of Marchi, sixty-eight days after the first attack and twenty-eight days after the second, certainly a period sufficiently long for this method, we consider that the case demonstrates the fact that no fibres from the first temporal and the upper anterior part of the second temporal gyrus, including a portion of the upper middle of this gyrus, enter the fasciculus of Türck. This, of course, does not render impossible or improbable the origin of such fibres in the lower anterior and the whole of the posterior part of the second temporal, and in the whole of the third temporal gyrus. The fibres which enter the first temporal gyrus are probably connected with the sense of hearing, and being sensory probably do not degenerate downward, which accounts for the absence of secondary degeneration in the peduncle.

The Surgical Treatment of Focal Epilepsy; a Critical Analysis of the Result in Nineteen Cases.

—DRS. B. SACHS and A. G. GERSTER, of New York, presented a paper with this title. For the last six years the authors have attempted to study in a thoroughly unbiased fashion the results of the various surgical procedures for the cure or relief of partial epilepsies. They include not only cases due to traumatic injury, but those associated with infantile cerebral palsies or some other acute cerebral condition. Their list of cases does not, however, include those in which the epilepsy is due to tumor. Before detailing their own cases the authors lay special stress upon the unsatisfactory results to be gained by a mere statistical inquiry of the cases reported in literature. The majority of these are reported either too early, or, if reported, the cases are not properly analyzed. It is their opinion that the results after operative procedures for the cure of epilepsy should not be considered unless at least a period of one year has elapsed since the time of the operation. But they also state that it is not well to exclude all cases in which the attacks return soon after the operation, for in some of these decided improvement sets in later on. A number of authors have condemned every surgical procedure

without in the least attempting to account for the failure to cure or to improve the patient. Thus the mere fact of an addiction to alcohol is of itself sufficient to explain the failure to cure epilepsy by operative procedure. The epilepsy which is developed after a traumatic injury or in association with infantile cerebral palsies is evidently due to secondary degeneration of the association fibres in the hemispheres, for this degeneration originates from the focus of diseased tissue, and the epilepsy is generally developed in the course of a year or two. In this same period of time the epilepsy often appears after the initial injury. Horsley's proposition to excise the diseased tissue and thus prevent the epilepsy is considered to be based upon sound physiological principles, but in practice the results have not been so satisfactory as was expected, and the authors attribute this chiefly to the fact that after an epilepsy has lasted for a number of years and after secondary degeneration has been fully established, the excision of the original focus of disease cannot be expected to do good. It is important therefore, if possible, to prevent the formation of secondary degeneration in the hemispheres by excision of the diseased tissues, or to prevent epilepsy by early surgical procedures in the case of depression of the skull and other cranial injuries. The authors' nineteen cases have been minutely tabulated with reference to the origin of the trouble, the interval elapsing between the traumatic injury or beginning of the epilepsy and the operation. The analysis of the nineteen cases shows that three were positively cured, two greatly improved, three somewhat improved, while in eleven cases there was absolutely no improvement. A study of all the cases shows that those in which there has been improvement the operation was done within a period of two years after the traumatic injury or the beginning of the disease. The same is true of those cases that were greatly improved but not cured, the failure to cure in these cases being ascribed to other causes, such as alcoholism or want of proper care after operation. The authors' views and experiences are summed up in the following conclusions:

1. That surgical interference is advisable in those cases of partial epilepsy in which not more than one or at the utmost two years have elapsed since the traumatic injury or beginning of the disease which has given rise to the convulsive seizures.

2. In case of depression or other injury of the skull surgical interference is warranted even though a number of years have elapsed, but the prospect of recovery is brighter the shorter the period of time since the injury.

3. Simple trephining may prove sufficient for a number of cases, and particularly in those cases in which there is an injury to the skull, or in which a cystic condition is the main cause of the epilepsy.

4. Excision of cortical tissue is advisable if epilepsy has lasted but a short time, and if the symptoms point to a strictly circumscribed focus of disease.

5. Since such cortical lesions are often of a microscopical character, excision should be practised even if the tissue appears to be perfectly normal at the time of operation, but the greatest care should be exercised in order to make sure that the proper area is removed.

6. Surgical interference for the cure of epilepsy associated with infantile cerebral palsies may be attempted, particularly if too long an interval has not elapsed since the beginning of the palsy.

7. In cases of epilepsy of long standing in which there is in all probability a widespread degeneration of the associated fibres, every surgical procedure is absolutely useless.

A Contribution to the Pathology of Epilepsy and a Résumé of the Utility of Operations in Epilepsy.
—By DRS. JOSEPH COLLINS and A. WIENER, of New

York. This was a report of two cases in which a portion of the cortex was excised. The first case was that of a young man, twenty years of age, with the usual symptoms of focal epilepsy, the patient having had but three attacks. The cortical area for the right hand was cut out. Microscopical examination of the tissue showed chronic meningo-encephalitis, obliterative changes in the blood-vessels, changes in the ganglion cells of a degenerative character, and the formation of neuroglia tissue in the softened area. The patient was operated upon a year ago and has since been free from epileptic attacks. The second case was that of a married woman, thirty years of age, who had epilepsy for six years of a focal character at first, which later became general. A similar operation was performed and the cortex showed unmistakable pathological changes.

DR. W. W. KEENE, of Philadelphia, and H. M. THOMAS, of Baltimore, reported a case of a large tumor removed from the brain with wide opening of the lateral ventricle. The patient, a young man of nineteen, with an excellent family and personal history and no history of accident, in December, 1895, had an attack of intense headache and vomiting, but without optic neuritis. The latter symptom followed in the middle of January, with later blindness in the right eye, slight vision remaining in the left; slight protrusion of left eyeball, pupils equal and normal; smell, hearing, and taste unaffected; paresis of the lower right face; sensation and the muscles of mastication unaffected, no muscular weakness in either the arms or legs, but a good deal of muscular restlessness of the right hand, persisting even during sleep; reflexes present; mental condition poor. He was dull and apathetic and sometimes slightly wandering mentally. After the early headache and vomiting, neither of these was a marked feature. There was slight aphasia. Drs. Osler and Starr saw the patient with Dr. Thomas, and the conclusion was reached that it was a tumor in the left frontal lobe, most likely at the base of the second frontal convolution and probably subcortical. On May 10th, Dr. Keene operated. The tumor presented through a rupture of the cortex at the base of the second frontal convolution, as had been diagnosed. The tumor was easily scooped out by the fingers. The lateral ventricle was then seen to be widely open. After the operation there was no increase of the paralysis. In two weeks the patient had entirely recovered. The tumor was 7.5 centimetres long, 5.5 centimetres broad, and four centimetres deep, and weighed two and a half ounces. It was a hard non-infiltrating sarcoma.

All of the foregoing papers were discussed collectively.

DR. A. G. GERSTER, of New York, confined his remarks principally to craniotomy in reference to cases of epilepsy. He spoke of the dangers in the use of the trephine and chisel and recommended the bone-flap operation as introduced by Krause and performed by aid of the chisel and rongeur. He considered all of these methods unsatisfactory and too slow. Incidentally he exhibited Krause's electrical saw.

The greatest danger in cranial operations is due to hemorrhage on account of the prolonged time of the operation. Therefore any apparatus is desirable that will enable the surgeon to work with rapidity and safety. He presented an American apparatus based on the principles of the dental drill, and said he had used the instrument with satisfaction in four cases.

DR. M. A. STARR had seen twenty-four cases operated upon, but none was cured. He has never recommended, and will not recommend, operation in idiopathic epilepsy. He has always had the advantage of a skilful operator. These operations should only be done by surgeons who have special experience in this

line of surgery and not by the general surgeon. The excision of cysts is very unsatisfactory, as death on the table has often followed. He had seen cases operated on very early in infantile epilepsy due to meningeal hemorrhage without favorable result. When brain tissue, either scar tissue or normal tissue, has been excised, the attacks have also recurred. Of eleven patients with brain abscess operated upon, three recovered. All of these cases were seen at the various hospitals and were usually subsequent to ear disease. He could not agree with Macewen's view as to the simplicity of diagnosis of cerebral abscess. He thought the day of trephining was over. The last operation witnessed was done in fourteen and a half minutes by chisels and gouges.

DR. W. W. KEENE spoke at length on the report of the case presented conjointly by him and Dr. Thomas, and considered the prognosis favorable. The removal of large tumors seems to be less dangerous to life than that of small ones, as in the search for the latter we are likely to damage the brain extensively. It is only within the last ten years that cranial surgery really began. His experience had been moderately large. He agreed with Dr. Starr, as he (Dr. Keene) had not seen a single case of epilepsy cured by operation. He would be unwilling to accept even two years, but thought three years preferable as the limit for disappearance of attacks after operation. He had, however, seen considerable amelioration, and therefore thought it worth while to operate in certain cases. He would not operate in cases of general idiopathic epilepsy. The sooner the operation is done after the injury or the beginning of epilepsy the more favorable the prognosis. After epilepsy had existed five or six years, he would hesitate in operating. He concluded that we must have twenty years of experience in cerebral surgery before this matter can be satisfactorily settled by the profession.

DR. J. R. LLOYD presented a patient with right hemiplegia and contracture, unilateral sweating and flushing of the face and dilatation of the pupil, and looked upon the latter symptoms as due to an irritative lesion of the thalamus.

Third Day—Friday, June 5th.

Edema of the Eyelids in Graves' Disease; Thyroidectomy.—DR. J. ARTHUR BOOTH, of New York, read a paper on this subject (see p. 45).

DR. STARR expressed the opinion that operations in these cases were not always safe, the percentage of death being twelve out of one hundred and eighty-seven cases. Sudden deaths have occurred soon after the operation. They were not due to surgical shock, but to the absorption of thyroid juice during the operation, thus overwhelming the system by its toxic properties. The operation of thyroidectomy should not be done indiscriminately.

A Form of Mental Disease Clinically Resembling Certain Stages of Paretic Dementia.—BY DR. E. C. SPITZKA, of New York. The reader had found in a long experience sixteen cases of an affection most important to differentiate, as the termination was in recovery. So close was their resemblance *pro tem.* to paretic dementia, that in every instance that or the equivocal diagnosis of "softening" had been made. The writer himself had at first regarded them as pertaining to Voisin's atheromatous insanity or to his own group of primary mental deterioration. The speech disturbance was peculiar, being more like that of febrile delirium than that of a toxic or organic anarthria. By concentrating his attention, the patient could correct his errors, and it was the longest words and those of most difficult enunciation which he pronounced as readily as most persons of average health

and education. Repeated trials rapidly fatigued him, and while no real parietic speech could thus be provoked, he was as apt to say "there is rumthing sodden in the den of statemark" as to quote the passage correctly. When an expression failed him, he displayed considerable skill in circumscribing his meaning by the use of metaphorical or parallel expressions. A similar feature was found in that similar condition—bromism. The earliest case of which he had a record occurred in October, 1879, and was recorded by him as one of chronic confusional insanity, with a reservation as to probable atheromatous sequelæ. The patient exhibited a typical confusional delirium. His age (sixty-four), the arcus senilis, the tortuous temporal arteries, and the characteristic pulse were suggestive. He was promptly committed to an asylum on his advice. In February, 1881, he appeared in his office, and had made a recovery. This patient was alive and in good health three years ago. Among the etiological factors, syphilis and alcohol could be excluded. Grippe, malaria, railway injuries, dysentery, and chronic bronchitis played a predisposing rôle. Recovery occurred in from four to fourteen months. The ages of his patients ranged from forty-eight to seventy-one years. He had found the last eleven cases recorded among males exclusively not quite two per cent. of a group of cases including five hundred and eighty-five parietic dementes, forty-one of atheromatous mental trouble, and twenty-eight of primary mental deterioration.

Nerve Disturbance from Indigestion.—By DR. HENRY S. UXON, of Cleveland. The paper dealt with the nervous disorders arising from intestinal indigestion. Three cases were given, one of the nervous phenomena arising in typhoid fever, in brief as follows: A young man of twenty-four was seen at the end of the first week of typhoid. Besides the typical temperature curves, enlarged spleen, nose-bleed, backache, and other symptoms, he was even thus early somewhat delirious during the day and quite sleepless at night. Thymol and hydrochloric acid failed to relieve, one-sixth of a grain of morphine with twenty grains of Dover's powder did not produce sleep, and within a week there were coma, vigil, and subsultus tendinum. The bowels had been throughout very constipated. During the third week of the disease sleep followed very promptly the clearing of the bowels by calomel, an eighth-grain every hour during the day and every two hours during the night. The second case was of a merchant, sixty years old. He was seen two weeks after recovery from a severe attack of dysentery. The diarrhœa had been checked by the free use of opium. He was in a state of what may be termed restless melancholia. He was very nervous, cried easily, slept almost none. There were rumbling and moderate pain in the bowels, with occasional somewhat offensive movements. The patient was given strontium salicylate and calomel, and was restricted to a milk diet. He began to sleep fairly well at night, was contented to remain in the hospital, and his extreme pallor and fairly marked anæmia with his other symptoms improved slowly but steadily. The third patient showed a similar train of symptoms after a mental shock. She gradually developed a condition of depression, nervous irritability, and sleeplessness after hearing suddenly that her husband had accidentally shot himself, and in spite of the fact that he made a good recovery. She was first seen five months after this event. In addition to the symptoms already given, she had rumbling and some tenderness of the bowels, but there was neither diarrhœa nor marked constipation. Her condition improved promptly on a milk diet and one of the salicylates. Conclusions were not warranted from so few cases, but the author believed from a somewhat extended experience in these cases

that the type of nerve disturbance found in typhoid, and in connection with and after dysentery and diarrhœa, is found in intestinal indigestion without the intervention of these disorders, may easily be confounded with mild melancholia and neurasthenia: it presents many points of similarity to nicotine poisoning, it must be carefully differentiated from nerve disorders arising by reflex, it is amenable to treatment, which should not consist exclusively in the administration of an antiseptic.

Report of the Committee on Neuronymy.—DR. B. G. WILDER presented the report.

Among the recommendations of the committee were:

1. That the adjectives dorsal and ventral be employed in place of posterior and anterior as commonly used in human anatomy, and in place of upper and lower as sometimes used in comparative anatomy.

2. That the cornua of the spinal cord and the spinal nerve roots be designated as dorsal and ventral rather than as posterior and anterior.

3. That the costiferous vertebræ be called thoracic rather than dorsal.

4. That the hippocampus minor be called calcar; the hippocampus major, hippocampus; the pons Varolii, pons; the insula Reilii, insula; pia mater and dura mater respectively pia and dura.

5. That, other things being equal, mononyms (single-word terms) be preferred to polyonyms (terms consisting of two or more words).

Newspaper Rabies.—This was the title of a paper by DR. IRVING C. ROSSE, of Washington, D. C. He referred to the frequency with which hydrophobia was mentioned by the public press at this season. Late papers on the subject show that there is still a chaotic knowledge of this badly elucidated affection, concerning which surgeons and neurologists are by no means agreed. From examining a great mass of literature relative to rabies, while working on the index catalogue of the surgeon-general's office, Dr. Rosse stated that he came across hundreds of references to hydrophobia of a spurious character, and that these references date from the Homeric era to that of Cellius Aurelianus. Much other literature was also cited, showing that in by-gone times there were skeptics as to the existence of such a pathological entity as hydrophobia. As an extensive traveller in parts of the world where this disease is supposed to occur geographically, he had never seen a case, nor had he any authentic knowledge of one from personal observation. The secretary of the Japanese legation in Washington says he has never known of a case in Japan, and that in Corea, having more dogs than any other country in the world, hydrophobia is unheard of. A few Italian and French physicians and the newspapers appear to be the chief contributors at the present time. The reader thought that, in view of the uncertain state of knowledge of the subject, the newspapers are hardly to blame for reckless accounts of hydrophobia, since they only hold the mirror up to nature, and, reflecting public sentiment, give us, so to speak, a radiograph of what is passing in the minds of medical men.

The Collateral Theory of Epilepsy.—DR. F. W. LANGDON, of Cincinnati, presented a paper entitled "Epilepsy and Other Convulsive Diseases—A Study in Neuro-Dynamics." His conclusions were:

1. That epilepsy, the choreas, and probably most of the convulsive disorders are the dynamical expression of an inhibitory insufficiency, not indications of overproduction of nerve energy nor "explosions" due to a "molecular instability" *per se*.

2. That the cause of this inhibitory insufficiency is to be sought for in the end brushes of the collateral processes of various cortical neurons, the situation varying with the "type" of the disease, whether sensory, psychic, or motor.

3. That the defect consists most probably in a structural incompleteness (small capacity, defective insulation, imperfect contact) or a numerical deficiency, or both, in the collateral processes of the neurons referred to.

4. Defective collaterals may favor occurrences of convulsions in two ways: (a) by impairing connection with other neurons (inhibitory, storage, etc.); (b) by increased resistance to "overflow currents" causing temporary overcharging of motor axis cylinders. This conception of the anatomico-dynamic basis of convulsive phenomena he would call "collateral theory."

On this basis cases of epilepsy are classed under three groups, each of which presents important differences as regards prognosis and treatment.

1. Primary, or developmental type, comprising the "idiopathic" cases under twenty years of age. In these, the younger the subject and the better the heredity and environment, the better the prognosis under intelligent treatment, ultimate result depending on the possibility of promoting further and equable development of collateral communications with inhibitory mechanisms.

2. The "accidental" forms: These are due to trauma, syphilis, lead, toxins, etc. The prognosis varies with the longer or shorter duration and the possibility of removal of the cause; being always favorable so long as permanent structural changes in collaterals and inhibitory mechanisms have not occurred.

3. The "degenerative" type: The rare cases of adult life and old age (not accidental) belong in this category. Here palliation only is to be expected, as in the case of degenerative changes elsewhere. In all forms the rational indications for treatment are: To lessen the incoming sensory excitation, by diet, occupation, medicines; and so lessen the intensity of motor responses which are not provided with suitable overflow and inhibitory mechanisms.

Election of Members.—The following-named gentlemen were elected to active membership: Dr. F. K. Hallock, of Cromwell, Conn.; Dr. John Punton, of Kansas City; Dr. Alfred Wiener, of New York; Dr. Henry J. Berkley, of Baltimore; Dr. F. W. Langdon, of Cincinnati.

Election of Officers.—The officers elected for the ensuing year were: *President*, Dr. M. A. Starr, of New York; *Vice-Presidents*, Dr. H. R. Stedman, of Boston, and Dr. H. S. Upson, of Cleveland; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York; *Councillors*, Dr. F. X. Dercum, of Philadelphia, and Dr. Joseph Collins, of New York.

Epispadias.—The following operation for the relief of epispadias seems theoretically correct and has yielded satisfactory results in two cases. The steps are as follows: 1. A perineal fistula, made by cutting from the outside, upon the finger introduced into the bladder above to distend the perineum or by the use of Watson's perineal drainage tube. The subsequent steps may be proceeded with at once or ten days after, when time and rest have allowed drying and healing of excoriations. 2. Dissecting-up of the urethra, which lies open upon the upper surface of the perineum. 3. Separation by blunt dissection of the loosely connected cavernous bodies. 4. The urethra, laid in the gutter then formed, is secured by two sutures through lower floor of urethra and skin of under surface of penis. 5. The free edges of the urethra are united with continuous catgut ligature over a silver catheter extending to bladder. 6. The cavernous bodies are then united with continuous catgut and the skin, which is usually abundant, with interrupted silkworm gut.—CANTWELL (*Annals of Surgery*, December, 1895).

Surgical Suggestions.

Surgery of the Lung.—Dr. Paul Reclus, at the ninth French Surgical Congress (*La Médecine Moderne*, October 23, 1895) discourses on this subject and concludes: 1. That surgical interference in cases of tuberculosis must be proscribed. 2. In primary cancer no conditions can arise in which pneumonectomy would be feasible. 3. Where there are cavities incision is sometimes a justifiable palliative measure. 4. Resection of a portion of the lung is a last recourse for hemorrhage. It has been successful in three reported cases. 5. Incision is beneficial in hydatid cysts, gangrene, and abscess. The intervention in these cases is radical, but sometimes saves the life of the patient.

Treatment of Fibroid Tumors by Ergot.—Prof. W. H. Byford begins his chapter on this subject as follows: "1. When properly administered ergot frequently greatly ameliorates some of the troublesome and even dangerous symptoms of fibrous tumors of the uterus, e.g., hemorrhage and copious leucorrhœa. 2. It often arrests their growth and checks hemorrhage. 3. In many instances it causes the absorption of the tumor, occasionally without giving the patient any inconvenience; at other times removal of the tumor by absorption is attended by painful contractions and tenderness of the uterus. 4. By inducing uterine contraction it causes the expulsion of the polypoid variety. 5. In the same way it causes the disruption and discharge of the submucous tumor."

Sterilization of Catgut.—The thread should be rolled on a piece of glass and left in ether a day, then put into nitrate of silver in a dark-colored vessel full of the solution. Prepared in this way the catgut preserves its flexibility. It should be kept in alcohol or juniper oil.—*Pract.*, No. 51, 1895.

The Relation of Trauma to Malignant Tumors.—Dr. Zugler reviews this subject in the *Münchener med. Wochenschrift*, Nos. 27 and 28, 1895. He bases his paper on the statistics of the last five years in the surgical clinic in Munich. In all there were 328 cases of carcinoma, 117 in men and 211 in women; and 171 sarcomas in 81 men and 90 women. After deducting tumors of the mamma and genital organs there were 108 tumors in men and 102 in women. In the carcinomas there was a history of single traumas 55 times. There had been chronic irritation 92 times. In the sarcomas a single trauma was noted 35 times, and 32 times chronic irritations (including warts) were at fault. Some cases of single trauma seem to stand in doubtful relation to the formation of the growth, but as a rule the new formation has been occasioned by injury. The writer bases his opinion on the continuation of the pains and swellings after the trauma, which go insensibly into the formation of the tumor. Dr. Ziegler adopts Virchow's irritation theory of the high percentage, twenty-five per cent. for single trauma, and eighteen per cent. for continuous irritation. The influence of trauma should be considered, no matter what theory of tumor formation one accepts. The subject becomes important in connection with medico-legal procedures and accident insurance.

Chronic Middle-Ear Suppuration.—Dr. Wilson (*New York Medical Journal*, March 28, 1896) says the continuance of the process is due to various causes, the most important of which are: 1. The development of granulation on the mucous membrane of the tympanic cavity. 2. The retention of masses of exudation. 3. Lesions of the bony walls of the cavities. 4. Disease of the naso-pharynx.

Hysterectomy.—Dr. Ashton (*Medical Bulletin*, January, 1896) says the conditions indicating hysterectomy for puerperal septicæmia are: 1. Suppurative inflammation of the uterus. 2. Tubal and ovarian abscesses. 3. Abscesses of the broad ligament. 4. Rupture of the uterus.

Vaginal Hysterectomy.—Dr. Davis reports twenty-one consecutively performed cases of this operation. It may be employed: 1. In all cases where we determine to perform double oöphorectomy. 2. In double pyosalpinx or salpingitis. 3. In single oöphoro-salpingitis where we have unyielding, chronic urethritis. 4. In severe displacements near the menopause and all others not yielding to treatment. 5. Tumors of the uterus, interstitial or subperitoneal, not exceeding a child's head in size. 6. In all cases of malignant diseases of the fundus and cervix, when not involving the vaginal or pelvic walls. 7. In small cysts and other growths of one or both ovaries and tubes near the menopause. 8. In all cases of chronic peri-uterine phlegmasia, with or without suppuration, not yielding to other treatment.—*Journal of the American Medical Association*, February, 1896.

Brain Surgery.—Dr. Edward D. Fisher, of New York, said that the indications for operation are (1) traumatism, (2) localized epileptic seizures, (3) athetosis with or without epilepsy, (4) tumors, (5) abscess, (6) cerebral hemorrhage, and (7) microcephalus.—*Report of Medical Society of the State of New York*, January, 1896.

Tumors of the Thyroid Gland.—Dr. Cook (*British Medical Journal*, June 8, 1895) considers the following conditions as indications for removal: 1. If the tumor be steadily increasing in size. 2. If there be troublesome pressure upon the trachea, œsophagus, or nerves. 3. If the tumor be so placed as to render impossible a possibly necessary tracheotomy. 4. If the patient strongly urge its removal because of its unsightly appearance or its interference with the movements of the head.

The Antiquity of Anæsthetics.—Dr. Hupp writes in the *New York Medical Journal*, March 28, 1896: "Morton discovered anæsthesia, and a priceless blessing it has been to mankind, for it has already saved thousands of lives and is 'destined for all time to come to compound the sum of human happiness.' But anæsthesia did not begin with the lamented Morton. We are told somewhere in the Holy Writ that 'a deep sleep was caused to fall upon Adam and he slept,' and it was during this sleep in the Garden of Eden we are further told of the first surgical operation: an exsection of a rib, for 'bone of his bones' was taken from his side and the flesh closed up instead thereof, and in this way his helpmeet Eve was fashioned and in 'soft attractive grace' brought unto him."

Gonorrhœa.—Dr. Janel (*Ann. des Mal. des Org. Gén.-Urin.*) uses potassium permanganate in the acute stage to prevent chronic inflammation of the urethra. The parts are thoroughly cleansed to remove all the gonococci possible and to prevent secondary infection. A dilute solution of sublimate should also be used. Superficial and fresh lesions of the bladder should be washed and treated with a solution of nitrate of silver administered a drop at a time. After infective germs are destroyed it is proper to begin instrumental examination. Superficial and fresh lesions may be treated as above, deeper and old lesions with dilatation, and localized inflammations with the urethral endoscope. Both parts of the urethra must be treated, even though the penile portion alone shows lesions.

Dr. Shoemaker thinks rest an important element and advises keeping the patient in bed a week, after hav-

ing first given a saline cathartic. All condiments and stimulants should be forbidden. The penis and scrotum should be supported. A blennorrhetic should be administered in small doses and the amount increased to the limit of toleration. Copaiba and cubebs may be given alone or in combination. An alkali may be given in addition, and in case of great pain a small quantity of morphine sulphate. Oil of sandalwood two or three times daily in five-minim doses is also an effective remedy.

Closing Arterial Wounds by Suture.—Dr. Heidenhain, in the *Centralbl. für Chir.*, No. 49, 1895, cites two previously recorded cases, involving in one instance the common femoral, in the other the common iliac. He also reports a case of his own, in which during the removal of some cancerous glands from under the armpit, and after necessary resection of a portion of the axillary vein, a wound about an inch and a half in length was accidentally made in the main artery. The bleeding was arrested by digital compression and the edges of the arterial wound were brought together by a continuous suture of catgut. The bleeding was thus completely arrested. The lumen of the vessel was not apparently diminished. The sutures held firmly in spite of strong arterial pulsation. The patient made a good recovery, and when last seen, seven months after the operation, was quite free from relapse. The axillary artery could be felt pulsating along the whole extent of the armpit.

Orificial Surgery.—The logical conclusion to be formed from the teachings of orificial specialists is that the rectum is the focus of existence, contains the essence of life, and performs the functions ordinarily ascribed to the heart and brain.—*New York Polyclinic*.

Cleft Palate.—Dr. Broca considers it unnecessary to wait until a child is two or three years old before operating. He does not hesitate to operate on a child of from three to six months old, provided it can have proper attention.

Hepatic Abscess.—Dr. M. Fontan (*International Medical Journal*), who has treated forty cases of abscess of the liver following dysentery contracted in tropical countries, adopts the following rules for operating: 1, a free incision eight or ten centimetres long; 2, the final resection of one or more costal cartilages to expose the abscess freely; 3, the separate suturing of the peritoneum and of the pleura; 4, the complete curettage of the cavity of the abscess.

Intestinal Anastomosis—Mannell's Method.—1. The longitudinal slit which is made in the segment of the bowel having the greatest calibre (proximal or distal), and through which the invagination occurs, should be located at least two inches from the cut end of the bowel. 2. The mesentery of both segments must be included in the first temporary suture which is passed at this intestinal border: this prevents sloughing of the bowel at this point. 3. The sutures should be placed at least a quarter of an inch from the cut intestinal edge; they should be interrupted, about twenty in number, and should not be drawn too tightly when they are tied. 4. The best suture material for the work is carefully tested and prepared horsehair. 5. The needle best adapted to this work is a round, straight one (milliner's, Nos. 6 to 9). 6. The invagination, after the sutures have been placed, must be carefully reduced, rather by manipulation than by traction: otherwise the sutures may cut out. 7. In closing the longitudinal slit, too much of the intestinal edges should not be turned in, or a contraction may result at this point.—WIGGIN, *New York Medical Journal*, December 14, 1895.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL COUNCIL—COMING ELECTIONS—ARMY MEDICAL SERVICE AND ITS GRIEVANCES—SPLENIC ANÆMIA—LORD KELVIN'S JUBILEE—HOSPITAL SUNDAY—SIR T. G. LOGAN.

LONDON, June 19, 1896.

THE General Medical Council having finished its session, we are now speculating on the results. Some important questions which were postponed may perhaps be determined differently from what would have been the case had the vote been taken at the late meeting. Some new members appeared at the last session, as I have already reported, but there will be more new blood at the next, as we shall have fresh elections for direct representatives. In Scotland, Dr. Campbell Black, an energetic reformer, will come forward as a candidate. The Rev. S. Haughton, M.D., has resigned the seat for Trinity College, Dublin. In England two of the three representatives, Sir W. Foster and Mr. Wheelhouse, have signified their intention not to seek re-election. In the letter announcing this they insist that they have never failed to advocate the views of their constituents, so far as compatible with the acts, and advise a "very deliberate and careful choice" of their successors. This would be a contrast to the manner in which they themselves obtained their seats, through the disgraceful action of the British Medical Association clique in direct opposition to a resolution of the association. But this old story was duly told by your correspondent at the time. It will be interesting to see if the early announcement is intended to prepare the way for a similar electioneering proceeding or only for a "very deliberate and careful choice."

On Tuesday Dr. Farquharson once more called the attention of the House of Commons to the army medical service with reference to the difficulty of obtaining candidates in consequence of the still unredressed grievances of the medical officers. He asked whether the new warrant spoken of would be promulgated before the next examination, but the official reply was most unsatisfactory and professed ignorance as to whether a warrant would be issued. The case of Surgeon-Captain Fowler comes before the house to-day, and unless "my military advisers" retreat there may be an unpleasant quarter of an hour for them. Dr. Anderson's case is being pushed by the Civil Rights Defence Committee, and there are other object lessons for the public and Parliament which may lead to retribution. As to army surgeons, the authorities expected to get a supply from the Irish schools, but the most influential teachers there have warned the students that if they become candidates before a satisfactory warrant is issued they will injure those already in the service and have to submit to the grievances under which their brethren labor.

A considerable number of army men were at their annual dinner on Monday, when the new director-general of the department was in the chair, supported by his predecessor. Of course this was no occasion for the ventilation of grievances.

Splenic anæmia has been before the Medico-Chirurgical Society. Dr. S. West related a case very fully, and several others were mentioned by different speakers, so that the disease would seem to be less rare than the number of recorded cases—about twenty—might lead us to suppose. The usual course of the disease is gradually increasing debility and occasional pain in the region of the spleen, followed later

by great anæmia with enlargement of the spleen, progressing to profound cachexia and death from asthenia. Sometimes there are hemorrhages, and in Dr. West's case these came on early and a hæmophilic condition ensued. There was also œdema of the larynx necessitating tracheotomy, but the operation wound did not heal, oozing continued, and at length hemorrhage was sufficient for blood to be sucked into the air passages and prove fatal. At the post-mortem the liver weighed ninety-three ounces, the spleen seventy-six. The latter was soft, and one infarct was found with a state of slight cirrhosis. Both these organs are usually in this state. Some cases are said to have been benefited by arsenic. The spleen has been removed for this disease by Sir S. Wells and by Mr. Gould, who gave an outline of his case and thought the operation a justifiable one. A case of the disease in a girl of thirteen was mentioned, one in a boy of sixteen, another in a boy of ten. But there seemed to be some doubt about the last two. As the disease is rare and resembles the effects of malaria as well as cirrhosis of the liver, the diagnosis is difficult and not to be made without examination of the blood. Dr. Kanthack insisted that the blood should be examined in all cases of anæmia in order to obtain a more extended standard for comparison. The examination should not be confined to counting corpuscles and estimating hæmoglobin, but the different stains introduced by Ehrlich should be used to distinguish the several forms of leucocytes. Von Limbeck has suggested that splenic anæmia is only the last stage of the severe anæmia of rickets or of syphilis, and some of the cases seem to support the suggestion, while others are scarcely compatible with it. Those which have recovered should be particularly scrutinized in these respects, as should also those in which no post-mortem has been obtained. Besides splenic anæmia, the terms splenic cachexia, splenic pseudo-leukæmia, lymphadenoma splenica, spleno-mégale primitive, etc., have been applied to these cases.

I need only mention the splendid celebration of the jubilee of Lord Kelvin's work at the Glasgow University. The feats of the telegraph on the occasion will have familiarized your readers with the event and most of its interesting features.

The jubilee of chloroform is talked about as a suitable celebration for next year, but no active steps have been taken to organize it, and the question would be raised, why not make it embrace all anæsthetics?

Hospital Sunday has passed. Up to last night nearly £17,000 had been received at the Mansion House. This seems small compared with last year's total, but it is not without promise; for up to the same time last year the amount actually remitted was less by some £2,000. We must wait till the later amounts come in to make a profitable comparison.

Sir T. G. Logan, K.C.B., honorary physician to the Queen, formerly director-general of the army medical department, died on the 11th inst., aged eighty-seven. He had a very distinguished career and received many honors. He was a *persona grata* in regimental and official life, a genial companion, able administrator, and shrewd observer.

Fractures.—Having had some experience in malpractice suits, I make it a rule to give my patients with severe fractures a worse prognosis than I really expect and I always have witnesses to this. To the laity all fractures are alike, and because "Dick" had a broken leg which united perfectly, "Tom's" leg, which was fractured in the same place, must necessarily also become perfect. If this result is not reached, it is due to the doctor's ignorance or carelessness.—DR. KURTZ, *Southern Cal. Pract.*

OUR PARIS LETTER.

(From our Special Correspondent.)

SALTS OF COPPER AS COLORING MATTER IN CANNED VEGETABLES—DAMAGE TO PUBLIC HEALTH CAUSED THEREBY—PROTEST AGAINST USE OF—FOREIGN MEDICAL STUDENTS AND DOCTORS IN PARIS—GOVERNMENTAL MEASURES REGARDING THEM—THE PRACTICE OF MEDICINE—INTERNATIONAL CONGRESS OF SURGERY—INSTITUTE PASTEUR—LABORATORY APPROPRIATION, ETC.

PARIS, June 20, 1896.

THE addition of the salts of copper to vegetables sold in cans, in order to impart to them a brilliant green color, is always deleterious to the public health, and although many, perhaps the majority, escape any direct evidence of harm—such as epigastric pain, intestinal paroxysms, diarrhœa, colitis, etc.—yet mischief is done all the same; not so much because the salts of copper are cumulative, which they are only in an exceedingly small degree, but because of the effect upon the mucous membranes, which in very healthy persons may resist for a long time but finally yield to the constant irritation caused by their prolonged use. When green vegetables are cooked they assume a yellowish tint; yellow from an æsthetic point of view is certainly preferable to green, and from a physiological one less dangerous to health. It appears that manufacturers of canned vegetables in France are authorized to prepare their goods with the addition of a certain quantity of the salts of copper, which the public ignores, and Professor Duclaux, professor of biological chemistry at the Faculty of Sciences of Paris, expresses an official opinion that the public should be more thoroughly warned against the use of canned vegetables, and that the consultative committee of hygiene should obtain from the public authorities a decree in these terms or their equivalent: "The salts of copper are too little dangerous to prohibit their use altogether, but manufacturers who employ them do so upon their own responsibility, and all the accidents caused by their products are to be placed to their account, even though it be demonstrated that the can that caused them did not contain more copper than other cans remaining inoffensive."

It is to be hoped that the campaign so well begun by Professor Duclaux may be carried to a successful issue, with decided benefit to the public; it is rather remarkable, however, that while upon the subject, no mention was made of the many cases of lead-poisoning that may be and have been caused by canned vegetables and fruits, leaving coloring matter entirely out of the question, and attributable to the metal of the can itself.

At a recent meeting of the Chamber of Deputies, in reply to a communication addressed to him with reference to foreign medical students, the minister of public instruction replied in the following sense: The law of November 30, 1892, regarding the practice of medicine in France, having given rise to some errors concerning the obtaining of the degree of doctor in medicine by foreign students, the government has taken certain measures to remedy them. Nevertheless, it is important to respect the international conventions or agreements relative to this question.

There are actually in the different faculties of medicine of France at present ten hundred and fifty-four foreign students, or twelve per cent. of the total number of medical students. The greater part of these foreign students belongs to Russia, Roumania, Bulgaria, and Greece. England and the United States furnish the smallest contingent. It will be observed that all of these countries, with perhaps England as the only exception, are born to political and scientific

life more recently than France, the presence of these foreign students in French faculties being, therefore, an evident proof of the superiority of French instruction. To close the doors of our establishments to them would be a mistake, for most of them come to France only to pursue their studies, and, these terminated, they return to their native countries. The minister, in terminating, announced that he was devising a means to deliver to foreign students not provided with French qualifications, and having terminated their studies, a special diploma of doctor in medicine, not carrying with it the right to practise on French territory.

After this reply of the minister, Professor Lannelongue, the eminent surgeon, proposed a resolution, which was accepted by the government, inviting the minister of public instruction to depose a project of law upon the situation of foreign doctors and medical students in France.

To obtain the right to practise medicine in France, foreign students, and doctors of other faculties as well, will probably in the near future be obliged to become naturalized Frenchmen, to serve in the army, and pass all the regular examinations at the school of medicine besides. On these conditions the medical schools of France are open to the students of all countries. This sounds very liberal, but when read thoughtfully, and taking into consideration the fact that a thorough knowledge of the French language is also requisite and necessary, the already existing difficulties are only multiplied and amount practically to exclusion. Very few young Americans desiring to establish themselves in Paris would, if they could accomplish it, be willing to comply with all these requirements, and older members of the profession would not think of it.

The Faculty of Medicine and the profession at large are taking much interest in a project which also touches the American faculties and profession in general as well; namely, the organization of an international congress of surgery, that shall hold sittings at regular intervals in the four following countries: Great Britain, the United States, France, and Germany. The official languages of the congress shall be French, English, and German, and the first international reunion of surgery will take place in London, in 1900.

A movement against the Institut Pasteur has been started by certain interested parties, who accuse the successors of Pasteur of transforming the institute into a shop. It seems that to-day the important matter is not whether the serum is good or bad, whether the discovery is real or only illusory, but whether the Institut Pasteur, that pious monument to public charity, does not inconvenience by its radiant expansion a host of pharmacutists and small dealers in medical wares. It should not be forgotten in this connection that Dr. Roux, who recently received from the French Academy a prize of 25,000 francs, gave the whole of it, from the first sou to the last, to the Pasteur endowment fund. It would seem that inoculations, although they may cure hydrophobia and diphtheria, are powerless against envy and greed of gain.

The 250,000 francs appropriation for laboratories is, after all, not going to be had without some opposition and wrangling. Dr. Bourgoïn, in a speech made by himself in the Chamber of Deputies a few days ago, remarked that in his opinion the laboratories have been well endowed during the last few years. He continued: "When I made my experiments with our masters, Claude Bernard, Wurtz, and Berthelot, the government provided its laboratories liberally with long tables, chairs, blackboards, fountains, sinks, etc. As professors (*agregés*) we received 500 francs a year: that salary is now augmented to 3,000 francs in Paris and 4,000 francs in the provinces. As regards the regular professors, they receive at present from

6,000 to 9,000 francs in the provinces, and from 9,000 to 15,000 francs in Paris." Dr. Bourgoin thought that under the circumstances those who wanted to make individual experiments ought not to demand anything of the government.

The appropriation, however, is likely to be made. It is strange how easily doctors become politicians immediately after or even before election, and how willing they are to vote for measures oppressing their own profession.

GONORRHOEA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Herbert J. Hopkins' paper in to-day's issue cannot fail to interest the profession everywhere, as it presents a consensus of the current opinions on the treatment of gonorrhœa.

The doctor's elegantly written paper, however, contains some points on which we do not fully agree. The salient ones of these are in his comparison of gonorrhœal ophthalmia and gonorrhœal urethritis. While indisputably there is no difference in their pathology, the organs affected differ so widely in a mechanical sense that the same treatment may not apply to both. But I will not presume to discuss eye-affections, on which the author is certainly better informed than I.

Dr. Hopkins will not take it amiss that observation of the work of others and experience in the treatment of gonorrhœa have given me views diametrically opposed to his. I may sum them up as follows:

1. Gonorrhœa is not a self-limiting disease; if it were, we would not have that army of chronic gonorrhœas, which the treatment advocated in the paper under discussion has failed to affect.

2. It is not "impossible to shorten the course of gonorrhœa."

I have the records of a large number of acute cases, treated according to the formula published in the *Clinical Recorder* for February, 1896, which show complete disappearance of the discharge within ten days. I have now the records of twelve cases in private practice, cured within three days. All these cases, of which I have preserved the microscopic slides, show gonococci in profusion. I call them cured: (a) because curetting the urethra and examining the product revealed the absence of bacteria; (b) because strong irritant injections of nitrate of silver made a week later produced a discharge which contained no gonococci; (c) because large quantities of beer drank two weeks or twenty days later produced no discharge; (d) because sexual intercourse three weeks or thirty days later produced no discharge; (e) because urethroscopic examination showed a perfectly healthy urethra.

The above I attribute to careful, judicious employment of urethral and intravesical irrigations with graduated dilutions, mainly of potassic permanganate, and no other medication whatever. I even allowed those accustomed to it to drink a glass of claret at meals.

In chronic gonorrhœa—I mean true gonorrhœa with myriads of gonococci but uncomplicated—I have had as favorable results with a variation of the method published in the *New Albany Medical Herald* for November, 1895. I may cite a typical case: A physician of more than average good repute had for twelve years been "curing" his gonorrhœa on the plans so aptly recorded by Dr. Hopkins. His thick, greenish-yellow discharge was full of pus cells containing gonococci and the other microscopic concomitants of gonorrhœa. In five days the gonococci disappeared, three days later he discharge that had become muco-serous, ceased, and six months later—on Christmas Day—the

doctor insured me a substantial "morning drop" for the rest of my life, in the shape of a handsome diamond pin.

The MEDICAL RECORD for August 5, 1895, did me the honor to publish my paper on "Urethroscopy in Chronic Urethritis," in which this matter is more fully discussed.

As to the use of balsams: I showed them to be excellent culture media for gonococci in bacteriological investigations made in Berlin in 1894 and 1895. Of these a preliminary note was published in Pick's *Archiv* (Vienna and Leipzig, August, 1895). I hope to publish the paper in full in English, detailing the methods employed and the results obtained.

The author says: "During the first three weeks, the physician is indeed worthy of his hire who insures to his patient comfort and freedom from some one of the following complications: Balanitis, phimosis, paraphimosis, follicular abscess, lymphangitis, bubo, cowperitis, prostatitis, cystitis, epididymitis."

There are now, according to the above, one hundred and forty-two physicians in the United States worthy of their hire, not to mention Felike of Buda-Pest, Janet of Paris, Frank of Berlin, Goldberg of Cologne, and others in Europe.

My own experience since December, 1894, runs between twenty and twenty-five cases daily in private and dispensary practice. In not a single instance was the patient ever otherwise than comfortable after the first irrigation, and not a complication ever resulted.

George Knowles Swinburne has an experience almost double mine within the past twenty-seven months. He reports only one case of epididymitis, which he does not attribute to the irrigations.

These hasty notes are not penned to attack Dr. Hopkins, but in the hope that he may be led to investigate the treatment of gonorrhœa by hydrostatic irrigations. Then another far more able pen than mine will advocate them to the benefit of suffering humanity and the medical profession everywhere.

Through such writings haphazard will give way to the true scientific treatment of gonorrhœa.

FERD. C. VALENTINE, M.D.

242 WEST FORTY-THIRD STREET, NEW YORK, May 22, 1896.

The Waning Reputation of Colorado.—It was some time ago intimated in an Eastern paper that the streets of Denver were covered with the sputa of consumptives. The statement was not far from the truth. Unless very rigid measures for the prevention of the spread of consumption in Colorado are adopted and put into force, Colorado will become a "pesthole." One thing that may help us out in this country is the fact that the amount of rainfall seems to be on the increase. There is no question that Colorado has probably the greatest climate in the world, all things considered, for the average consumptive, yet, in our opinion, it would be a fortunate and glorious day for Colorado to lose that reputation. With a better understanding of the cause of consumption and better knowledge of its prevention and better facilities and methods for its treatment, climate will not long, we trust, be a desideratum in the management of this disease. We now look upon tuberculosis and realize that it is the most contagious of all diseases known to humanity. Every consumptive who walks along one of our sidewalks and deposits a lump of tuberculous matter, loaded with consumptive germs, is deliberately and, in most instances, intentionally doing that which will spread the very disease of which he is dying, and it was through just such criminal carelessness of some other consumptive that he contracted tuberculosis himself.—*Denver Medical Times*.

New Instruments.

A NASAL BAG.

By W. FREUDENTHAL, M.D.,

NEW YORK.

THIS small apparatus which I take the liberty of showing to you is intended to serve a double purpose. In the first place, it aids in controlling nasal hemorrhage. In an article on the etiology of post-nasal catarrh,¹ I have tried to show that in this city during the winter there are quite a number of hemorrhages from the nose which originate in consequence of the extraordinary dryness of the air in our rooms. I have experimented and find that at times we have as little as eighteen to twenty per cent. relative humidity in our houses. This lack of moisture has the effect of drying the nasal mucosa, which becomes cracked and frequently bleeds during the continuation of this drying process, which is induced by our artificial system of heating. Now, our text-books advise us to stop nasal hemorrhages by cauterizing the so-called locus Kieselbachii or any other affected part. However, if we take into consideration the etiology of the cases just mentioned, it will be evident that such treatment will render a mucous membrane which is already dry still more so. Therefore such patients have to return to the physician, until under more favorable climatic conditions the hemorrhages stop of themselves. Although such patients should have a course of systematic treatment, it is well to give them a means of stopping epistaxis at home or on a journey. For this purpose I believe this apparatus will be of good service.

It consists (see Fig. 1) of two equal-sized rubber bags, *A, A*, which are connected by a rubber septum, *s*. On the upper part of each bag there is an opening that is closed by a screw, *a*. Through this opening the bag can be filled with ice or anything else. The apparatus, therefore, consists of nothing more than two ice bags connected with each other. These bags are filled, put on the nose, and fastened around the head with the two bands, *C*. The apparatus is manufactured in three sizes by Messrs. George Tiemann & Co.

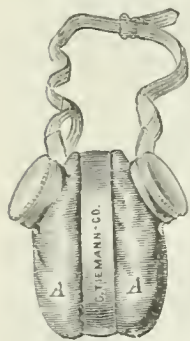


FIG. 1.

It will be advisable always to take that size which leaves open the introitus narium, at the same time, however, covering the whole external nose. The nostrils are to be left open for the purpose of plugging the nose. It is not at all objectionable that the bag should cover part of the forehead. But it will usually extend above the eyes, and for the protection of these organs it is best to cover them with some cotton.

I have repeatedly been called in consultation by colleagues in severe epistaxes, and I have always succeeded with comparative ease in controlling the hemorrhage. As a matter of precaution I invariably plugged the anterior nares, but each time I had the feeling that the ice bag had helped me essentially. During these manipulations the patient generally sat before me, either in his bed or, still better, on a chair.

In different operations under general anæsthesia I have used the ice bag as a prophylactic measure.

¹ Demonstrated before the physicians of the German Poliklinik, January 17, 1896.

² "Some Points Regarding the Etiology and Treatment of Post-Nasal Catarrh, with Remarks on the Hygiene of the Respiratory Organs," Journal of the American Medical Association, November 9, 1895.

Thus, I applied it three times during Ash's operation for deviation of the septum, and in other operations on the nose in which a severe hemorrhage was to be expected in plethoric or anæmic subjects. The bag was put on the nose as soon as or before narcosis was begun. It appeared to me that by the time anæsthesia was established the effect of the ice could be noticed. But my experience in this respect is too limited to allow any conclusions.

On the other hand, my extensive experience in stopping nasal bleedings of other kinds by means of this apparatus has convinced me that it is a positive help.

This apparatus serves also another purpose, *i.e.*, to abort acute coryza. In acute colds heat is found beneficial in other parts of the body, and, reasoning from this experience, I have applied hot water to the nose in this bag. The patient lies down and changes the water as soon as it begins to cool.

In addition I ordinarily use the small receptacle, *B* (see Fig. 2), which can easily be fastened to the bags.

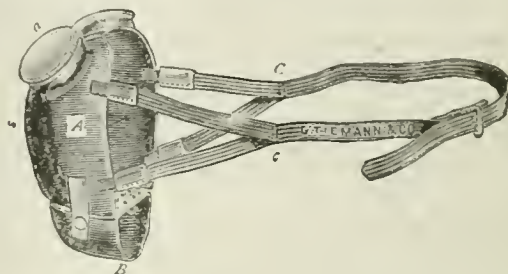


FIG. 2.

This helps to approximate the bags to the nose and will hold any medicament the physician chooses to use for inhalation. Thus, I have applied camphor or menthol in substance or in oily solution on cotton. These substances are thus inhaled constantly through the perforated roof of the receptacle, while at the same time, of course, the hot-water bags lie upon the nose. In this manner I have made it possible for some singers who came to me in the forenoon with a bad cold to use their voice in the evening. In other cases I have also had good results with this method, and I can therefore recommend it as a convenience to the profession.

943 MADISON AVENUE.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 4, 1896:

	Cases.	Deaths.
Tuberculosis.....	191	127
Typhoid fever.....	21	3
Scarlet fever.....	73	9
Cerebro-spinal meningitis.....	2	2
Measles.....	160	11
Diphtheria.....	231	39
Small-pox.....	0	0

Enuresis.—According to Foster's "Encyclopædic Medical Dictionary" we have:

Enuresis atonica—Enuresis from debility.

E. continua—Incontinence of urine both day and night.

E. diurna—Incontinence of urine by day.

E. irritata—Enuresis from irritability.

E. mechanica—Enuresis from mechanical causes.

E. nocturna—Nocturnal enuresis.

E. paralytica—Enuresis associated with paralysis of bladder.

E. spastica—Enuresis due to spasm of bladder.

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Original Articles.

INSANITY OF PUBESCENCE.¹

By HIRAM ELLIOTT, M.D.,

WOODHAVEN, N. Y.

OF the insanities occurring at various periods of life the study of none is so interesting and instructive as that of the forms occurring in youth. All ideation is then much simpler, the brain cells being receptive rather than elaborative. Little or no effort is made to analyze or conceal the ever-changing emotions, and, the inhibitions and judgment being comparatively undeveloped, ready utterance is given to every thought. Cerebral states are more frankly manifested. Hence, when conditions of mental alienation arise, not only are they less complex, but they are reflected more directly from the underlying lesions, being less refracted by individual characteristics or dimmed by inhibitory power. In other words, the mental machinery is less intricate, and therefore more easily understood, and any defects in its action are more readily seen and appreciated.

All healthy growth or discharge of function is attended with the sensation of pleasure. It is the privilege of the healthy, normally developing youth to enjoy the height of human felicity. Not only are his recuperative tendencies at their best at this time, but he is passing through his constructive stage in the strictest and highest sense of that term, and every day is adding to his mental and physical strength. And when nature awakens in him the procreative function she endows him with a new element of power, and adds another attribute of physical perfection.

It is perhaps not too much to say that, physiologically at least, the chief end of man is to perpetuate the species, and that to the procreative function, and to foster the results of its healthy and legitimate activity, all other functions are subservient. Indeed, nature is so jealous of this power that she usually denies it to idiots and others incapable of rearing offspring, and allows it to exist in the human subject only during the best years of life. And if by chance or design the organs in which it is seated are removed before maturity, all the manly and womanly characteristics, having then no purpose to subserve, fail fully to develop, and the individual becomes the merest caricature of what he might have been.

The grave constitutional symptoms often caused by slight lesions of the genito-urinary organs are further proof of their intimate and extensive relation with other parts of the body. For example, the simple gentle passage of a soft bougie into the bladder may quickly give rise to a violent chill attended by intense prostration, alarm, and anxiety, accompanied by violent vomiting, profuse diarrhoea, coldness, and lividity of the surface, almost total suppression of the urine, all the evidences of uræmia, and a rapidly fatal issue (Keyes). A slight blow on the testicles has caused unconsciousness followed by vomiting and prolonged and severe prostration. Indeed it is within the range

of possibilities that an injury to the organs of procreation may produce a more serious effect on the mind than an injury of the same extent to the brain itself.

Such then being the importance and sensitiveness of these organs, the question of their condition is of the greatest consequence in the study of the disease incident to youth in both sexes. For, whatever may be the cause, youth is beset with many ills. Especially are neurotic and catarrhal conditions prevalent. So many fairly healthy children at fifteen or sixteen become skinny and nervous, and develop chorea or epilepsy or insanity, that we are forced to the conclusion that causes both common and powerful have come into force; causes with an essentially destructive tendency, decreasing the resisting power of the individual, encouraging the appearance and growth of hereditary taints, and often temporarily and even permanently arresting the mental and physical development, and blighting the entire organism. It must have come within the experience of most physicians to see the previously healthy children of certain neurotic parents one by one fall a prey to some nervous or physical disorder when they reach this critical stage of their life.

It is maintained that at puberty sexual ideas and promptings, suddenly forcing themselves upon the mind, precipitate a sort of chaos; that the assimilative apparatus being no longer able to meet the extraordinary demands of the organism, chiefly in consequence of the newly acquired function, the body falls into a state of malnutrition. This explanation is both inadequate and illogical. Indeed it is in cases in which the procreative power is lost that the peculiar stunted physique is most typically seen; and the more nearly the procreative function has been extinguished by early and excessive abuse of the sexual organs, the more nearly does the physique conform to this type. On the other hand, the sexual longings are usually weak or wanting in the insane pubescent, there being rather an aversion to and an intense antipathy for the opposite sex in every way. That accumulation of sexual energy which normally gives rise to sexual promptings does not obtain, but in its place is found a condition of sexual irritation, which impels the unfortunate individual to degrading habits, and even to acts of indecent assault. These conditions may exist in children long before they are capable of a sexual idea. Not a few children of both sexes, either by accident or by imitating their companions, learn evil habits which induce in their generative organs such debility that when they arrive at the age of puberty they seem incapable of natural sexual promptings. Sexual longings are normal in the pubescent, and the only question of consequence regarding them is, will they provoke their unnatural gratification?

That they too frequently do is beyond peradventure. And if the organs misused are so sensitive, it seems to me idle to shut one's eyes and try to explain the somewhat rapid increase of insanity after the onset of puberty by profound psychological discussions regarding the intricate reactions between the mind and body, or regarding mental conflicts between the youthful and adult traits and propensities, relegating the habit in question to the category of symptoms. To me it is

¹ Read before the Brooklyn Society for Neurology, December 26, 1895.

evident that neither body nor mind can develop normally if kept in a state of weakness and irritation by the excessive practice of an exhausting habit. I do not wish to seem to dwell unduly upon this disagreeable topic, but I cannot avoid a matter because disagreeable which it behooves every parent and physician to look squarely in the face.

Forms.—In the insanities occurring in the period in question there is not that tendency to conform to type that is seen in adult life. The same may be said of the normal mind in youth. The individual characteristics, which when once set give color to and modify the symptoms of all diseases, are just being moulded from the still plastic material. Every one accepts the dogma that insanity is a clinical expression of brain disease; but no one has so far succeeded even in demonstrating a pathological difference in cerebral conditions to correspond to the symptomatic difference between mania and melancholia. Even in paresis, in which the pathological findings are comparatively so constant and definite, the scalpel and microscope have not revealed why one victim should seem supremely happy and another wholly miserable. The study of etiology is equally unsatisfactory, identical causation being found capable of producing symptoms most unlike. The physical vulnerability and potency of the individual seem to be capable of directing etiological factors to the production of certain pathological states, and the individual temperament to be able to modify and give color to their clinical expression. An insane man is the caricature of himself in health. Insanity is mental derangement in the strictest sense of that term, and out of the resulting disorder propensities and characteristics, hitherto existing but more or less held in abeyance, possibly in an exaggerated form, come to the front and predominate. And often they have not very far to come. In youth, even in health, we find little that is fixed—the purposes, the emotions, the moods are ever changing, and when conditions of mental alienation arise, we find naturally the most widely differing phenomena even in the same individual. Sometimes, however, we find instances of quite typical maniacal or melancholic perversion in youth, but investigation will show a correspondingly well-defined temperament and character, and the absence of masturbation.

In childhood insanity is expressed almost wholly in conduct. Occurring as a pure insanity, perhaps only in children who have practised masturbation very early in life, there is not much mind to be affected. These puny unfortunates have the pasty face, sunken eyes, and unhappy expression, widely dilated pupils and exaggerated reflexes which indicate an exhausted and hypersensitive nervous system. Intense restlessness, sudden fits of anger with homicidal tendencies, wanton destructiveness or cruelty, great timidity, lack of memory and that curiosity which is so strong in healthy children, irregular sleep, and capricious appetite are some of the phenomena observed. Two boys whom I saw in my hospital service, aged thirteen, but looking more like children of seven, were so maliciously destructive, and so wholly ungovernable in the children's wards, that they had to be sent to the adult male ward for management. They were silent and uncommunicative, and when spoken to paid so little heed that it was difficult to tell whether they understood what was said to them or not. Another boy whom I saw a short time ago, aged fourteen, but looking only ten, who had masturbated since four, was so nervous that a single sharp question made him bellow with fear, and so interfered with his co-ordinative power that he could scarcely articulate, and could not walk across the room without fouling with the furniture. His brain seemed little more than a hypersensitive reflex centre, from which all ingoing stimuli re-

issued at once without elaboration or inhibition in expressions of fear, very much as they might have done fourteen years before when he was an infant in his mother's arms. In this failure to understand my advances, and the tendency to regard them as necessarily hostile, are seen fundamental principles in the development of a delusion—more or less distortion of ingoing stimuli by the representative apparatus and their subsequent misinterpretation in terms of a predominant emotion or idea.

Advancing a few years, when purely mental phenomena begin to come into prominence, we find the symptoms still more mixed and varied. One day the manifestations may be characterized by great exultation, the next by depression, and the next by stupor. Seen at one time the patient presents intense motor excitability; the next day he may be cataleptic. Some trivial remark causes first immoderate laughter, and then tears or anger. The reflexes are much exaggerated and the whole economy in a state of irritability. Delusions may be vague and indefinite, or well marked, and vary from the most ambitious to the most depressing or persecutory type. One lad of seventeen when first seen was rushing up and down in the most abject terror. In a few days he was cheerful and so apparently well that he was sent to do some light work. He began the day by assaulting his attendant; he next made an attempt to escape, and was returned to the ward in a very elated condition. The next morning he was cataleptic and remained so for weeks.

Coming down into the adolescent period when mental manifestations come still more to the front and predominate, insanities become more typical. Some individuals are adult at twenty with well-marked mental and physical characteristics, and in such, especially if not addicted to bad habits, we may have typical melancholic and maniacal perversions. Of course the results of the undeveloped brain, such as cretinism, idiocy, and its cousin, paranoia, which manifest themselves in all periods of life, are not referred to above, nor are they discussed in this paper. And it is proper to remark here that it is possibly this lack of conformity to type that has given rise to the term insanity of pubescence, as though it were a distinct variety of alienation; but it must be seen from the foregoing that the forms in question have rather a coincident than an intrinsic connection with pubescence itself.

Causes.—In nearly every case of insanity in youth heredity is an etiological actor. The fact is hard to get at sometimes, owing to the dislike most people have to discuss any weak points in their family. One woman positively denied all neurotic conditions in the family history of her insane adopted daughter, but a reliable friend of the patient informed me that the girl's mother was epileptic and her father paralytic. An excellent family history is often obtained from parents who are themselves walking demonstrations of its incorrectness. Some obliging old lady, who has known the family for years, will know about any nervous, or hysterical, or consumptive, or dissipated, or epileptic, or paralytic, or insane members of the family, or any intermarriage of cousins, and will contribute largely to the evidence that insanity in youth is strongly hereditary. But then, judged by its worst branches, what family tree is sound?

Again, the bringing up of many children strongly predisposes them to neuroses of all kinds. It is an unfortunate circumstance that parents who beget neurotic offspring generally add to the evil by bringing them up badly. Next to the stamp of heredity, comes the impress of the environment as an agent to mould the character and determine the tendencies of the individual. Hot-house methods are much to be deprecated. Abundant contact with moral, healthy, happy

people of both sexes and of all ages is an essential condition to the proper development of a youth, and no parents, neurotic or otherwise, can grossly neglect this principle without imperilling the mental health of their children. Every physician of experience with insane youth must recall how large a proportion of his cases have a history of being quiet and home-keeping youth and the fact of their avoidance of the opposite sex put forward as evidence against vicious habits. The cigarette-smoking imp of the street, exposed to so many pernicious influences, is one extreme, and this pampered home-keeping youth is the other, and so far as his health is concerned possibly the worse extreme. A human being is a dangerous animal to be left too much alone with himself.

Of the exciting causes of mental alienation in youth, masturbation stands first. How any one with any experience with insanity, and who has kept his eyes open, can hold any other view is most surprising to me. Not only may this vice cause insanity in youth, but it may cause it in adult life, and addiction to it aggravates the symptoms and lends gravity to the prognosis in any case, and is one of the most potent causes of chronicity in the insane. It operates in three ways. First, it has an irritant and debilitating action on the brain and spinal cord, and through these upon the entire organism; then it may produce disorders of the genital organs, such as spermatorrhœa or leucorrhœa, which add to and perpetuate the direct results of the habit; and, third, there are the effects of that hidden strife betwixt shame, repentance, and good intentions, on the one hand, and irritations which imperiously impel to the act, on the other, which are probably even more pernicious than the primary direct and physical effect (Griesinger). True, the habit may be the result of insanity, especially among those confined in institutions and thus cut off from opportunity for sexual intercourse. I have seen numbers of such cases, and with the commencement of the habit the mental manifestations became more intense, proving beyond a doubt that a new and powerful factor had come into operation. Other causes are ill health and overwork, operating chiefly in adolescence, intemperance and excessive use of tobacco in a few cases, trauma and shock, grief and disappointment.

Prevalence.—Insanity before seventeen of such severity as to send the patient to an asylum is rare; the vast majority of cases under twenty-one come after seventeen. The reason is not far to seek. Youth is a very recuperative period, and nature repairs injuries very rapidly at this time. The struggles of life with their accompanying disappointments have scarcely been undertaken. The manifold dissipations have hardly been learned, and of course their effects not felt. Childbearing with its train of ills, and the degenerative changes of later life are unknown quantities. Clouston says that only 0.9 per 10,000 of the general population under twenty are sent to asylums in England and Wales each year, while the proportion over sixty is twelve times as great. In the State of New York the total number of patients of all ages admitted to the public asylums during the five years ended September 30, 1893, was 22,231, while the number under 21 was 1,086. But there are more persons under 21 than over, therefore insanity is more than twenty-one times as frequent after 21 as before. Again, the number between 15 and 20 was 1,006; between 20 and 25, 2,252; 25 and 30, 2,992; 30 and 35, 3,044. In other words, speaking roughly, insanity seems to be twice as frequent between 20 and 25 as between 15 and 20, and three times as frequent between 25 and 30. Again, it is found that of those admitted under 20, at least one-half are between 18 and 20. So we see how small a number become insane within four years, say, of puberty—about 500 out

of 22,231. It is proper here to remark that the onset of puberty cannot be a very strong exciting cause of insanity, when with all other causes the result is comparatively so small. The next two or three years are the student and initiative years of life, and if the unfortunate youth's constitutional powers have been weakened by faulty bringing-up or bad habits, it is a very precarious period. How precarious may be guessed by the fact that at least one-half of all cases of lunacy occurring under 21 arise in these years.

Course and Symptoms.—It would seem that all forms of insanity are ushered in by a longer or shorter period of depression, and the forms in question are no exception to the rule. Restlessness, sadness, irritability, taciturnity, and loss of interest in surroundings are among the symptoms first noticed. The physique of our unfortunate patient in many cases becomes peculiar and instructive. Puny and thin, he looks blighted. He seems to have stopped growing, and he carries into adolescence the appearance of a child. His face is pale and pinched, his eyes sunken, watery, and shifting. The cold, clammy hands are thin and clawlike; the skin soft and delicate. The development of all the tissues, but especially that of fat and connective tissue, seems to have been hindered. The beard in males is weak or wanting, and the busts do not fill out nor the hips widen in females; the voice remains shrill and childish. And it is the operation of that cause that is able to lay such a blighting hand on the body, that produces that exhausted and irritable condition of the whole nervous system, which is so disastrous that its clinical expression is insanity.

After the period of depression has existed for a time, the multifarious symptoms of which I have spoken appear. From the profoundest stupor to the most intense excitement; from the most stubborn silence to the wildest raving; from the pleasantest mood to the most hostile impudence; from boisterous laughter to the bitterest weeping; many of the patients pass through the widest range of symptoms in an incredibly short time. On the whole maniacal perversions are thought to be most prevalent, and if noisiness and excessive activity be meant this is true. But according to my observation painful mental states are far the more common, if indeed they do not give more or less color to the phenomena in the majority of instances. Many cases indeed run into a quasi delirium which seems to be the expression of acute mental and physical agony—restless, sleepless, raving, refusing all food, emaciating rapidly, and often dying in spite of the best efforts of physician and attendant. In others the tendency is rapidly to dementia without great intensity of symptoms. In these cases the memory soon fails and the patient becomes solitary, unsociable, untidy and stupid, and soon sinks into fatuity. In others explosive symptoms continue for years with little change. Marked hallucinations of the senses develop and the patient passes a part of his time talking to himself or to his imaginary enemies. He is usually careless of his surroundings, given to fits of obscene and profane scolding, untidy and troublesome in almost every way. Some cases again run a very uneventful course, fits of sulking or crying, childish manner and talk, loss of memory and of interest in surroundings being the chief phenomena. Almost all insane youth have hallucinations, sometimes of all the special senses. Delusions, especially regarding poisoning, or contamination, or the condition of the viscera, or involving the belief that the patient has become angelic or divine, are very common. On the other hand these may be vague and changing or wanting altogether. One of the worst cases I ever saw showed neither delusions nor hallucinations, but spent her time raving and berating herself for yielding to her vicious habits. States of confusion, showing

marked failure of the normal association of ideas, and arising out of the exhausted condition of the brain, are so common as to be almost characteristic. Ecstatic, cataleptic, and katatonic states are frequent.

One peculiarity in all these cases is the tendency to sudden remission and exacerbation of the symptoms. A patient who was wildly excited a few hours before is often found apparently recovered. He admits he has been out of his mind, is thankful for what has been done for him, and talks and acts like a well person for days together, in the end to succumb to a second attack worse than the first. In insane pubescents not addicted to the habit of masturbation, this tendency is much less marked. In fact these cases usually run a more even course in every way, and especially are they more frank and tractable. In females the menstrual flow may be suppressed for months. Appetite is usually poor, as the result of delusions regarding poisoning or the condition of the abdominal viscera referred to above; or it may be due to the enervated condition of the stomach. The bowels, especially in females, are obstinately constipated, and in girl patients the persistent refusal to pass water may call for the services of the catheter.

Prognosis.—Clouston says that 51 per cent. of these cases recover. Bevan Lewis estimates that 73 per cent. get well. These figures, however, seem to me too high; they are certainly not borne out by the statistics of the public asylums of this State for the period mentioned above. From these statistics I find that the recoveries under 21 years of age amounted to 28 per cent. on the number admitted; between 20 and 30, 23 per cent.; between 30 and 40, 20 per cent. Even these figures are encouraging and, if they prove anything, they are evidence that mental troubles in youth are by no means hopeless, but that this is not only a resisting but also a highly recuperative period of life. Recovery is often complete and lasting. One of the best specimens of manhood, both mentally and physically, that I know, an able lawyer and mathematician, spent a short period of his youth in an asylum. Of those who do not get well, a small percentage dies of exhaustion or intercurrent disease. Quite a number so improve that they are able to be at home, and remain as a sort of warning to the other members of the family. The remainder, in different degrees of dementia, form rather a disagreeable contingent in asylum wards. The average duration of cases ending in recovery is from six to nine months.

Treatment.—One glance at our patient suffices to suggest the first principle of treatment. Nature has failed to make an adult of this youth chiefly because of the irritated and exhausted condition of his nervous system. Remove the irritation, if possible, and repair the exhaustion. Place the patient in quiet, pleasant, and healthful surroundings with plenty of sunshine. Ascertain if there be any tight prepuce, or phimosis, or short frenum, or congenitally small meatus urinarius, or vesical stone; any malformed clitoris, or pruritus vulvæ, or leucorrhœa, or cystitis, which by their irritation not only may cause profound reflex effects, but also keep the unfortunate youths' minds on their generative organs and thus provoke vicious habits. Remember that this habit may be carried on without manipulation and may exist, lack of evidence on physical examination, failure of the attendant to observe it, and the denial of the patient, notwithstanding. One patient of mine, seventeen years old, whom I brought through a severe attack of insanity, in whom no evidence of this habit could be found, afterward boasted to me that she had masturbated all through her sickness. To stop the habit, the removal of all provocations and careful watching are of the most service. Continuous exhibition of the bromide of potash, with the hydrobromate of hyoscyne in small doses,

seems to be of some use in alleviating sexual irritation.

To repair the emaciation in the milder cases, or after acute symptoms have passed by, the hot-spray bath twice or three times a week claims first attention for its soothing and stimulating effect. Exercise in the open air with tonics, especially strychnine and arsenic in small doses before meals, cod-liver oil in never more than teaspoonful doses, generous diet at absolutely regular intervals, and consisting almost entirely of milk, hominy, potatoes, and bread, with meat in small quantities, regulation of the bowels, not too much restriction of the patient's actions, and very few sedative or hypnotic doses seem to me to be the chief elements of good treatment in these cases.

In delirious cases, and others refusing food and medicine, resort must be had at once to the stomach tube. By this means not only may be administered medicine, but also that generous supply of food which is necessary to repair the extraordinary tissue waste, and which of itself is often more calmiative than any remedy. The staple articles to be given are milk and eggs, and occasionally broth or peptonoids. In cases in which the excitement is not very great a pint of milk, with two eggs, and two teaspoonfuls of whiskey, if there is any tendency to the typhoid condition, given three or four times a day, will usually be found sufficient. If the excitement is very great, and there is excessive muscular activity, the above amounts may be considerably increased. I have given four pints of milk so thick that it would just pass the tube, twelve eggs, one ounce of butter, and other necessary additions to a patient every day for weeks, yet diarrhœa was not set up, and only one or two feedings were rejected by vomiting. My patient lived and recovered her mind. In stuporous or cataleptic conditions the amounts must be much less or fatal diarrhœa may result. Ten drops of dilute hydrochloric acid added to each feeding will be of service. These patients should be kept in quiet surroundings but not left alone; they should be allowed to roam about practically unrestrained, encouraged to sleep at any time, and their noise should be put up with. If they go forty-eight hours absolutely without sleep, one-eightieth of a grain of hydrobromate of hyoscyne with one-fifth of a grain of morphine will usually secure a few hours' rest.

And here I must be allowed to say a word about the alkaloids of hyoscyamus. Hyoscyamine should not be used; hyoscyne, being more effectual and safer, because less stupefying and depressing, should always be preferred. Although not well borne by young or agitated persons, yet, if it becomes expedient to put an end to an attack of frenzy or to enforce sleep, this drug, either alone or in combination with morphine, is the best means at our disposal. For this purpose at least one-sixtieth of a grain should be given hypodermically, smaller doses usually making the patient worse. Great dryness of the throat, leading the patient to believe he has been poisoned, headache and dilatation of the pupils, muscular prostration, the production of hallucinations, or increase in the intensity of those already in existence, and a general feeling of unrest, are some of the disagreeable after-effects of its first administration. A few patients, however, soon learn to like the sensation it produces, and in these cases it is a very valuable remedy; calming the convulsions, securing sleep, depressing the sexual organs, stimulating the kidneys, and certainly not interfering with the action of the stomach or bowels. Others again, after its administration, pass rapidly into a sort of delirium with intense restlessness, weak and rapid pulse, flushing of the skin, and wide dilatation of the pupils. If sleep follows, it is short and unrefreshing, and the patient awakes in a worse condition than before. These effects, however, more rarely follow

the hyoscine and morphine combination referred to above. Before resorting to such powerful medication to procure sleep, all the simpler means should be tried. A hot bath, or a glass of hot milk to which has been added a tablespoonful of whiskey, sometimes proves effectual. I think physicians often get too anxious about this matter and employ hypnotics which sometimes do more harm than the insomnia. Especially is the routine use of chloral to be condemned. In most cases natural sleep will come unbidden, unless in the mean time the physician yields to the temptation to give his patient some powerful sedative for the sake of somebody else. In the treatment of very many of these cases the highest skill is patience.

The term insanity of pubescence has been used in this paper to include the aggregate of pure insanities occurring in youth. I have pointed out the difficulty encountered in classifying these forms according to present methods, and I must be allowed to express the conviction that there is no form of insanity so intrinsically connected with, or so essentially arising out of the pubescence itself, as to be well-named after it; and to venture the opinion that when alienists shall have discovered a rational basis of classification very little of our present nomenclature will pass muster.

RUPTURE OF THE PANCREAS.¹

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H. B.—, nine years old, an unusually bright and well-educated boy, riding a bicycle down-grade, was struck by the handle against the epigastrium on August 13, 1895, at 3 P.M. He fainted, vomited, but rallied fully in a short time. At eight o'clock he began to suffer from severe pain in the abdomen. He was seen at twelve that night by the family physician, Dr. Graham Watts, who relieved him by opiates. Dr. Watts watched the further developments expectantly as no distinct injury could be made out. The boy improved slowly, but did not regain his usual health. The most prominent symptom was his excessive and perverted appetite. He, for instance, could eat six or eight boiled eggs, detested table salt, and so on. On the 6th of September his mother noticed a swelling in the region of the stomach, and on the 9th Dr. Watts could make out an accumulation of fluid behind the stomach, which latter stood out in high relief with well-defined borders, resting on a dull area which extended on the right side to the angle of the ninth rib and on the left side into the thorax, so that the dullness over the liver and spleen was continuous with it. Also the transverse colon could be easily recognized by its prominent contour. Between it and the stomach was a zone of about one inch in width, giving dull percussion sound. The temperature was between 98.8° and 99.2° F. This condition justified the assumption of a pancreatic rupture with leakage into the cavity of the lesser omentum. The normal condition of urine and feces seemed not to militate against it. I fully concurred in this diagnosis, and on the 9th, with the good advice and assistance of Dr. R. E. Moss, an incision of about two and a half inches was made in the middle line so as to hit the interval between the stomach and transverse colon (Dr. Watts operating). There an area of about one square inch was raised and the omentum stitched to the parietal peritoneum on either side of the incision. Opening this area a clear limpid fluid escaped, looking like the white of egg, entirely free of bloody admixture, amounting to over a quart. The internal lining of the sac was smooth, shiny, and obviously constituted by the endothelial layer of the lesser cavity of the peritoneum. An introduced finger

could feel the pancreas deep down in the cavity. A drainage tube was inserted and the wound closed around it. The fluid, on examination, was found alkaline and changed starch readily into sugar. No further test was instituted, as there could not exist any reasonable doubt regarding the nature of the injury.

The patient suffered little thereafter. His temperature ranged between 99° and 101° F., as some inflammatory irritation of the sac soon set in. The limpidity of the secretion, which was very free, changed into a muddy, flocculent discharge, which excoriated the surrounding skin in spite of all kinds of precautions. The perverted and greatly increased appetite continued. Toward the 15th the temperature became normal and the discharge lessened considerably. On the 22d the boy was considered convalescent. The fistula had closed, and only slight superficial abrasions and excoriations had to be tended to. He was greatly emaciated, however; but from now on gained steadily and was bright and cheerful up to about the 10th of October, when the temperature rose as high as 103° and even 104° F. The bowels became constipated, and a very annoying sensation as of dragging on the stomach was a constant complaint. There was now a swelling noticeable under the right rectus muscle close to the upper end of the incision. As a small suppurating fistulous track was detected, apparently leading under the muscle, it was surmised that a stitch abscess had formed from one of the buried sutures. On the 12th we tried to remove this latter and to empty the abscess by inserting a grooved director and splitting the parts on it for about one inch. To our surprise we at once found ourselves in the abdominal cavity, encountering adherent and angry-looking omental fringes. They were detached and removed. Now, inserting the finger in the direction of the before-mentioned swelling, a smooth tumor of the size of a hen's egg was felt, situated between stomach and liver. Puzzled what to make of it, and not being prepared for a more extensive operation, we tried to clear up its nature by searching for a communication between it and the original fistula, but none was found. We left it undecided whether it was the gall bladder drawn over to the stomach by adhesions, or a partitioned-off portion of the omental sack, filled with pus or pancreatic juice. The boy, though, began to feel better at once; especially the dull dragging sensation in the abdomen disappeared entirely. Thus it became evident that the omental adhesions had caused the new trouble. The suppuration stopped, the temperature became normal, and only the irritated stitchholes claimed further attention. The tumor disappeared gradually. In a word, the patient recovered perfectly. He is now the picture of health, though a ventral hernia is threatening.

I would not expect the general practitioner, who, as a rule, deals little with rarities, to take much interest in this case, were it not that traumatism of the epigastrium, as from blows or falls, is very common. It must certainly be of great help to have before our minds all possibilities as to the nature and outcome of such injuries. From such considerations I collected what literature at my disposal offered regarding rupture of the pancreas, which, as I now think, is not the least common accident after blows and falls upon the epigastrium.

Before all, the differentiation between a real pancreatic cyst and an extravasation of pancreatic fluids into the lesser cavity of the peritoneum (the bursa omentalis) ought to be insisted upon. It looks like a matter of course; still there is a good deal of confusion to be found in many of the contributions on the subject, everything being termed a pancreatic cyst. There can be no doubt that a true cyst may be caused by traumatism, and almost all authors believe in such

¹ Read before the West Texas Medical Association.

an origin for a great number of their cases; because from contusion an intra-glandular thrombosis of vessels or ducts, or an intra-glandular hemorrhage may result and lead to the formation of a cyst. But it is equally evident that this is quite a different thing from a condition in which the walls are nothing else but those of the peritoneal pouch in front of the pancreas. The former formation is a true cystic tumor behind and under the peritoneum (retro-peritoneal) (Fig. 1). The latter is intra-peritoneal (Fig. 2). The former, there-

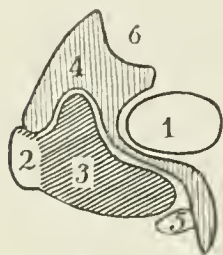


FIG. 1.—Cyst of the Pancreas. 1, Stomach; 2, pancreas; 3, cyst of pancreas; 4, lesser cavity of peritoneum; 5, transverse colon; 6, liver.

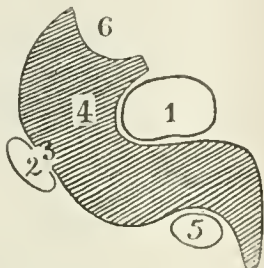


FIG. 2.—Discharge of Fluid into the Peritoneum. 1, Stomach; 2, pancreas; 3, point of rupture; 4, filled lesser cavity of peritoneum; 5, transverse colon; 6, liver.

fore, having its own walls, lifts the peritoneum up and dips into the omental bursa, while the latter is the bursa itself. The former will vary in its pathological construction, being a retention cyst, or of a compound structure, perhaps malignant, containing a variety of solids and fluids; while the latter will be a more or less unchanged peritoneal pouch containing blood or pancreatic secretions, or both. In the latter instance the traumatism has simply produced a rent in the gland and, at the same time, in its peritoneal cover, so as to allow the fluids to pass through the slit into the cavity that lies in close apposition to the pancreas. Possibly, though, a real cyst may occasionally burst and the thinned peritoneal cover with it, so that the contents will be emptied into the omental bursa, in which case there will be a mixed condition; that is to say, a veritable cyst *with* an extravasation into the lesser cavity of the peritoneum (Fig. 3). However, I have not yet found a description of such an occurrence.

As to the differential diagnosis there will seldom be any difficulty. A real cyst is a more or less chronic, insidiously commencing growth, whilst in the other instance a recent traumatism is the beginning. A cyst will be a well-defined, rounded tumor, more or less movable as a whole, perhaps nodulated, rarely very large, following the movements of respiration; whilst the filled peritoneal sack will be a slack, elastic, fluctuating mass. The pancreatic cyst will be found mostly in the middle line above the umbilicus; sometimes a little to the left; while the other extends, according to the outlines of the bursa—in the beginning slightly perceptible but growing more and more in its area—from the right side over the gastro-hepatic ligament (about in front of the angle of the ninth or tenth rib) to the left as far as to the outline of the gastro-lienal and pleuro-colic ligaments, that is, as far as the anterior axillary line, and upward under the left brim of the thorax, so that the dull area will indefinitely reach up to the right and left lobe of the liver, to the spleen, etc. Thus the dulness on percussion will extend farther to the left than to the right. Perhaps also in the back a dull area will be detected, as in one of Lloyd's cases, in which it extended from the angle of the left scapula down to the lowest ribs. The apex beat may also be raised to the left.

In either instance the tumor lies behind the stomach and the transverse colon, though a cyst may work itself between both, lifting up the gastro-colic ligament. On percussion in either instance the tympanitic

sound of stomach and colon will be made out, and if any doubt exist, both ought to be inflated by the usual means. But with a cyst only in extreme cases will both hypochondriac regions be occupied, while otherwise the tympanitic areas will appear like islands on a general dull basis. The interval between stomach and colon, the site of the gastro-colic ligament, will in a distended bursa form a dull zone, because here the fluid reaches up to the omental front wall. With a cyst this zone will not be more detectable than under normal circumstances, except the tumor has gotten into this space, when it will easily be recognized as a tumor. I may at once say that this place ought to be selected for probatory puncture.

However, the origin of the omental accumulation may not be pancreatic at all. Evidently hemorrhage from any vessel within the omental sack may cause an accumulation of blood, so that a correct diagnosis may be impossible. An exploratory puncture will clear up most of such cases. Whenever the fluid, so gotten, offers the features of pancreatic juice, that is, if it be more or less like the white of an egg, or if it chemically shows the attributes of pancreatic secretion, the case is, of course, decided. If, on the other hand, the contents should be a mixture of blood and some other fluid which is lighter, that is, if the contents be thinner and lighter than pure blood, it is almost certain that there exists leakage from the pancreas in addition to hemorrhage, because there is no other fluid that could be extravasated in this region, except chyle, which occurrence is still rarer. Only if apparently pure blood is found, an uncomplicated injury of some blood-vessel within the lesser peritoneal cavity has to be looked for. From experience and from the result of Senn's experiments, we know that rents and ruptures of the pancreatic gland are not accompanied by much hemorrhage—in one case there was none at all—but then the large pancreatic vessels themselves may have been ruptured. For the sake of illustration I will cite one of J. Lloyd's cases,¹ who deserves all the credit for having elucidated these important and interesting injuries:

"A man, aged twenty, had been kicked by a horse and on recovering consciousness complained of abdominal pain. The other symptoms were: collapse, frequent vomiting with an occasional streak of blood in the vomit, temperature of 100° F., all subsiding in the course of four or five days. After leaving the hospital paroxysms of epigastric pain with vomiting recurred about weekly, lasting two or three days at a time. After three or four months an unusually severe attack caused the man's readmission. There was some distention of the abdomen and slight elevation of temperature. Recovery ensued, but about a month later a sudden and severe attack was followed by a swelling in the left hypochondrium. An aspirating needle was inserted and twenty-nine ounces of fluid withdrawn. Finally, incision was made and a cavity found containing a further quantity of dark brown fluid. Death occurred from exhaustion a few hours later. On opening of the abdomen signs of recent peritonitis were found. Situated behind the stomach and co-extensive with its posterior surface was an enormous encysted hæmatoma containing red coagula. It appeared as if the hemorrhage might have occurred

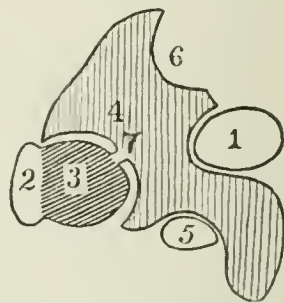


FIG. 3.—Cyst of Pancreas Complicated with Discharge of Fluid into the Peritoneum. 1, Stomach; 2, pancreas; 3, cyst of pancreas; 4, lesser cavity of peritoneum; 5, transverse colon; 6, liver; 7, place of rupture in pancreatic cyst.

¹ British Medical Journal, 1892, quoted from Sajous' Annual.

from some ruptured vein in the gastro-splenic omentum, found its way inward, and gradually become encysted between the peritoneal coat of the stomach posteriorly and the peritoneal covering over the pancreas. No special examination of the pancreas for injury was made."

In 1892 I had an opportunity myself to operate in a case which was similar to this case of Lloyd. The operation was performed, however, within a few hours after the injury.

A young colored man had leaped from the platform of a railroad car while the train was in motion. He fell flat on his abdomen against some bridgework. Brought to the John Sealy Hospital in Galveston, he exhibited all the signs of excessive internal hemorrhage and pointing toward the region of the spleen as the seat of his trouble. I expected to find a rupture of it when I made an incision on the outer border of the left rectus muscle. But there was only a slight rent of this organ and not more than a tablespoonful of fresh blood. Toward the stomach, pent up in the omental pouch, an elastic mass could be felt. The patient was then in a dying condition and in order to get him from the table alive, nothing else but closing the external wound was done. He expired an hour or so later. Unfortunately no post-mortem examination was allowed by his relatives: but there seems to be no doubt that a hemorrhage from some vessel within the omental bursa had taken place.

As to the further symptoms of pancreatic rupture there must be mentioned nausea, vomiting, and fainting—which constitute the signs of one form of shock. Whether this is peculiar to traumatism of the pancreas, or whether it is a symptom common to blows on all abdominal organs, is a question that can be answered only hypothetically. Goltz's well-known experiments show that blows against the abdomen cause an accumulation of blood in the abdominal veins while the brain becomes anæmic, and that in this way shock is produced. Still, there seems to exist, outside of this mechanism, some influence of the pancreas of its own on the stomach, perhaps on the whole sympathetic system, either by some reflex action or by alterations in the juices of the body, because, even in cases of old standing and in diseases of entirely different nature, such complaints are common. Contusions of other glandular organs—for instance, of the testicles, as is well known—cause a similar complex of symptoms. Perhaps there is a similar mechanism at work.

Of more value as a sign of pancreatic injury is the excessive and often perverted appetite, setting in shortly afterward. It is frequently mentioned by authors and deserves full attention. I do not venture to give an explanation of it. Urine and fæces rarely offer pathognomonic features. How much Roentgen's photographic method will help in the differential diagnosis will have to be seen.

Prognosis.—It is well to take it for granted that in many a case of so-called internal injury produced by blows or falls upon the abdomen the pancreas has been ruptured, and that the alarming symptoms just after may be due to such an occurrence. But it is evident that usually the rent will be so small that it will readily heal and that the exudate will become absorbed. Consequently the patient will recover in a few days. But, on the other hand, an accumulation will show only in the course of time, whenever it has become large enough to form a detectable tumor. Therefore the prognosis ought to be guarded. We may look for final recovery whenever hemorrhage can be excluded or when, judging from the symptoms, it has stopped. That means when the patient comes well out of the shock, paleness disappears, pulse becomes stronger, etc. As to the necessity of an opera-

tion we should also be careful in our prediction. Judging from the experience in our case in which the leakage had continued several weeks, the smooth and shiny appearance of the lining membrane can be taken for a proof that the otherwise strongly excoriating action of the pancreatic juices is powerless on healthy endothelium or epithelium, here as in other places.

From Senn's studies we know that the portion of the pancreas above the rupture of the main duct will atrophy. But we can easily imagine that a superficial rent which does not go through the whole thickness of the gland will do little harm. Besides, it is mostly the head of the pancreas that will be directly hit by the traumatic force, as it is the thickest and at the same time the most exposed part. Thus the large portion below the rent will remain undisturbed. If, however, the rupture occurred in the tail, then perfect atrophy would set in: but whether this will lead to a fatal termination is a question not yet solved. Experiments on animals are certainly not final, but even they are contradictory. Besides, according to Ziegler, an accessory pancreatic gland is often found which may act when the other is destroyed. As a rule, pancreatic ruptures will by their effect upon the gland itself rarely produce fatal consequences. It will, of course, greatly depend upon the extent and situation of the tear, and upon the time it remains patulous. A small lateral slit may leak even continually; the pancreatic secretion may then be absorbed as quickly as it appears in the omental bursa. But an excessive accumulation, filling the widely disturbed point, can and must have a deleterious effect on all the adjoining organs. The celiac plexus may suffer; the pancreas itself, the liver, the gall bladder, stomach, bowels, spleen, the large lymphatic and blood vessels, especially the portal vein, must be pressed on and thus greatly interfered with. The prognosis, therefore, becomes grave if the extravasate continues to increase. Then only surgical interference will relieve the patient. How long the accumulation may go on uninterrupted is not in my power to state from the literature at my disposal. Perhaps, in the end, the extreme distention of the sack will produce atrophy of the pancreas by pressure, and the leakage will thus be stopped and the peritoneum will be given time for absorption. But it would certainly not be good surgery to wait for such a termination.

Treatment.—Immediately after the accident indications for interference will be too vague to be acted upon. Locating the trouble will be mostly impossible and an exploratory laparotomy will be called for only if the symptoms become steadily graver. According to what was said before, slighter injuries may heal on their own account. But when there are unmistakable symptoms of dangerous hemorrhage which do not quickly abate, the abdomen should be opened as soon as practicable. If then no evidence of bleeding is found in the general peritoneal cavity, the omental bursa ought to be incised with due protection of the intra-abdominal structures against the pancreatic fluid. The question whether or not a large transverse incision in the gastro-colic ligament may interfere with nutrition of the colon can be answered satisfactorily. We know from experience in gastronomy that such is not the case. Next we have to empty the omental pouch of its coagula, and if a continuance of the bleeding be found an effort ought to be made to get at the seat of it. By pulling the stomach upward and the transverse colon downward, and with the use of reflected light, we may expect to see our way. Perhaps compression by packing with gauze will answer.

Now, in cases of older standing, in which the continuance of hemorrhage can be excluded, or in which by tapping a pure or a slightly bloody pancreatic-juice accumulation has been made out, from all experience

at our command, drainage of the sack seems a safe procedure. We will then make a small incision over the dull zone between the stomach and the transverse colon, satisfying ourselves of being below the stomach by searching for the great curvature, which can always be recognized by the wreath-like arrangement of the blood-vessels. Then the omental pouch should be punctured with a hypodermic needle and, after the case has thus been made out, an area of about one square inch of the omentum must be stitched to the parietal peritoneum around the abdominal incision, and opened. After the evacuation of the fluids, a drainage tube is inserted and the wound closed around it. Care has to be taken to protect the surroundings of the fistula by ointments, as the pancreatic fluid is exceedingly excoriating. Most probably the secretion will become less and less, though it may take months before it will stop entirely. The selection of the location for incision, whether in the middle or on the left side, as recently done by Howard Kelly,¹ seems to me of little importance. Still, the former is preferable, because the subsequent adhesion of the omentum to the parietal peritoneum will be so located as not to interfere with any abdominal structure; while in the left side by retraction of the previously widely distended omentum a band may form which would be a constant menace to the bowels.

A very interesting point seems to me the explanation of the *modus operandi* of the drainage effecting a cure of the pancreatic rent. Is it the change of the negative pressure in the airtight sack into a positive one; or is it the influence of the atmospheric air, or perhaps the discontinuance of the pulling asunder of the lips of the fistula by the force of the ever more distending pouch? The question whether here, as in other internal fistulæ, outside drainage is a curative expedient, seems to me worthy of closer investigation; or, perhaps, it is a lack of information on my part that I know no other explanation than that of Lawson Tait in connection with abdominal drainage.

Finally, I would like to say a few words in regard to the tumor felt in our second operation. As stated, we tried to solve the conundrum by leaving it an open question between a distended gall bladder in an unusual place and a partitioned-off portion of the omental pouch filled with pus or pancreatic juice, a kind of a diverticulum. But, I confess, neither interpretation will satisfy anybody. Only quite recently the puzzle obtained a solution, at least in my mind, from a paper by Professor Riedel, of Jena,² and I now believe that which I felt was the head of the pancreas. Riedel reports cases in which the swollen pancreas was found directly under the liver and was taken for the gall bladder. He describes an instance in which the pancreatic head presented a hard, easily movable tumor, rising and falling with respiration, situated directly under the abdominal wall, easily grasped by the hand. He says: "A pitiful smile would have punished him who before the operation would have suggested such a possibility." He further shows how the pancreas may become puffed so as to resemble even malignant enlargement from irritations due to inflammatory conditions in connected organs, as the gall ducts, gall bladder, duodenum, etc., which enlargement will recede with the removal of the cause. In our case there was evidently sufficient cause for irritation and the disappearance of the tumor leaves hardly any other interpretation.

Tight Lacing.—Professor Marchand (*Modern Medicine*) says tight lacing sometimes causes gall stones and that cancer is occasionally due to the same cause.

¹ *Annals of Surgery*, December, 1895.

² *Berliner klinische Wochenschrift*, January 6, 1896.

THE INFLUENCE OF COLD UPON A DISEASED HEART.

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At the coroners' inquests held on the bodies of the numerous victims of the cold during the winter of 1894-95 in London, it was shown that the great majority of the deceased were either persons with diseased valves of the heart or aged persons with pathological changes in the musculature of the heart. Apparently persons with a diseased or senile heart have not the same power of resistance against the effects of cold as persons with a normal heart.

The temperature of any part on the surface of the body is mainly dependent upon the amount of oxygenated blood with which it is supplied by the heart. Therefore the greatest sensation of cold will be felt on those parts of the periphery of the body which are situated at a considerable distance from the blood and heat-giving centre, or which first come under the influence of the cold on account of their position. So the toes and fingers, the ears and nose, as also the feet and hands, will be more readily attacked by those pathological processes which are caused by the local irritation of the cold upon the surface of the body. We know that chilblains are most frequently met with in anæmic young girls with feeble circulation, and even strong persons with normal circulation, when exposed for a short time to cold of great severity, will become frostbitten on the toes, which lie far away from the centre of circulation, and the same parts will even become gangrenous in old persons with a very weak circulation. On the other hand, where there is a flow of oxygenated blood there will be a rise of temperature. If there is a flow of blood with an inflammation of the skin or phlegmon in the subcutaneous tissue, we see the affected part red, and that spot will also feel warm. From remote times, besides tumor, rubor, and dolor, "calor" has been accepted as one of the pathognomonic symptoms of inflammation. The bright red color will show us that the blood has not been fully deprived of its oxygen, and there is an increase of temperature in the affected part. The same effect can be produced by a local irritation, which will cause an accumulation of arterial blood. The paralytic extremity of a person with infantile paralysis, however, will have a bluish color and will feel cold. From this we can easily understand that when there is such a pathological change in the cardiac valves the periphery of the body will be but scantily fed with arterial blood, as is the case typically in mitral stenosis or when there is such a defect of the valves that venous stagnation in the periphery will result. This is the case in far-advanced mitral insufficiency, or when there is such a degeneration of the muscular walls of the heart that by the feeble contractions of the same the periphery is badly supplied with the nourishing and warming agent. Persons with such a diseased heart will have a keener sensation of cold and will more readily succumb to exposure to severe cold of short duration, or of a comparatively small degree of frost of prolonged duration.

When the cold is acting upon our body it has a double effect, *i.e.*, the irritation of the periphery of the body and the irritation of the nervous centres consequent upon this. But I think it would be just as right to say it has only one effect, as the action upon the nervous centre is merely the consequence of the irritation exercised by the cold upon the skin. The amount of the irritation of the nervous centre will exactly answer to the amount of the irritation of the skin. As the irritation of the skin by the cold, however, causes by its local effects a mechanical hindrance to

the circulation, I shall treat the two effects from different points of view.

Let us analyze now the local effects of cold when we expose our hand to the same. We have a sensation of cold and the hand will become white and corrugated, as the first effect. This shows that by the irritation of the vaso-constrictors the vessels of the skin have themselves contracted. But next we will see that our hand becomes bright red. This shows that the vessels have been dilated and the blood can more easily pass through the same. It circulates better; therefore the red color. This effect we must attribute to the action of the vaso-dilators.

The bright red color of the skin will, however, soon give way to a bluish coloration. This shows that the circulation has become slower, as there was time for the blood to be deprived of its oxygen. When persons, especially those with feeble circulation, are exposed for a long time to even slight cold, we see their face and hands become the same color. Evidently in consequence of the long duration of the cold there is a slower circulation. I shall refer to this later on.

When now an extremity is still longer exposed to the cold it will appear white, and this white color may even become waxy when the extremity is too long exposed to the effects of a severe frost. We know that persons killed by frost have a very pale color of the skin, even a waxy whiteness. What does this white color of the skin indicate? It shows that there is no supply of arterial blood, as the vessels have been so contracted that even the blood corpuscles cannot pass them. And if the extremity be still longer exposed to the cold after the circulation has ceased in it, it will become gangrenous.

When the skin has for a long time been exposed to the cold the circulation will be hindered, as the vessels will become strongly contracted. We shall see later the consequences of this for persons with a diseased heart.

We know also that cold is able to cause local inflammation of the skin. According to Erasmus Wilson, chilblain is an inflammation of the skin induced by the cold. In its erythematous stage the chilblain is a congested spot, which is first bright red and later becomes livid. The parts affected by frostbite are first bright red and later become livid.

When a person takes a cold bath the first sensation will be one of cold, his skin will be corrugated (*cutis anserina*), but the first white color will be followed by redness of the whole body, and he feels exhilarated and has a feeling of warmth. If he remains still longer in the cold bath the exhilaration is followed by depression. Through the irritation of the skin by the cold a greater amount of blood has been sent to the periphery, and the exhilarated state will show that the brain has been supplied with a strong wave of arterial blood. This state is, however, followed by depression, and the surface of the body is but poorly fed with arterial blood if the stimulating action of the cold lasts for a long time. Winternitz has shown by an interesting experiment that through thermal influence acting upon the skin, there will be an afflux of blood to the periphery. When a man was put naked into an empty tub, the lower part of his body being covered with water (50° F.), the plethysmograph showed that the arm was considerably increased in volume.

Foster¹ mentions that when there is increased general arterial pressure, as for instance that caused by stimulation of a sensory nerve, there is a greater flow of blood to the brain, causing an increase of the volume of the brain.

How are these consequences of thermal irritation of the surface of the body brought about? The existence

of a stronger amount of arterial blood on the periphery of the body presupposes a stronger action of the heart. We know that when the vagus is irritated the contractions of the heart are reduced in number; the diastole, however, is longer, a greater amount of blood accumulates in the heart, and with each pulse a stronger wave is sent to the periphery. But we know also that when the splanchnic is irritated the abdominal vessels contract and there is less blood in the abdomen; but the periphery of the body is better supplied and a stronger wave of blood also is sent to the brain; the pressure in the heart rises. According to the experiments of Stricker, Ostroumoff, and others, this is caused by reflex dilatation of the peripheral vessels.¹

It has been shown through the experiments of Nauman that thermic irritation has an effect upon the splanchnic nerves. When, namely, to the surface of the body of a frog, whose trunk has been left in connection with the leg only by the ischiatic nerve, a weak thermic irritation is applied, the vessels of the mesentery (which as we know stand under the vasomotor regulation of the splanchnics) contract and there is an increased activity of the heart. When a very strong thermic irritation has been used, the vessels of the mesentery become dilated and the action of the heart grows weaker.

When the skin is exposed to the cold we have the sensation of an irritation of the skin through the contact with the cold. In many persons this causes a disagreeable feeling. As Foster, however, says, when the stimulation of the skin exceeds a certain limit of intensity, the sense of temperature is not appreciated apart from the sense of pain. If we cause pain of certain amount to a person, we will see a series of symptoms which will indicate to us a stronger action on the side of the heart caused by a reflex action on account of the irritation of the sensory nerves. If, for example, we remove the tuberculous glands from the neck of a young girl without an anæsthetic, we see the face become red and the surface of the body feels hot. If a boy is punished for some mischief and receives a few blows, the same symptoms are manifested. When a person, however, receives many blows for a longer time his face will become pale, the surface of his body will feel cold, and there may even be cold perspiration on the whole body. When a person receives blows on many parts of the body for a prolonged time, let us say for several hours, he may fall dead. Such a case has been reported by Taylor.² A man had beaten a youth of sixteen most severely for two hours with a rope and a stick. Death followed. At the autopsy no mortal wound was found, but there was internally a large effusion of blood, which, as Taylor remarks, would account for the production of a fatal syncope. The same fatal end we can also see in persons who are burnt or scalded over large surfaces of the body. In such a case also there might be no anatomical lesion which would account for the fatal issue.

When, now, the whole surface of the skin, that large nervous area, is exposed to severe cold of short, or to less severe cold of prolonged, duration, through the sum of the injurious impulses attacking the sensory nerves on the surface of the body such a nervous exhaustion may be brought about that the same fatal issue as in the above case will occur, *i.e.*, such a person will die from shock.

As we have seen before, when there is a slight thermic irritation the nervous centres will be gently irritated, the contractions of the heart will diminish in number, the diastolic period will be longer, the pulse waves will be stronger, and through the irritation of

¹ S. Stricker: "Vorlesungen über allgemeine und experimentelle Pathologie," p. 213.

² Taylor: "Principles and Practice of Medical Jurisprudence," p. 613. Edited by Stevenson.

¹ M. Foster: "Text Book of Physiology," p. 1,136.

the splanchnic nerves the vessels of the abdomen will contract. As Ostroumoff, Stricker, and others have shown, there will be a reflex dilatation of peripheral vessels, and the brain will also receive more arterial blood; when, however, this thermic stimulation passes on to thermic irritation and then to thermic injury, there will be an over-irritation of the nervous centre, the contractions of the heart will increase in number, but the pulse wave will be smaller and the vessels of the abdominal organs will dilate; there will be an accumulation of blood in the abdomen and a contraction of the vessels on the periphery: there will be but a small quantity of blood carried to the heart and later on even that will cease. In consequence, the medulla oblongata will not receive a sufficient amount of blood, and if this injurious over-irritation of the nervous centre persists there will come no blood to the medulla, and death will follow. The death so caused is analogous to that following extensive hemorrhage *z.c.*, it will be a death by syncope, brought about by the same agent, as we have seen in the case related by Taylor.

As I have shown above, persons with a diseased heart have a keener sensation of cold, chiefly on account of their periphery being scantily supplied with oxygenated blood, and accordingly we can easily understand how shock from cold will more readily develop in such persons than in persons with a normal heart. We might even suppose that persons with a considerable defect of the heart and very weak circulation might succumb to the prolonged duration of such a degree of cold, especially with damp atmosphere, which would only have a stimulating effect on robust persons. Several such persons have been found dead in their lodgings, even in their beds, during a period of severe frost. It is certain that such a fatal end can be more easily brought about in persons who, besides suffering from a heart defect, are badly provided with food and in a state of starvation, and especially when the cold is associated with dampness or fog. Mental depression also increases the susceptibility to cold.

Finally, I may mention the unfavorable influence of large doses of alcohol, which, as we know, causes a fall of bodily temperature. When the surface of the body is exposed to the cold, there will arise a venous stagnation, and after this the vessels will so contract through the persistent influence of cold that even the red blood corpuscles will not be able to pass through; so that the circulation on the surface will cease.

It is evident that when there are such disturbances in the circulation of the periphery, the resistance offered by the pressure in the arteries will increase and a great strain will be put upon the heart. This will be the more serious in persons who have a weaker peripheral circulation on account of a heart defect. To overcome the resistance on the periphery the heart must make stronger efforts, as the pressure in the heart should be greater than that in the arteries. The contractions of the heart must become stronger to overcome the peripheral impediment, but the main impulse to the contractions of the heart is given by the presence of a sufficient amount of blood under a sufficient pressure. The contents of the heart should act upon the ganglia and the muscles of the heart, but on account of the disturbance of the peripheral circulation the heart will receive smaller quantities of blood.

The same degree of cold that causes a stagnation of the circulation will also be liable to bring about the symptoms of shock by reflex irritation of the nervous centres. Accordingly, as we have seen above, the blood will accumulate in the abdominal organs and the heart will not receive the necessary amount. The chain of fatal circumstances, however, is not yet complete. There will come another hindrance of the cir-

culation through the disturbance of respiration. As Claude Bernard has shown, when the body is under the influence of low temperatures, the blood will not be supplied with a sufficient amount of oxygen. According to Rosenthal, we know that when the blood that is brought to the medulla oblongata has not a sufficient amount of oxygen, the respiratory centre will be irritated and dyspnea will arise. But there will be another effect. As has been shown by experiments made on animals by Traube, Ludwig, Thiry, Stricker, and others, when the blood passing to the medulla is insufficiently oxygenated, symptoms indicative of irritation of the vagi and of the vasomotor centre are observed, and thus over-irritation of the latter through the process of suffocation brings about the same symptoms as those just described. But the disturbance of respiration has also a bad effect upon the return flow of the venous blood.

Under certain circumstances the hindrance of the return flow of the venous blood through gravity, as when a person has been standing upright for a certain time, may also have a fatal effect. Such might happen when a person with feeble circulation (as in consequence of a diseased heart, for instance) should stand for a certain length of time on the corner of a street exposed to the cold.

And this is the vicious circle of injurious influences acting upon a diseased heart. The greater the cold, the greater will be the sensation of cold, but also the greater will be the mechanical impediments to the circulation at the periphery, and, we may presume, *ceteris paribus*, the more will the blood be in want of oxygen. When the irritation of the sensory nerves causes symptoms of shock, the blood accumulates in the abdomen and there is a reflex contraction of the vessels at the periphery. When the circulation at the periphery is disturbed mechanically, there will be smaller quantities of blood carried to the heart, and through the same cause there will also be a great strain put upon the heart. When through the action of the cold the blood is in need of oxygen, the respiratory centre is irritated, dyspnea arises, and the circulation is again impaired; less venous blood is received from the heart, but at the same time the vagi are irritated and also the splanchnic nerves.

Through over-irritation of the vagi the contractions of the heart are increased in number and the periods of diastole are shorter, as has been shown on dogs in the experiments above referred to. If such animals live longer, as Stricker remarks, in the last stages the periods of diastole will again become longer through the paralysis of the motor centres.¹

Shock, as I pointed out, occurs more readily in a person with a diseased heart; the disturbance of the circulation on the periphery will also be greater; the dyspnea (if not caused already by a scanty supply of blood to the medulla oblongata by reason of the heart disease—mitral stenosis, for instance) will be still greater, as the blood is in need of oxygen through the action of the cold. All these factors act upon the diseased heart, and are caused by the action of cold upon the skin. And as the skin is, as I would say in German, the "Angriffspunkt" (point of attack), I might venture to say such persons will die by the skin.

Dieberg, in the *Vierteljahresschrift für gerichtliche Medizin*, says that in all cases of death from cold in Russia he always found the cavities of the heart full of blood. This might seem to contradict what I have said above, but we must bear in mind that there is a difference in the post-mortem symptoms in cases in which death is caused by the action of very severe cold of short duration and in those in which death

¹ S. Stricker: "Vorlesungen über allgemeine und experimentelle Pathologie," S. 197.

has followed the action of less severe cold for a protracted period. In the first case there is such a powerful over-irritation of the nervous centres by the cold that the heart stops suddenly and there is no possibility of expelling the contents of the heart. In the second case the cavities of the heart are empty just as they are in syncope caused by excessive hemorrhage; no blood comes to the heart and there is no blood there to be sent to the medulla.

We know from experiments on animals that a strong irritation of the vagi may arrest the action of the heart. This has also been observed in men. E. Brücke,¹ in his text-book on physiology, relates such a case. A man in Vienna had complained to his physician that he sometimes had a feeling of great anxiety and at the same time his heart would stop. At the autopsy of the same patient it was found that the vagus on one side was embedded in a large mass of swollen lymphatic glands, so that pressure might easily have been exercised upon the vagus, which arrested the heart.

What are now the therapeutical points to be gathered from the above considerations? We must remove (1) the cause and (2) the consequences.

To satisfy the first indication we must send patients who can afford it to the South. This will be the more advantageous, as they will then be free from bronchitis, to which they are inclined on account of the congested state of the lungs. When this is impracticable we must warn patients with a diseased heart not to expose themselves to cold, to clothe themselves very warmly when they go out, and also to take an abundance of nourishing food.

To fulfil the second indication we must improve the circulation. Therefore we must administer medicaments which stimulate the action of the heart, act as tonics, and prevent the symptoms of shock. Among the most powerful stimulants and tonics for this purpose we might use with advantage strophanthus, arsenic with iron and strychnine (especially when there is fatty degeneration of the heart), caffeine, etc. A natural and very efficacious remedy for our purpose is alcohol, to be given, however, only in small doses. We must recommend the patient to take brandy or whiskey, diluted with double the quantity of hot water, in small quantities, several times a day; and in connection with it we might administer with the best advantage tonic doses of quinine. The stronger kinds of wines, which contain a greater amount of alcohol—as port wine or the stronger Spanish and French wines—have perhaps the advantage over brandy that larger quantities of them can be taken. For those who cannot afford wine, we might recommend small cups of black coffee with a few drops of brandy, or larger cups of tea several times a day. We know from our own experience that when we have been exposed to cold for a certain time by walking or standing in cold air or sitting in a cold room, we have symptoms of depression which are exactly the same as those which precede the symptoms of shock. At such times black coffee in smaller or tea in larger quantities, as also alcohol, removes the symptoms of depression. To a less extent we will see the same effect from the use of a light cigar or a few cigarettes. The same remedies are also efficacious to remove the symptoms of mental depression by causing a greater flow of blood to the brain.

Besides the above remedies, medical movements will have excellent results by bringing about a better peripheral circulation and by reflex action upon the heart. In the treatment of the symptoms of shock we may obtain very good results by applying friction to the whole body in connection with a kneading of the abdomen, which, as I have pointed out in a previous

article¹ on the "Treatment of Fainting," brings a greater amount of blood to the heart and brain. During this operation the patient should lie horizontally or with the head lower than the body.

ARREST OF SMALL-POX IN ITS VESICULAR STAGE.

By ALONZO BRYAN, M.D.,

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ON Monday, January 14, 1895, at a stated meeting of the Detroit Medical and Library Association I advanced the theory that small-pox can be arrested in its vesicular stage. About twenty persons were present, all or most of whom were members of the society, and they accorded my theory considerable applause and encouragement.

In the paper which I then read I maintained that the eruption of true small-pox only extends to and includes the vesicular stage; and that the vesicles are simply infectionaria through which pus germs and saprophites are intromitted to the structure of the true skin and to the general system. The paper claimed that the germs of suppuration and of putrefaction are lying in wait, embedded in the epidermis, ready to commence their ravages upon the true skin and system at large as soon as their liberation is effected through the instrumentality of the maceration of the epidermal layers by the fluid of the vesicles.

Furthermore, in the same paper, I declared it as my opinion that the aforesaid pathological germs might be forestalled in their pernicious action by means of germicidal fluids applied to the general surface of the body, whereby a complete maceration of the epidermis could be effected. To accomplish this object I proposed baths of long duration in antiseptic fluids. In a word, I suggested the cautious and gradual evolution of a system of disinfection to be applied to the entire epidermal covering. When the epidermis was disinfected it was to be kept that way by means of suitable antiseptic dressings applied to the cutaneous surface until the complete desiccation of the vesicles.

By means of such a course I proposed to arrest the small-pox in its vesicular stage, and completely prevent suppuration of the skin and suppurative fever with its various dangerous complications. The above statement expresses only the cardinal principles of the subject as discussed by the paper. Up to the present date, June 4, 1896, the paper has never been published.

A few days after having read my paper before the Detroit Medical and Library Association, I assumed charge on January 22d of the Small-pox Hospital at Detroit. I supposed that I should have abundant opportunity to test my theory, but in this expectation I was rather disappointed than otherwise. My appointment was looked upon as a political arrangement, my theory was freely advertised and adversely criticised by the newspapers, the general public was enraged, and the poor, unfortunate patients at first looked upon me with dismay rather than with confidence. Suspicion and distrust were depicted upon all of their countenances. I found the hospital the last place in the world to exploit a theory. Furthermore, I was deprived of my office on March 9th, by reason of a previous act of the State legislature.

According to my view it was necessary to commence the treatment for the arrest of the disease either during the primary fever or at least in the incipency of the papular stage of the eruption. After the slightest degree of pustulation had supervened it would be too late. Nearly all the patients who arrived at the hos-

¹ E. Brücke: "Vorlesungen über Physiologie," S. 113, ii. Band.

¹ Wiener med. Presse, Nos. 70, 71, 1895.

pital arrived after the vesicles were beginning to become purulent.

However, one case was on the ground sufficiently early. It was the case of a woman named Mrs. Lena Press, who came as a nurse to attend her sister who entered the hospital fully broken out with the small-pox. This woman, while attending her sister as a nurse, in due time came down with discrete small-pox. In this case the circumstances were such that I only ventured to apply my treatment with the view to the prevention of pustulation locally. I made my applications to the hands and forearms, which showed a very free and perceptible papular eruption. The papules all developed into vesicles, but only a very small number became purulent, dotted here and there. The vesicles dried up and assumed the appearance of flat, dark brown, desiccated scales, closely adherent to the skin. In due time they were exfoliated, leaving no scars or pits behind.

In this case on every other part of the skin than those that were treated, the vesicles developed into the complete and typical pustules of variola; the demarcation at the elbows sharply showing the difference between the arrested eruption and that which was allowed to proceed.

And this was the manner in which I proceeded to arrest the development of the eruption. I first scrubbed the skin of the forearms and hands with a strongly alkaline soap and water in order to remove the oil naturally existing in the epidermis. Then I washed the skin with alcohol to kill germs and also to remove oil. Next the skin was washed with a 1 to 500 solution of mercuric bichloride. Then it was washed with a solution of hydrogen peroxide. Each of these washings was of ten or fifteen minutes' duration. Finally the parts were well wrapped in a thick envelope of borated cotton.

The above washings were repeated daily for three days, and the borated cotton was applied for a day or two longer.

It should be noted that I would not recommend a universal bath of a solution of the bichloride of mercury on account of its possibly dangerous systemic effect.

I did not give this woman who was the subject of experiment universal baths of antiseptic solutions, because I did not believe she could be prevailed upon to consent to their use, for she evidently shared in the mistrust which reigned throughout the hospital.

Indeed, according to my theory, I should have expected a very imperfect or negative result from the merely local application of antiseptics. Especially would I have looked for failure in a case of confluent small-pox; and for this reason, that after the supuration of a large number of untreated vesicles enough pus-germs would be found absorbed into the general circulation to effect a supuration of the superficially sterilized vesicles, upon the well-known principle that bacteria floating inertly at large in the system may localize themselves by attacking a weakened and non-resisting part. Nothing is more clearly demonstrated in pathology than that pus-germs existing in a state of general circulation often concentrate themselves upon a focus of least resistance and there display their specific energy. So we might reasonably expect a vesicle of variola to be such a focus, and though it might be protected from external infection it could be successfully assailed from within.

Therefore, in a case of discrete small-pox (such as the subject of my experiment was), the damage from the intromission and subsequent localization of bacteria might be trifling, yet in a case of confluent small-pox the phenomena of what might be termed intra-infection would doubtless be very grave.

And from this very cause we might infer how essen-

tial it would be to immerse the patient for hours at a stretch in a suitable germicidal fluid, and at a period, if possible, before the papules had begun to show any accumulation of serum at their apices.

The main principle is to macerate the whole epidermis thoroughly with some suitable antiseptic fluid; and to do it before or at the very incipency of the eruption.

REMARKS ON SOME SKIN DISEASES OCCURRING IN CONNECTION WITH GASTRO-INTESTINAL DISTURBANCES.¹

By FRED. J. LEVISEUR, M.D.,

DERMATOLOGIST TO THE RANDALL'S ISLAND HOSPITALS AND GERMAN POLYCLINIC

THERE are a number of skin diseases which occur in connection with disturbance of the stomach and the intestine.

This fact is well supported by clinical evidence, but, viewed from the more elevated standpoint of theoretical science, it must be admitted that the true nature of this connection is far from being clearly understood. I shall not enter into a discussion of this difficult question, nor shall I attempt to solve any one of the many problems with which such a discussion must confront us at every step; but I simply want to put together, bring more prominently into view, and comment on a few common and several rare skin affections which appear in patients suffering from intestinal disturbances, a condition which renders these cases equally interesting to the clinician and to the dermatologist. In doing this it was unavoidable to disregard more or less that somewhat artificial but highly important dividing line which separates symptomatic from idiopathic cutaneous eruptions.

One of the most common forms of eczema, called eczema infantile, characterized by symmetrical red patches covered entirely or in part with yellowish crusts (*crusta lactea*), is in a vast majority of cases due to derangement of digestion. As a rule, we have to deal with babies who are unusually fat. In fact, they are overfed; their little stomachs are constantly full and distended. Frequent vomiting, nature's safety measure for infantile gluttony, is not sufficient to relieve the overtaxed organ, which reflects its abnormal condition through the vasomotor nerves by producing a local hyperæmia of the face. The highly congested parts begin to itch, the child scratches its face or rubs it against objects within easy reach. Moisture from the mouth macerates and again irritates the affected parts. Occasional constipation alternating with slight diarrhœa is almost always present. Sleep is fitful and much disturbed.

In another class of cases of this disease, comprising children under six months of age, when the salivary glands are still functionally inactive and consequently unable to dissolve and absorb starch, the gastro-intestinal disturbance is caused by giving the young infant starchy food.

It has been ascertained beyond a doubt that in a number of cases the eczema disappears as soon as the diet is regulated or a radical change in feeding is made; that on the other hand local treatment alone is often insufficient to effect a permanent cure. The baby should be nursed not oftener than four times during the day and three times during the night, and at regular intervals. If cow's milk or artificial food is given its composition should be investigated; its action should be watched and possible errors corrected accordingly. Among medicinal remedies calomel in the dose of one-tenth to one-fifth of a grain three times a day can be recommended. Dilute muriatic acid and

¹ Read before the Manhattan Medical and Surgical Society.

very small doses of creosote may also be tried. Local applications should by no means be neglected. Their quieting effect alone makes a change of the alimentary regimen very much easier. Some cover the face with a soothing salve or paste spread on lint, which is bandaged down in the manner of a mask with apertures for the nose, mouth, and eyes; others attain the same results by using the calamine-and-zinc solution, or some mild paste or salve without bandaging.

All writers agree that a large percentage of cases of acne rosacea is caused by indigestion. We often find this disfiguring affection in alcoholics, but also in men and women who drink nothing stronger than tea. These patients have *fœtor ex ore*, especially in the morning, sour eructations, constipation, and perhaps a distressing feeling of fulness after meals; in short, all the symptoms of a mild fermentative gastritis. I have observed that in most cases the teeth are so decayed or defective and the mucous lining of the buccal cavity is so swollen and congested that the patients do not masticate their food properly. I am unable to say whether the indigestion is the cause of this pathological condition of the mouth or *vice versa*, or whether there exist a direct connection between the dental and the skin affection by way of reflex action on the dental branches of the fifth and the vasomotor nerves. It is possible that these different etiological factors co-operate in producing acne rosacea, which essentially is an angio-neurotic affection. Of twenty-four cases observed among the workhouse men and women at Randall's Island (mostly inebriates) fifteen had extensive dental defects, so that mastication was positively interfered with; in five cases the teeth were very much decayed, but the patients were able to masticate their food. In only four cases were the teeth not worse than would be expected. The age of the patients ranged from thirty to forty-five years. The most pronounced case of acne rosacea seen by me of late concerned a gentleman who kept a restaurant which was said to have quite a local fame for good Rhine wine. This wine was, however, made by the patient himself, as he told me in confidence, from grapes by a primitive process. I found that this wine was very sour, probably on account of imperfect acetic-acid fermentation. The patient, who was in the habit of drinking a bottle or two of it every day, had a very pronounced fermentative gastritis. Many of his teeth were missing, broken off, or decayed, and the gums were swollen and had a bluish appearance.

It must be remembered that in women near the climacteric neuroses of the stomach occur quite frequently, and it is therefore often difficult to decide whether some cases of acne rosacea in women with uterine affections are due directly or indirectly to reflex from the genital sphere.

In severe cases lavage is indicated and has sometimes a surprisingly good effect on the skin eruption. It must not, however, be expected that the mechanical removal of the fermenting masses stops the fermentation: the latter will promptly start again with the very next food supply. Careful dieting is almost always necessary: the amount of carbohydrates should be limited: alcohol, tea, pastry, the coarser vegetables, and milk should be forbidden. Bismuth, carbonate of sodium, creosote, carbolic acid, thymol, and ichthyol may be employed. I have had good results from the use of the fluid extract of ergot. According to Wertheimer and Magnin, ergot produces very active movements in the coats of the stomach, and Wright found very active intestinal peristalsis at the post-mortem examination of poisoned animals. Besides having this action on the intestines, therapeutic doses of ergot increase blood pressure by stimulating the vasomotor centre in the medulla. The condition of the teeth and mouth requires close attention. Cavities

ought to be filled by the dentist, roots removed, and the use of artificial teeth recommended if necessary. Local treatment is of course of great importance, especially scarification of the enlarged blood-vessels.

It would carry me too far if I were to consider the various drug eruptions which appear in connection with gastro-intestinal disturbances, as for instance erythema after the use of quinine, antipyrin, turpentine, balsam of copaiba, sandalwood oil, arsenic, etc.

Urticaria appears in certain individuals after eating strawberries, gooseberries, raspberries, lobster, oysters, fish, oatmeal, sausage, etc. That we ascribe the disease to an idiosyncrasy, a term devoid of scientific meaning, is an open confession of our ignorance of the true nature of the poisonous agent. After excluding all cases of purely nervous origin (for instance, those caused by anger, shame, excitement, etc.), a distinction can be made between cases of gastric and intestinal origin. In the former class of cases the rash appears in a remarkably short time after the ingestion of the special article of food, very much like the nervous effect of some poisonous drugs. If vomiting occurs, it may cut short the attack and be followed by immediate relief. One attack seems to confirm and intensify the susceptibility to subsequent attacks. I do not believe that neuropathic, hysterical individuals are most liable to have attacks of urticaria. I have often observed that otherwise healthy persons become neurasthenic after repeated attacks of urticaria.

The absence of all gastro-intestinal disturbances in a case of urticaria is a negative symptom, sometimes of great diagnostical value. It may mean the bursting of an hydatid cyst of an internal organ.

Urticaria of intestinal origin appears more slowly and is of a more chronic nature. In some cases there is dilatation of the stomach and when the patient becomes somewhat constipated the attacks appear half an hour till an hour after meals and last for several hours. This is a very obstinate form of the disease, and many remedies may be tried before a cure is effected. W. Osler has observed eleven cases of exudative erythema appearing with gastro-intestinal crises. Subsequent attacks sometimes appeared without the skin lesions. There may be simply colic of all grades and intensity, from a transient, readily borne belly-ache to an attack of such agony and duration that repeated hypodermics of morphine have to be given. Vomiting and diarrhoea are frequent but not necessary accompaniments of the attack. The disease bears no relation whatever to food and may come on abruptly in a person in excellent health. Of sixty cases mentioned in the literature (Osler's eleven included) thirteen died, giving a mortality of 21.3 per cent. There is no intestinal hemorrhage, as in the infantile purpura of Henoch. The affection resembles in some respects the giant urticaria, or angioneurotic œdema of Quincke, which is characterized by nausea and vomiting appearing in connection with an œdema of the eyelids, lips, or cheeks, sometimes the backs of the hands and the legs. If the œdema occurs in the larynx the disease may prove fatal. According to Natas there may be a remarkable periodicity in the outbreak and there seems to be a marked hereditary disposition in the disease.

Pellagra, an endemic disease, so very prevalent in Northern Italy and occasionally also met with in Southern France, develops according to Lambrose under the influence of a diet of diseased maize. The disease begins with malaise, indigestion, and diarrhoea. Then an eruption appears on the exposed parts of the body, the exciting cause being ascribed to the action of the sun's rays. It is an erythema accompanied by pigmentation, desquamation, and pruritus. Later on the skin assumes a dark olive-brown hue and petechiæ appear on the belly and chest. An

endemic disease closely resembling pellagra, called acrodynia or erythema endemicum, was observed in Paris about 1830. Mention is made here of these affections because it has been suggested that possibly other grains, such as oats, may undergo similar changes and produce similar effects.

Indigestion and constipation are often found to be associated with pruritus universalis occurring in middle-aged persons. It is impossible to say whether the gastro-intestinal disturbance has any etiological significance or is simply a concomitant symptom. If a conclusion *ex juvantibus* be allowed, I can say that a strict milk diet carried out thoroughly in a number of severe cases seemed to do no good.

That the secretions which the food meets with in the intestinal canal are antiseptic in their action may be anticipated, according to Kirke, not only from the proneness to decomposition of organic matters, such as those used as food, especially under the influence of warmth and moisture, but also from the well-known fact that decomposing flesh (high game) may be eaten with impunity. The absorption of products formed in the intestine by the decomposition of the albumin under the influence of bacteria, a process called auto-intoxication, has recently been claimed by many authors to be the cause of attacks of erythema, urticaria, herpes, and pemphigus. An increased quantity of indican (dioxyl sulphate of potassium) is claimed by Singer to be a sign of idiopathic urticaria caused by auto-intoxication. The subject of indicanuria in relation to skin diseases certainly needs more extensive investigation. Clinical experience confirms the opinion that exacerbations of many skin diseases, eczema, furunculosis, acne, psoriasis, may be traced to absorption of poisonous products in the intestine.

640 MALISON AVENUE.

A NEW FLUORESCENT SUBSTANCE.

BY LÉON BERTRAND, M.D.,

ANTWERP,

SURGEON SS. SOUTHWARK, RED STAR LINE.

I BEG to introduce to notice a new fluorescent chemical discovered by Dr. Edm. Van Melckebeke, of Antwerp, which is called double fluoride of uranyl and ammonium. I had the honor two weeks ago, at a meeting of the Société Médico-Chirurgicale of Antwerp, of demonstrating Edison's fluoroscope, which was very highly appreciated, indeed; but I have to confess impartially that it is equalled in every respect by Dr. Van Melckebeke's discovery, which I had the pleasure to experiment with myself. Moreover, this last has the advantage of being very cheap.

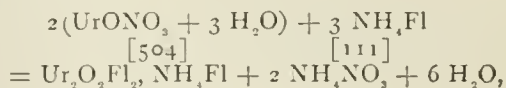
The following is the manner in which Dr. Van Melckebeke discovered his new chemical: First, recalling the fluorescent properties of the nitrate of uranium, he made a solution of that substance and coated a piece of cardboard with it; but no fluorescence was obtained under the "X" rays. He then modified the method of impregnating the cardboard, and, instead of coating it with the solution, he fixed the nitrate of uranium on the cardboard through the medium of a gummy solution. The screen then became fluorescent under the "X" rays.

Dr. Van Melckebeke explains the failure of the first method to produce fluorescence by the fact that the solution impregnated the fibre of the cardboard, and after evaporation of the water the salt remained either in an amorphous state or in a state of confused crystallization. Fluorescence, like rotatory polarization, seems to require a state of perfect crystallization.

Among the chemicals which precipitate in a state of perfect crystallization are the double fluorides.

Wurtz's Dictionary (vol. iii., p. 561) mentions a double fluoride of uranyl and ammonium with the formula: $\text{U}_2\text{O}_2\text{F}_2, \text{NH}_4\text{F}$.

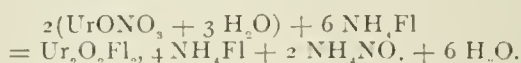
If one drop of nitrate of uranium and a particle of fluoride of ammonium are brought together, they will produce regular octahedrons. But if larger quantities are used, five hundred and four parts of nitrate of uranium and one hundred and eleven parts of fluoride of ammonium, according to the formula of Wurtz and the equation:



no crystals are produced.

Dr. Van Melckebeke increased gradually the quantity of fluoride of ammonium in the proportion of about one part of fluoride of ammonium to two parts of nitrate of uranium. He obtained a crystalline deposit, which, examined under the microscope, presented all the characteristics required. After precipitation, the liquid had lost its color entirely.

In order to obtain this result, the proportions to be used seem to correspond approximately to the formula: $\text{Ur}_2\text{O}_2\text{F}_2, 4 \text{NH}_4\text{F}$, according to the equation:



The deposit is put in a filter, is washed with cold water, and dried. It then appears as microscopic octahedral crystals, yellowish-green by reflection, and colorless in thin coats by transmission; it becomes fluorescent while exposed to the violet rays. These crystals are not very soluble in cold water, but are more soluble in boiling water; hence they may be deposited on the surface of objects by simple cooling of a hot saturated solution.

As far as we know, the chemical is a new one. It is certainly different from the one mentioned by Wurtz, as much by its composition as by its crystallographical properties and by its smaller degree of solubility in water. It has some analogy to the double fluoride of uranyl and potassium, $\text{Ur}_2\text{O}_2\text{F}_2, 4 \text{KFl}$, and to the double fluoride of uranyl and sodium, $\text{Ur}_2\text{O}_2\text{F}_2, 4 \text{NaFl}$ (see Wurtz's Dictionary Supplement, vol. ii., p. 1,628).

Oxyfluoride of uranium and ammonium can be spread on pieces of cardboard through the medium of different excipients, such as a solution of gelatin, oily varnishes, etc. This is the best way to proceed: On the bottom of a basin put a sheet of strong blotting paper and cover it with a boiling saturated solution of the oxyfluoride; let it cool, and when the paper is covered with a crystalline coating decant the liquid. Repeat the operation two or three times. In order to give some solidity to the deposit, cover it with a coat of gelatin. The fluorescent power of the chemical prepared in this way seems to vary according to the thickness of the coat of gelatin.

Dr. Henri Van Heurck, of Antwerp, has a good method of photographing the image thrown on these screens. He puts the screen in close contact with the film, and obtains a very good picture in a few moments.

Dr. Van Melckebeke's discovery dates from the beginning of March. The net cost of the double fluoride of uranyl and ammonium is, in Europe, twenty-seven cents an ounce.

Scurvy.—Dr. Cheney says that a "black eye" coming on in an infant without traumatism, and perhaps repeated several times, can rarely be due to anything else but scurvy.—*Medical News*, February 29, 1896.

Progress of Medical Science.

The Presence in the Normal Thyroid Gland of a Substance Containing a Relatively Large Quantity of Iodine.—The demonstration by the distinguished Freiburg chemist Baumann, says the *Medical News*, of the presence of an organic iodine compound in the normal thyroid gland must be regarded as one of the most important of the recent contributions in the field of chemistry. But, quite apart from the interest which belongs to it from a purely chemical standpoint, a much wider significance attaches to the discovery from its therapeutic aspects; for we are now at least promised a solid basis from which may be deduced an explanation of many well-known clinical facts which have been developed not only from the treatment of disease of the thyroid gland with thyroid extract, but from organotherapy in general. Almost simultaneously with the earlier reports dealing with the benefits to be derived in certain diseases from the administration of the thyroid extract, there developed in chemical circles an unprecedented activity in investigating the constituents of the thyroid gland; and the unabated interest which has since prevailed is evidenced by the large number of articles dealing with the subject that have appeared up to the present time. None of these, however, offers a satisfactory explanation of the beneficial influence which has undoubtedly followed this form of medication. The incomplete publications of Notkin, in which it was asserted that two substances—a protein and a ferment—were responsible for the virtues of the gland, have been looked upon, curiously enough, with favor by the French, although physiological chemists in Germany and America have not been inclined to consider them seriously. The crystalline nitrogenous derivative described by S. Fraenkel, although of chemical interest, is insufficient to supply a solution of the problem in question. The idea that the element iodine might stand in some very definite relation to the metabolism of the thyroid gland is by no means new. Even so early as 1850 Chatin, who believed that iodine was present in the air, in water, in all plants, in fermented drinks, in milk, in eggs, and in the soil, suggested that its presence was essential to the welfare of the organism, and that cretinism and goitre occurred only in those regions in which iodine was entirely absent from the drinking-water. Others who studied the constitution of the air and of water denied, however, the presence of iodine in them, and Chatin's theory was at first discredited and afterward forgotten. Kocher, the distinguished surgeon at Zurich, only a short time ago, relying upon the fact that the efficacy of iodine in the treatment of diseases of the thyroid gland compared favorably with that of the thyroid extract, suggested that the normal thyroid gland be examined thoroughly in order to see if iodine existed in it. Tschirsch incinerated the gland, but failed to find iodine, and chemists, relying upon his results, naturally took it for granted that this element was absent. This negative result was perhaps not surprising, considering the small amount of iodine present in the crude gland, though Baumann has since detected it in the ash from one gram of the dried gland. Roos, in a report of an investigation preceding Baumann's publication, in which he showed that the thyroid gland bore a distinct relation to the phosphorus metabolism of the body, mentioned some experiments which may really be looked upon as the forerunners of Baumann's brilliant discovery. It had for some time been known that digestion, moderate heat, and certain antiseptics did not destroy the active substances of the thyroid gland, and Roos proved, in addition, that prolonged boiling in five to ten per cent. solutions of the min-

eral acids apparently did them no injury. It was his opinion that a portion of the active substance, though not all, was soluble in water.

Deciduoma Malignum.—Since 1876 there have been recorded some sixteen cases of a distinct variety of malignant disease of the uterus having histological and clinical characteristics peculiar to itself and sufficiently interesting to deserve more attention than has been bestowed on it. Dr. G. W. Beach has given us a very full account of the disease, besides quoting a case that was under his care. The disease was given the name deciduoma malignum by Gottschalk in 1893, and it is referred to by that name by French authors. The interesting points which pertain to the disease are its undeniable relations to pregnancy and its peculiar pathological anatomy. In the histological preparations made of all the cases up to date a constant element has been found—an immense cell, corresponding to the giant cells of the decidua. These cells are polymorphous, possessing one large nucleus, rarely more than two, and have a homogeneous granular protoplasm. These cells invade the tissues and are found mixed up with other elements in the interstices of connective tissue and inside the muscular bundles. The development of the disease is very rapid, the neoplasm invading the blood-vessels and giving rise to free hemorrhages and attacking the whole uterine wall. Metastases are very common, the lungs and pleura being most often affected. In nine out of the sixteen cases the patients were under thirty. The growth usually appears shortly after childbirth or abortion, but in three cases hydatiform moles marked the commencement of the disease. The majority of authors admit that the neoplasm develops from the debris of the decidua, but at present it is impossible to say why retention of the decidua in one case gives rise to hemorrhages simply and in another to deciduoma malignum. The first sign of the disease is metrorrhagia after a confinement. The hemorrhage is at first intermittent and scanty, but later on increases and becomes incessant, and curetting has no effect in checking it. The patient soon becomes cachectic, and toward the close the discharge becomes putrid and is usually accompanied by fever. Death takes place generally by exhaustion. The disease is very rapid, and general invasion by metastases is certain. On examination the uterus is always found increased in size, the os being permeable or not according as the disease has progressed. The uterine cavity will be found to contain soft pulpy masses resembling placental tissue mixed with blood clots, and in places the uterine wall is softened and the finger sinks easily into the muscle. The diagnosis in the early stages is difficult. If there is intermittent hemorrhage after confinement the proper course is to curette. If the first curetting does not check the hemorrhage, a second must be performed and microscopical examination made of any debris removed. If the uterus is found enlarged and curetting shows softening of the uterine wall in patches, and the characteristic giant cells have been found by the pathologist, the only course is to remove the uterus and appendages as soon as possible. Vaginal hysterectomy has been performed in five instances with recovery in two only, but time enough has not elapsed to show us more than the immediate results, which, however, are good. As the evolution of the disease is so rapid everything hangs on an early diagnosis.—*Indian Medical Gazette.*

Hip Amputations.—Before applying the tube (in Wyeth's technique) the tendons of the hamstring muscles should be cut, in order to equalize the subsequent retraction of the muscles when the circular cut is made.—DAWBARN.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE CIRRHOSES OF THE LIVER.

THE history of our knowledge of the cirrhoses of the liver is closely identified with French medicine. It speaks well for the breadth and liberality of the German scientist that in an elaborate discussion on this subject by Professor Senator, before the Hufeland Medical Society, he gives full credit to his French medical brethren.¹

Laennec was the first to separate the cirrhoses from other diseases of the liver, which he did in his celebrated treatise on "Auscultation," seventy-eight years ago. The description which Laennec gave of atrophic cirrhosis remains good to-day, and his name is still associated with one form of this malady. Later authors soon showed that there were other forms, however, associated with hypertrophy of the liver and with jaundice, and having a different cause and clinical history. Many attempts to describe and differentiate the types were made, but it was not until 1876 that Charcot and Gombault gave a classification which to some extent still holds. According to these authors, there is the common cirrhosis of Laennec, with granulations and an atrophy, and due to a proliferation of connective tissue, starting from the portal vein and its branches. Then there is a cirrhosis associated with hypertrophy and jaundice, which starts essentially from the system of biliary ducts, and which is due to obstructions and inflammations in these organs. A third form of hypertrophied liver was noted, as occurring in persons suffering from hereditary syphilis. The distinction between the first two types of cirrhosis—that of portal origin and that of biliary origin—is still, according to Senator, to be maintained, and has been supported by the further and more elaborate researches of Ackermann and other pathologists. It has, however, been found that the precise course of these two types, as described by Charcot and Gombault, is not always observed and that mixed forms undoubtedly occur. In order to meet these clinical distinctions, Senator describes two varieties of the atrophic or granular form. One of them he calls portal cirrhosis with hypertrophy of the liver, the other cirrhosis with icterus. It had been noticed that cases of biliary cirrhosis were followed eventually by an atrophy; hence, Senator establishes a special class of this form of disorder, which he calls "biliary cirrhosis with secondary atrophy," and a variety of this he calls

"biliary cirrhosis with hypertrophy of the spleen." The third and final type is called a "hypertrophic cirrhosis with icterus."

The atrophic cirrhosis of Laennec is characterized by an atrophy of the liver and enlargement of the spleen, absence of icterus, and absence of bilirubin in the urine; later by ascites and dilatation of the veins of the abdominal wall and of the gastro-intestinal tract. This is undoubtedly a common type of atrophy, and is associated usually with excessive indulgence in alcoholic drinks. While some authors consider that in this disease the primary trouble is a degeneration and wasting of the liver cell, with secondary proliferation of connective tissue, it is generally taught that connective tissue, starting from the portal system, begins to grow first and that the cell atrophy follows it. The biliary cirrhosis with atrophy in its typical forms is due to obstruction of the biliary passages by the catarrhal products or by calculi. Here the leading symptoms are decoloration of fecal matters, at first enlargement of the liver, followed by atrophy, without swelling of the spleen and without ascites. The urine contains bilirubin in abundance.

In the third form, that known as cirrhosis of Hanot or the hypertrophic cirrhosis with icterus, the liver is enlarged. The discoloration of fecal matters is little marked and variable. The urine, which is rather abundant, contains generally some bilirubin. The spleen is enlarged and there is here also no ascites nor portal stasis.

This last type of the disease is, according to Senator, very rare, and he admits to have seen only about a dozen cases. Men are more often affected than women, and the essential cause seems to be a catarrhal condition of the bile ducts. The distinctive features are the large liver and the hypertrophied spleen, the enlargement of the liver occurring quite early. This form of cirrhosis is more benign than the portal type and runs a variable course, during which the patient gets now better, now worse. It lasts sometimes ten or a dozen years. A cure is not impossible in these cases and death, when it does result, is due to marasmus and profuse hemorrhage, or, perhaps, to a peritonitis.

As regards prognosis and therapeutics, Senator has little to add to what is already known. The prognosis is bad in all the forms, except, perhaps, in that due to the presence of calculi or other movable obstructions to the biliary duct. In general, the prognosis is bad in accordance with the smallness of the size of the liver, and cases of hypertrophied liver are more favorable than those in which it is of normal volume.

The portal cirrhosis of Laennec, though incurable, can be very much ameliorated by treatment. Alcoholic drinks must be forbidden, and a non-irritating diet, composed largely of milk, must be prescribed. Milk and iodide of potassium, though they seem to be borne by Frenchmen and Italians, agree less with the German constitution; at least, Senator states that, according to his experience, few Germans can habituate themselves to a milk diet for more than a few weeks. It

¹ Archives générales de Médecine.

is necessary in their cases to add something else. Senator is a little skeptical as to the value of iodide of potassium in cases in which there has been no syphilis. He considers it important to puncture the abdomen and relieve the ascites as early as possible, and he finds that the use of calomel and digitalis is helpful. In the biliary types of cirrhosis he uses injections containing a litre of oil and a little soap and water, or solutions of salicylate of sodium, 1 to 1,000, all combined with careful massage of the liver, and from time to time laxatives, especially those known as cholagogues. Prolonged baths, with massage during the bath, and the cures that one gets at such places as Carlsbad, exercise a favorable influence upon the excretion of the bile.

AGAIN THE DISPENSARY ABUSE.

THE dispensary abuse is being recognized and the evils of which it is capable appreciated by the lay public, and this fact is a promise that the near future will bring a remedy. The subject received intelligent consideration at a recent meeting of the municipal section of the Civic Club of Philadelphia—an association constituted solely of women—in a paper read by one of the members, Mrs. Francis Howard Williams. The facts upon which the paper was based were obtained through personal investigation conducted through the medium of a series of questions pertinent to the knowledge desired. After dwelling upon the origin, the usefulness, and the necessity of dispensaries in large communities, the abuses of the system were graphically described. The speaker went on to say that:

"In our desire to make relief easy for the suffering poor, we have weakened their natural powers to help themselves; we have diminished their self-respect and sense of independence; we have made them less helpful as men and women, and more helpless as members in a community in which to live is already difficult, and the way open only to those who bring to the contest a wholesome consciousness of their own worth, with a hearty disposition to work. Not only do the needy and deserving resort to the dispensary. Many go there who would be ashamed to receive a benefit of another nature. There are hundreds who do not scruple to accept a bottle of medicine who would scorn the gift of a loaf of bread; many who use a doctor's time and accept his advice who would refuse a pair of shoes from their shoemaker, although, perhaps, the latter is twice as able to give of the fruit of his labor. It is not only the poor who are willing to depend upon the dispensary; there are some cases among the well-to-do.

"I have been informed that the members of the medical profession, in their anxiety to secure clinical service, are responsible largely for this evil, and that dispensaries are necessary feeders to hospitals; nevertheless, it is evident that if they benefit the medical practitioner at first, he loses in the long run."

Several illustrative instances were cited, showing that an unrestricted establishment of dispensaries is

hurtful to the healthful self-respect of the members of a community, while at the same time depriving the physician of the proper rewards of his labor. The remedy proposed is as follows:

"Cut down the power of dispensaries; restrict their establishment; oblige them to have telephone communication with the charity organizations; establish beneficial associations, in which the physicians are paid salaries, and in which they can afford to treat patients at moderate fees; refuse dispensary aid to persons who are able to pay, and refer them to the beneficial associations for treatment."

DEATH SCENES IN FICTION.

WE do not see on what ground, either of art or science, of public good or private morals, the publishing of medical descriptions of death in popular novels can be justified. We do not mean to say that the novelist should not allow his patients to die if circumstances compel it, or that he should not describe the way they die in as pathetic, dramatic, or tragic a manner as he chooses. But to introduce into the pages of novels technical descriptions of deaths from diphtheria, opium poisoning, tuberculosis, or other malady, is offensive to good taste and is a misuse of the art of fiction. If people want to know exactly how a person dies who has a cancer of the uterus, there are excellent technical descriptions in a large number of standard works; in fact, the literature of medicine is burdened with such descriptions, some of them joining literary skill with technical knowledge.

We are led to these remarks by a perusal of the death-bed scene in a case of diphtheria as described by the at-one-time novelist "Ouida." This lady is, happily, one of the passed among fiction writers, but she seems to be trying to make up for her decaying powers by silly sensationalism. This is the manner in which she describes death from diphtheria: "The poisonous growth filled every chink of the air passages, as though they were tubes mortared up and closed hermetically. His face grew purple and tumid. His eyes started from their sockets. He had no sense left, except the mere instinctive mechanical effort to gasp for the air he would never breathe again. Blood foamed in froth over his lips, which were curled over the white teeth and were cracked and blue. His eyes, starting from their orbit, had no sight. Suddenly the convulsions ceased." This, according to "Ouida," with a few additional trappings, such as nuns kneeling around on the floor, and shadowy lights thrown through the room, etc., constitutes a supposed realistic description of a death-bed scene from diphtheria. It is, perhaps, truer than the death-bed scene from opium poisoning, as described by Marion Crawford, where the patient sinks away with his pupils widely dilated. But, after all, it is not a true picture of the way patients die from this disease. It is partly technical, partly imaginary, and altogether exaggerated, a mongrel affair, such as all medical descriptions of maladies and deaths by novelists must necessarily be.

News of the Week.

Prof. H. Leloir, of Lille, France, died recently at the age of forty-two years. He had been professor of dermatology in the University of Lille since 1886. He was best known for his original work on the subject of neuroses of the skin, but had written many valuable essays on leprosy, lupus, and other dermatological subjects. In collaboration with Vidal he wrote a treatise on skin diseases which is recognized as one of the best in any language. His last work was the preparation of the article on "Dermatoneuroses" in the "Twentieth Century Practice." While he was engaged on the final section of this article last winter, he was the victim of a railway accident, receiving very severe injuries from which he never entirely recovered, and which probably contributed to the fatal termination of his last illness.

The Cholera in Egypt continues with about three hundred and fifty deaths daily. The disease has now made its appearance among the British troops at Wady Halfa and Cairo as well as among the native soldiers. The cable reports that the health authorities of Dantzic made an official certification of a case of Asiatic cholera in that city on July 7th. None has since been reported, so it is probable that that was an imported case from Galicia or the provinces of southern Russia, where the disease is believed still to linger. It is denied that it exists any longer in St. Petersburg or Moscow.

Yellow Fever and Small-Pox are still prevalent in Cuba, the latter being even more deadly than the former. The victims of yellow fever are chiefly the foreign soldiers stationed in the coast towns, but the small-pox attacks natives and Spaniards alike, and those in the interior as well as the inhabitants of the seaport cities. Santiago seems to be the greatest sufferer from both these diseases, especially small-pox.

Hot Weather in England.—There is much suffering in the southern part of England from unusually high temperature, which, however, would not be regarded as excessive here, the thermometer registering only about 80° F. in the shade. A correspondent of *The Lancet* is moved to suggest a practice "which is said to be in common use in Florida and other parts of America" (!). It is, namely, to cool the bed with a tin vessel like a warming-pan, filled with ice. To the English, who have a horror of damp sheets, such a measure would hardly commend itself.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the week ending July 11, 1896. July 7th.—Medical Inspector J. C. Wise detached from the Washington navy yard and ordered as a member of the board of inspection and survey July 15th. Medical Inspector R. A. Marmion detached from the board of inspection and survey July 15th and ordered to the Washington navy yard. Passed Assistant Surgeon S. S. White detached from the naval academy and ordered to the *Thetis*. Passed

Assistant Surgeon G. A. Lung detached from the *Thetis*, ordered home, and granted two months' leave. July 8th.—Surgeon P. A. Lovering detached from the New York naval hospital and ordered to the *Oregon*. Passed Assistant Surgeon C. H. T. Lowndes detached from the Washington navy yard and ordered to the naval hospital at Philadelphia. July 10th.—Surgeon C. U. Gravatt ordered to Norfolk with draft of men and then home with three months' leave. Assistant Surgeon R. G. Brodrick ordered to the *Franklin*.

Government Laboratories in India.—The government of India is about to establish a bacteriological laboratory at Agra and a chemical laboratory at Calcutta.

Trouble in a Brooklyn Hospital.—It is reported that the superintendent of nurses and one of the surgical staff of Seney Hospital in Brooklyn have resigned because of disagreement with the governing board.

An Ether Prize Fund for the Boston City Hospital.—A prize of \$20 is hereafter to be offered semi-annually to the surgical interne of the Boston City Hospital "who administers ether in the most skilful and humane manner."

Physicians are Hazardous Risks.—Several of the accident insurance companies have recently raised the premium rate for physicians, upon the ground that they do not belong in the preferred class, being really extra hazardous risks.

Records of Medical Heroism.—A hall of honor has been established in the Val de Grâce Hospital, in Paris, where the names of French medical men who died in the performance of their duty are inscribed on marble tablets. A list of one hundred and forty-three practitioners has just been placed on its walls, all of whom perished in the yellow-fever epidemic in San Domingo, 1801-1803.—*Medical Press*.

Dr. William H. Welch, of Baltimore, received the degree of LL.D. from his alma mater, Yale, at the recent commencement.

Protection against Law Suits.—It is stated in the *Maryland Medical and Surgical Journal* that a well-known surgeon of Baltimore keeps a book in which he has printed a form which all patients must sign before submitting themselves to an operation while under his care. In the case of a married woman the operation is explained to herself and her husband and both sign the release, and, in case of the absence of a husband, the nearest responsible male relative witnesses the signature of the woman.

A Collective Investigation Concerning Negro Mortality.—The graduates of a Southern college are to make an inquiry into the causes of the large mortality among negroes in cities. It is said that the death rate among negroes in the larger cities of the South is twice that of the whites.

New Jersey State Board of Medical Examiners.—At the annual meeting of the New Jersey State board of medical examiners held at Asbury Park on

July 6th, the following officers were elected for the ensuing year: *President*, Dr. William Perry Watson, of Jersey City; *Secretary*, Dr. E. L. B. Godfrey, of Camden; *Treasurer*, Dr. A. Ubelaker, of Morristown. Resolutions were adopted expressive of the appreciation of the board of the services of Dr. Watson.

Anthrax in New Jersey.—Anthrax has again made its appearance in Greenwich Township, Cumberland County, N. J., where some cows have died of the disease. The disease has also made its appearance at Paulsboro.

Obituary Notes.—DR. WILLIAM A. PIPER died at Philadelphia on July 6th at the age of seventy-seven years. He was born at Milton, Pa., where his father was a prominent practitioner, and he was graduated from Jefferson Medical College in 1844. He was at one time a member of the board of health.—DR. HARRY CLAYTON, a young physician of Middletown, Del., was drowned in Silver Lake on July 6th by falling from a boat in an attack of vertigo. He was a graduate of the University of Pennsylvania.—DR. THERON Z. GIBBS, of Fort Ann, N. Y., was instantly killed at that place, on July 14th, by a railway train which struck him as he was crossing the track. He was sixty-nine years of age, and was graduated in medicine at Castleton, Vt., in 1853.—DR. CHARLES STEYER died at Philadelphia on July 6th from the rupture of an aneurism, at the age of fifty-six years. He was born at Norristown and was graduated from the University of Pennsylvania in 1862. He was for three months in 1861 a volunteer in a Pennsylvania regiment, and upon graduation became an assistant surgeon in another volunteer regiment. In 1867 he entered the regular army as an assistant surgeon and continued in this position until 1878. In 1885 he was appointed a medical officer of the United States Marine Hospital Service at Philadelphia. He was for a number of years one of the visiting physicians to the German Hospital. He was an officer of the Grand Army of the Republic and was connected with a number of other organizations.

Surgeon-Major Heuston, of the British army, professor in the medical school at Tientsin, has been made a mandarin and received the decoration of the Order of the Double Dragon from the Emperor of China.

James M. Anders, M.D., LL.D.—At the recent commencement of Ursinus College the degree of doctor of laws was conferred upon Dr. James Anders, professor of the principles and practice of medicine in the Medico-Chirurgical College of Philadelphia.

Report on the Langerhans Case.—Professor Ehrlich's official report on the serum used in the Langerhans case has been published by the Prussian cultus-minister. Ehrlich comes to the conclusion that the serum was entirely normal in its constitution. He says: "In the Langerhans case No. 216 of the Höchst works was used. This No. 216 had been officially tested on December 16, 1895, and passed on for sale on December 18th, the examination having demonstrated the required one hundred immunizing unities

per cubic centimetre, perfect sterility, and the prescribed admixture of carbolic acid. Immediately after the announcement of the death this serum was subjected to a careful re-examination. As the legal authorities had disposed of the remainder of the bottle used for the injection, samples of the same pass number that had remained at the station were taken, and also bottles of the same number from the stock of the Charité Dispensary, where Professor Langerhans' bottle had come from. The serum again showed the required one hundred unities per cubic centimetre, and bacteriological examination proved it to be free from germs, so that there can be no question of any subsequent formation of poisonous bacterial products. By a number of experiments on animals the admixture of carbolic acid was shown to be no higher than permitted. Thus, on re-examination too, the serum answered to the tests exacted. Nevertheless, it seemed important to ascertain whether, perhaps, toxic effects produced by this number had been noticed anywhere else. About thirteen hundred portions of this serum had been brought on the market, and if it really contained toxic substances it seemed extraordinary that no one had drawn attention to the dangerous qualities of this particular number. Researches were made in the hospitals that had received No. 216 serum from the Höchst works (serum dépôt of the Royal Charité Dispensary, Julius Hospital in Würzburg, General Hospital in Hamburg, sick club of the Royal Dockyards in Kiel, Municipal Hospital in Magdeburg, Krefeld Hospital); in none of these places had any special, much less any toxic, effect of the serum been observed. According to the statement of the director of one of these hospitals, a child of eighteen months had been given a dose of sixteen cubic centimetres, without showing any alarming symptoms. This is at least ten times the dose used for Professor Langerhans' child. The director of the Hamburg Hospital gave an account of immunizing experiments on children. He says that four bottles of the No. 216 serum were used for immunizing children in the eye department; not only were no ill effects observed, but it might be confidently asserted that none existed. Thus the clinical communications also contradict the assumption that substances of strong toxic action were contained in the serum. On the contrary, the No. 216 serum has shown itself to be a preparation answering to all the tests at present exacted, and perfectly normal in its constitution."—*British Medical Journal*.

Philadelphia County Medical Society.—At the stated meeting of the Philadelphia County Medical Society, held on June 24, 1896, Dr. A. J. Downes exhibited "Collapsible and Removable Bobbins for All Forms of Intestinal Approximation; a New Continuous Double-Knot Intestinal Suture; and a New Abdominal Retractor." The bobbins resemble Barnes' uterine dilators and act pretty much in the same way. With the aid of the new suture it is contended that cicatricial constriction at the site of approximation may be avoided. Dr. A. A. Eshner read a paper entitled "Progress in Organotherapy," in which he detailed the many varied applications of organic extracts in the

treatment of disease, and traced the successive steps by which this position has been reached. Dr. Jay F. Schamberg reported a case of "Severe Stomatitis Following the Administration of Potassium Iodide," occurring in a woman fifty-four years old, presenting a syphiloderm of the face and multiple gummata of the tongue. The dose employed was five grains thrice daily, and there was no evidence that mercurials had been ingested.

Pathological Society of Philadelphia.—At the stated meeting of the Pathological Society of Philadelphia, held on June 25th, Dr. A. A. Eshner presented a specimen of carcinoma of the stomach, with secondary involvement of the liver; carcinoma of the liver, gall bladder, and pancreas, probably secondary to carcinoma of the thyroid gland; and an enlarged cirrhotic liver, with an enlarged spleen, manifesting during life symptoms of biliary cirrhosis, although sections shown by Dr. Steele exhibited hyperplasia of the periportal connective tissue. Dr. J. Dutton Steele presented a heart exhibiting stenosis of the tricuspid, mitral, and aortic orifices; and also demonstrated infarction of the kidneys and spleen. Drs. Eshner and Steele presented jointly a specimen of obliterating pericarditis, probably tuberculous; the bronchial glands were anthracotic and tuberculous, and the lungs contained foci of cicatrized tuberculosis; the suprarenal glands were cystic. During life symptoms of Addison's disease had been present. Dr. Joseph Sailer described the changes in the nervous system due to tetanus. These consisted essentially in alterations in the anterior horns of the spinal cord. Dr. W. G. Spiller presented, for Dr. J. Hendrie Lloyd and himself, sections of the cord from a case of subacute paralysis, showing amyloid bodies in great profusion. Dr. A. E. Taylor presented, for Dr. M. H. Fussell and himself, liver, spleen, and specimens stained of blood from a case of leukæmia. He further presented, for Dr. Fussell, specimens of carcinoma of the stomach and liver. Dr. A. Hand, Jr., showed a section of a liver from a case of hypertrophic cirrhosis in an infant.

The Buffalo Medical Journal for June is a women's number, edited by Dr. Maud Josephine Frye, assisted by seven other physicians of the gentler sex. All the original communications are by women, and the items are on subjects relating to professional women. The number is one of great interest and reflects credit upon the able editors. We would suggest that copies be sent, as a missionary enterprise, to some of the conservative old back numbers in London, who are carried once a year to the annual meetings of their societies to squeak out their horror and detestation of women who practise medicine.

Dr. C. W. Stiles, zoologist of the Bureau of Animal Industry of the United States department of agriculture, has been elected honorary member of the Academy of Medicine of Paris.

The Tsar of Russia is an active member and the Tsarina an honorary member of the Russian Red Cross Society.

Obituary.

SAMUEL SEXTON, M.D.,

NEW YORK.

THE death, at his residence in this city, on July 11th, of Dr. Samuel Sexton, although not unexpected by the many friends who were acquainted with the serious character of his last illness, removes from the profession of New York a conspicuous personality. His distinguished position in his specialty made his name well known on both sides of the Atlantic, and gave to his original researches and his earnest advocacy of new methods an authority and influence that were shared by few if any of his peers.

Dr. Sexton was born in Ohio in 1833, and was graduated in medicine from the University of Louisville in 1856. In May, 1861, he enlisted as assistant surgeon of the Eighth Ohio Volunteers, but resigned his commission in October, 1862, and resumed the practice of his profession. After coming to New York he devoted himself to the treatment of diseases of the ear, and was a frequent contributor to the medical press and the author of many brochures. His paper upon the "Causes of Deafness among Public-School Children" was widely circulated in 1882 by the national bureau of education at Washington. This paper won for him from Venezuela, in November, 1889, the medal of honor created by the decree of June 7, 1877, for those who render great service to the cause of public education; and in December, 1890, the same government conferred upon him the highest honor in its gift, the decoration of the "Busto del Libertador." An article in the *MEDICAL RECORD* of February 19, 1887, upon an "Injury to the Ear Caused by the Blast of a Bursting Shell," attracted wide attention among army and navy men as well as among those in civil practice.

Dr. Sexton's most valuable work in otology was the elaboration and improvement of the radical operation of extirpation of the ossicles for the cure of chronic deafness, which was the subject of a paper presented by him to the Otological Society in 1886. In spite of much opposition by his confrères, he eventually succeeded in establishing his method upon a sound basis and in obtaining suitable recognition for valuable pioneer work. He read a paper on the same subject at the International Congress in Berlin, and two years later performed the operation in London at the request of several British otologists. It was not, however, until the appearance of his treatise on "Rare Forms of Ear Diseases" that he obtained the credit that was due him for the large amount of original work he had performed and the great care with which he utilized the vast amount of material at his disposal. He studied his specialty from the broad standpoint of a specially skilled general practitioner, and was always impressed with the necessity of treating the ear as a part only of the general organism. Thus, in his directions for general treatment, he was painstaking to an almost extreme degree, and his numerous consultations with patients from all parts of the world were models of thoroughness, precision, and skill. Full of resources and of original ideas, it was natural that he should be radical in his views and persistent in their presentation. His scholarly paper on the "Treatment of Chronic Catarrh of the Upper Air Passages" exemplifies in a marked degree these special attributes of a broad and well-trained mind. In his intercourse with his professional brethren he was the soul of honor, and although strong in his convictions was ever courteous in their expression, and to all who knew him he presented the well-rounded character of a cultured gentleman.

Society Reports.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Eighteenth Annual Congress, Held at Pittsburg, May 14, 15, and 16, 1896.

PRESIDENT, WILLIAM H. DALY, M.D., PITTSBURG.

First Day—Thursday, May 14th.

President's Address.—THE PRESIDENT in opening the congress called attention to the rapid progress of laryngology during recent years and its present enviable position. He made a plea for the retention of interest by specialists in the problems of general medicine. We have learned, he said, the importance of clearing the upper tract of all obstructions, such as adenoids, enlarged tonsils, etc. Many problems in disease of the accessory sinuses yet remain to be solved. He paid a warm tribute to Manuel Garcia, and spoke of the worldwide sense of loss felt in the death of Dr. Wilhelm Meyer. He welcomed the congress to Pittsburg and expressed his belief that the programme before it had never been equalled in its comprehensiveness by that of any previous session.

Etiology of Deviations of the Nasal Septum.—Paper by DR. JOHN O. ROE, of Rochester. Causes of deviation are predisposing and exciting. The former include diathetic, as strumor, syphilis, tuberculosis, rickets, and cretinism. Civilization increases the liability to deviation, as does also the aquiline type of nose. Deviations are rare among primitive races, especially the Indians, who live an outdoor life and whose mothers fasten their children's mouths so as to develop nasal breathing. Exciting causes are internal, such as defective development and disease of the septum or of other nasal structures. The septum is made up of cartilage and the bony ethmoid plate and vomer. The latter is originally composed of two laminae with an intervening cartilage and begins to ossify at the sixth week of foetal life, though the process is not completed till after puberty, and the union of the laminae is from behind forward. This process is generally completed by the third year but occasionally does not happen at all. Hypertrophy in excess on one side will cause displacement. Disease also of the cavernous tissue of the septum and of the inferior turbinates will produce the same result. Other causes include external injuries, malformations of the superior maxillae, highly arched palate, heredity, and a disproportionate development of the whole face.

Where there is a deflection there is generally a resultant turbinate enlargement on the concave side. This is an effect (not a cause), and is probably due to the excessive amount of air passing through the patent nostril. No one can breathe properly through one nostril alone, no matter how large it may be.

Anterior obstructions may be due to deviated septum, chronic turgescence, growths, operations, dislocation of the triangular cartilage, and flattened alae nasi.

As to trauma, it is frequently an exciting cause, operating more commonly in males of all ages, and is apt to be followed by callus on the convex side. If there is intranasal disease requiring constant expulsion of discharge, the habit of picking the nostril and of blowing the nose constantly with the same hand will operate in the same way.

The Operation for Deviation of the Nasal Septum.—Paper by DR. ARTHUR W. WATSON, of Philadelphia. The author believes that many of the prevalent operations are unsatisfactory because they lose sight of the fact that a deviated septum is longer than

a straight one and make no provision for reduction in the amount of tissue. We must first reduce the septum to a size that will fit into a straight line between the points of attachment of that portion of the nose. This is done by removing a portion of tissue in the general line of deviation. If the latter is horizontal we must take out an elliptical piece gradually convergent at either end; if vertical a wedge-shaped piece should be taken, with apex superior and extending as high as possible, the base reaching to near the base of the septum, where it may be joined by a horizontal incision. The excised portion should always include the protruding angle and the amount of tissue to be removed can be estimated by the eye. We should not cut the mucous membrane on the side opposite the incision, as it helps to hold the edges in line, thus facilitating union and avoiding perforation. Incision should be on the convex side of the septum. To bring the portion into line, some variety of crushing forceps may be used with advantage.

No less important is the second step of the operation (one often neglected), viz., retaining the septum in position. Failure to do this long enough is responsible for much lack of success. Healing of the cartilage requires from three to four weeks. The best support is furnished by a flat ring-head pin, the head being covered with a piece of rubber tubing. The pin should be inserted from the concave side of the septum just back of its anterior edge and passed diagonally through to the other side, then across the vertical incision, if there is one, and then back into the septum until the head lies on the septum within the nostril. Care should be taken not to produce a deflection in the opposite direction. In this way both nares are left free for respiration and cleansing. Padding of the pinhead prevents ulceration, and the pin may be worn for three weeks or more without discomfort.

Should the deviated bony septum require additional support, a pad of iodoform gauze may be placed between the septum and outer wall at the point of deviation, but the bony part heals more quickly than the cartilaginous, and hence the gauze may be removed in from seven to ten days, still leaving the pin *in situ*.

In order to operate properly we must have suitable illumination and the parts must be as free as possible from blood. Cocaine anæsthesia is preferable to ether.

Discussion on these two papers was opened by DR. E. FLETCHER INGALS, of Chicago, who thought that nutritive changes were by far the most frequent exciting causes of septal deviation. He thought the effect of trauma was overestimated.

DR. MORRIS J. ASCH, of New York, agreed with the last speaker as to the overestimation of trauma as an exciting cause. He referred to his own operation presented to the association in 1889. It might leave some intranasal roughness, but it left the nose pervious for respiration.

DR. S. O. VANDER POEL, of New York, had done the Asch operation often. He laid stress upon the necessity of overcoming the resiliency of the septal cartilage. In his hands the pressure of the pin had caused pain and even ulceration. Perforation had sometimes resulted at the junction of the two incisions. Later he had used the Adams forceps to break up the septum, but even then the evil results of pressure from the pin were experienced as before.

DR. CARL SEILER, of Philadelphia, regarded the Asch operation as but a revival of the one proposed by Dr. Glasgow several years ago. He believed that if the pin was placed at the bottom of the septum, the evil results of pressure would be avoided. It should be driven in from the outside at the notch of the nasal bones down to the cleft between the two palatal por-

tions of the superior maxillæ. It should at first be left projecting a little distance above the skin of the nose so as not to be covered in by the swelling of the soft parts.

DR. J. E. NICHOLS, of New York, regarded the Asch operation as good for cartilaginous deviations. All resiliency must be destroyed in cases of bony deviation. He made a compound fracture of the bone and applied the cork splint devised by Berens. He did not believe in the use of the pin unless all resiliency was broken up.

DR. D. BRYSON DELAVAN, of New York, had discarded the pin several years ago. While Dr. Asch may not have devised an entirely new operation, he has elaborated a practical technique. Trauma will not account for all deviations. They may come from mouth breathing, especially that due to adenoids.

DR. W. E. CASSELBERRY, of Chicago, would lay great stress on heredity. No one operation would suffice for all cases. We must take into account the patient's age, mode of anæsthesia, etc. Deviations were chiefly cartilaginous, with some encroachment on the bone. He used as retaining-measures gauze pads and intranasal tubes.

DR. JOHN N. MACKENZIE, of Baltimore, would rise to do a dead man historical justice. The main features of the Asch operation were set forth many years ago by the late Dr. James Bolton, of Bridgeton, Va.

DR. W. K. SIMPSON, of New York, was impressed with the success of the Asch operation. He considered it bad surgery to plug the nares with gauze. He used splints in each nostril at first, but in a few days removed the one on the sound side. The splints were a most effective measure against hemorrhage.

DR. C. M. SHIELDS, of Richmond, noted that many of the deflections were accompanied by thickening on the convex side, and this he first sawed off before straightening the septum.

Some Reflections on Atrophic Rhinitis.—Paper by DR. W. PEYER PORCHER, of Charleston, S. C. After a reference to the various current theories regarding the nature of this disease, he laid down the theory that it was not a disease *per se*, but was a result of other inflammations ending in a purulent discharge which washed away the epithelia and led to destruction of the mucosa.

He narrated the history of a woman, aged thirty-four years, with good antecedent history, in whom scab formation had begun fifteen years before, following an attack of measles. The left inferior and middle turbinates were gone, and those of the right side seriously damaged. Intranasal stimulation and iodides given with a view of increasing secretion were of no avail. Finally the left antrum was opened and irrigated, but without relief to the crust formation. He had finally resorted to a solution of iodine and iodide in glycerin on cotton tampons with a view to causing hyperæmia. This greatly relieved his patients. Crusts were still formed, but they came away more freely.

DR. SEILER regarded the Gottstein cotton tampon as efficacious, even without its being medicated. The secretion it excited moistened the inspired air and the cotton filtered it. He had recently used aseptic wool for the same purpose, but regarded it as distinctly inferior.

DR. THOMAS HUBBARD, of Toledo, had used an alcoholic solution of acetanilid. The proper way to employ the cotton was to wrap it around the turbinated bones.

DR. C. C. RICE, of New York, regarded cleansing and oiling the nose as the essential treatment. We must avoid overstimulation.

DR. G. A. LELAND, of Boston, had used cocaine in ten-per-cent. solution over the turbinated areas for its secondary effect, which was that of congestion. The

addition of resorcin to the cocaine solution obviated the bad systemic effects of the latter.

DR. A. W. DE ROALDES, of New Orleans, had employed electrolysis with cotton-wrapped electrodes.

DR. ROE favored mild silver-nitrate solutions and a mild galvanic current. Scabs do not come from the nasal mucosa alone, but may signify some disease of the accessory cavities.

DR. NICHOLS had used with much satisfaction a solution of orthochlorophenol, in solutions of from ten per cent. up to full strength.

DR. MACKENZIE would protest against the unregulated use of cocaine in the nose.

DR. INGALS did not believe it harmful if the amount in solution did not exceed two grains per week. He had used the yellow oxide of mercury in weak solution in oil, and had been pleased with the results obtained with a one-fourth-per-cent. solution.

Laryngeal Photography with the Aid of the Arc Light.—Paper by DR. THOMAS R. FRENCH, of Brooklyn. In the earlier experiments of the writer in laryngeal photography, the method had several disadvantages, the principal one being the source of illumination, which was sunlight, an uncertain and unreliable agent. Recently he has succeeded in utilizing the arc light, so that good pictures can be taken at any time. Formerly he brought the patient to the light, but now the light to the patient, and results already obtained bid fair to surpass any former ones. Not only the larynx but the naso-pharynx and posterior nares can be pictured.

As the distance between the camera and object to be photographed was very short, one of the greatest difficulties was to adjust the light to the sensitive plate so that a depth of focus would be obtained. To do this, a small diaphragm, a rapid shuttle, a very sensitive plate, and a powerful light are necessary.

The necessary outfit consists of an automatic two-thousand candle-power arc lamp, partly enclosed in a metal box. On the latter's front face is a condensing lens, which at a distance of nine inches from the arc gives a focal distance of twenty inches. The lamp and accessories are fitted to a narrow board on a table sufficiently high. Tilting of the board raises or lowers the light by means of a special device for that purpose. On a shelf beneath the table top is placed the rheostat.

The manner of manipulating the apparatus is the same as with the sunlight condenser.¹

The beam of light should be caught upon the forehead mirror several inches inside the focal point. At first the focus is found, and with it perhaps a good photograph. If, however, a good result is not reached at the first sitting, the focus and the amount of light needed being known, there is no difficulty in obtaining at the second sitting as many pictures as desired. If the apparatus is in good order a picture may be made in as little time as is required for an ordinary careful laryngoscopic examination.

Presentation of Instruments.—DR. INGALS exhibited a portable air compressor so devised that the air pump and spray tube could be folded up within the cylinder. Also a nasal saw with a reversible handle.

DR. SEILER presented a double-screw hook attached to a spiral and covered with another spiral, which acted as a shield. Rotation exposed the hook and caused it to engage in any soft object. It was merely a special application of the principle of the flexible shaft of the dental engine, and could be used to remove soft foreign bodies from the ears and air tract.

DR. ROE presented an improved case of instruments for operation on the nasal septum.

¹ See New York Medical Journal, December 13, 1884.

DR. HUBBARD showed a new variety of nasal wire écraseur.

Recent Progress in the Treatment of Malignant Disease of the Larynx was the title of a paper read by DR. D. BRYSON DELAVAN, of New York. In general, the lives of patients suffering from epithelioma have been shortened, he said, rather than lengthened by the efforts of the surgeon. This statement is based upon the fact that the average duration of life in such cases without removal of the larynx has been a year and a half. Indications are, however, that for operations there is a more promising future. These may be divided into the following classes: 1st, thyrotomy with or without partial laryngectomy; 2d, complete laryngectomy by the Solis-Cohen plan; and 3d, complete laryngectomy in cases of extensive laryngeal disease with glandular involvement.

As to thyrotomy, Butlin has laid down the following propositions:

1st. Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by an operation in the absence of a decided indication to the contrary, and operation should be performed with the least possible delay.

2d. Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently within easy reach of free removal, justifies an exploratory thyrotomy in a suitable patient, in the absence of infiltration of surrounding structures and of affection of the lymphatic glands. In thyrotomy good illumination must be provided and the parts to be operated upon swabbed with cocaine, in order to contract the blood-vessels and prevent parenchymatous bleeding.

For after-treatment the tampon cannula should be immediately removed from the trachea, the interior of the larynx dusted with iodoform and boric acid, and the patient laid with the operated side down, with one small pillow under the head. The wound is not plugged with gauze, but dusted twice daily as above indicated. The patient may try to drink a little sterilized water while leaning with the upper part of the body bent well over the edge of the bed. If this succeeds, milk may at once be taken.

The advantages of the Solis-Cohen method, in which the larynx is completely removed and the severed end of the trachea secured to the external edges of the cervical incision, are:

1st. Danger to life from inspirative pneumonia is greatly lessened.

2d. Swallowing is as easy as under ordinary circumstances.

3d. In at least three cases power of phonation has been acquired, with a voice fully as satisfactory as that by any artificial appliance.

4th. The patient's comfort is greatly increased, and disfigurement and the necessity for an artificial larynx done away with.

As to the third variety of operation, Cheyne says that, as compared with cancer in the breast, the disease in the throat is in some respects more favorable for cure, in others less so; less favorable because less exposed to view and to operation, but more favorable as regards glandular deposits, for in the neck we have an extensive glandular area freely exposed to view.

Preliminary tracheotomy some few days before the operation is advisable. The patient must not be too old, must have good vitality, must have no physical defect likely to complicate recovery, and must have good surroundings.

In reviewing the recent progress in the treatment of malignant disease of the larynx, it must be apparent that it has nearly all been made by long and close study of the subject by accomplished surgeons. The time has long past when an unsuccessful attempt at

laryngectomy by one not fitted for this work can bring anything but reproach to the operator and discredit to the operation.

DR. PORCHER related his experience with one case and his distrust of the Trendelenburg cannula.

DR. SEILER thought more credit was due to American surgeons than had been given by the reader of the paper, and referred to a case done as early as 1885, by Dr. Roswell Park, of Buffalo.

DR. H. L. SWAIN would lay special stress upon the necessity of removing all the cervical glands. These will sometimes reduce in size after preliminary tracheotomy before laryngectomy is done.

DR. ASCH thought that stuffing the trachea with gauze would answer just as well as the Trendelenburg cannula.

DR. J. WRIGHT, of Brooklyn, would discountenance the performance of these operations by any one except the practised general surgeon.

Intubation in the Adult with Special Reference to Acute Laryngeal Stenosis.—By DR. W. E. CASSELL-BERRY, of Chicago. The adult cannot be treated exactly like the child with reference to intubation, and acute stenosis with its helplessness and exhaustion is not identical with chronic stenosis. The paper discussed four cases of diphtheria, one of acute laryngeal œdema, and one of obscure origin but probably also œdematous. The diphtheria cases all terminated favorably, but presented various difficulties. In one intubation had to be done with the patient in a semi-recumbent position. In another at one time firm spasm of the glottis occurred. In a third three attempts were required to successfully place the tube. All the cases showed some intolerance to the tube. One patient nearly succumbed from accumulation of viscid secretion in the windpipe and larger bronchi below and around the tube. Extraction of the latter removed the difficulty.

The case of acute œdema was complicated by spasm of the masseter muscle. This prevented wide opening of the jaws and intubation failed. Tracheotomy was performed, but the patient died just at its completion, probably from heart failure in connection with pulmonary œdema.

The liability to pressure decubitus in acute laryngeal œdema should be remembered. The other case was probably one of laryngeal and subglottic œdema, and recovered. Conclusions were as follows:

1st. For one accustomed to the laryngeal mirror, intubation in the adult is easier and more certain under its guidance. A sitting posture of the patient should be adopted where possible.

2d. A restless patient may be wrapped in a blanket and seated in a straight-backed chair. The head should be tilted backward and a gag used, with the finger as a guide as in children.

3d. A patient lacking composure and unable to be moved from bed should be placed close to the latter's right edge, so that the operator can stand at the patient's right. The head and shoulders should be well raised by pillows, the neck moderately extended, and the method by the sense of touch otherwise carried out.

4th. In moribund cases the tube may be inserted while the patient is recumbent, the latter being on the right side of the bed and the operator at his right.

Spraying the fauces with cocaine facilitates manipulation. Extraction of the tube is done in the usual way. The author's posture method of feeding subsequent to intubation is carried out with greater difficulty in adults than in children, on account of the difference in size and weight. The author's experience seems to justify the statement that in the diphtheria of adults intubation may advantageously be substituted for tracheotomy. So also in acute œdema, un-

less the exhaustion is extreme, a single attempt may be made. The smallest-sized adult tube should be used in order to avoid pressure decubitus. In cases of "set-jaw," or pharyngeal swellings, intubation is contraindicated. It is permissible in laryngeal arthritis deformans, traumatic œdema, laryngismus stridulus, and in œdema secondary to chronic specific or tuberculous disease.

DR. SIMPSON said that the word "acute" should be used with some reservation, because there was a vast difference between the acute stenosis of diphtheria and that engrafted upon a chronic inflammation, as the œdema of Bright's disease or other stenosed conditions, which were not sufficient to impede breathing. The tongue should be well drawn forward.

DR. HUBBARD had seen two cases of acute œdema of the trachea while the larynx was normal. In tracheal stenosis intubation would be unsuccessful. He had tried tracheotomy in one case unsuccessfully. The condition was caused by erosions following specific ulceration. The second case was one of iodine poisoning, in which there was œdema not only of the trachea but of the face and pharynx, while the larynx escaped. It was only relieved by pilocarpine.

DR. ROALDES believed that intubation was useful in fracture of the larynx.

Spindle-Cell Sarcoma of Nose; Specimen and Slides.—Case reported by DR. J. E. BOYLAN, of Cincinnati. Paper read by title. The patient was a male who complained for several months of severe nose bleed, obstruction, and occasional acute pain: noticeable bulging was seen under the left nasal bone. On tilting up the end of the nose a red liver-like mass was seen, occupying the entire nostril and limited behind by the posterior nares. By the wire *écraseur* the growth was removed in two pieces and the base curetted. Hemorrhage was profuse, but was controlled by plugging with iodoform gauze.

The tumor was as large as a hen's egg and the attachment, about one and one-half inches long, appeared to be confined to the inferior turbinate. Examination showed spindle-celled sarcoma. There was no recurrence after twenty-two months. The paper closed with a list of cases reported since Bosworth's tabulation of 1889.

Naso-Pharyngeal Fibrous Tumors.—Paper by DR. F. FLETCHER INGALLS. The case was reported of a boy aged eleven who, ever since his fourth year, had had a fulness of the cheek associated with nasal stenosis. His general condition was good; the voice had a nasal twang, sense of smell was deficient, and there was a mass filling the left nostril and pushing over the septum, extending back and attached to naso-pharynx. This was removed under cocaine and the galvano-cautery *écraseur*. There was considerable hemorrhage, checked by plugging with surgeon's lint steeped in saturated solution of iodoform in ether and then in boric acid. Subsequent cauterizations removed all traces of the mass but caused considerable cicatricial tissue in the vault. The swelling in the right cheek was treated with submucous injections of twenty-five per cent. of lactic acid and two or three per cent. of carbolic acid in twelve per cent. of glycerin. These injections caused the disappearance of two-thirds of the tumor. The writer advocated this measure in cases in which the knife or galvano-cautery was inapplicable.

Naso-Pharyngeal Fibromata.—This was the title of a paper by DR. CHARLES M. SHIELDS, of Richmond, who reported two cases with exhibition of slides and photographs.

CASE I.—Male, twenty-three years. Growth firm, filling naso-pharyngeal space and left nostril, attached to pharyngeal vault and partly its posterior and left lateral wall; also to outer wall of left nostril for half

its length. The growth crowded the nasal septum to the right, completely occluding the latter nostril, causing typical "frog face" and "dead" voice. Under ten-per-cent. cocaine injected hypodermatically into left nostril, a bougie carrying a silk thread attached in turn to a sharply bent loop of cold wire was worked through the nostril down into the throat and out through the mouth. The wire was then fashioned into a well-rounded loop and the nasal ends threaded through the cannula of a snare and tightened. Gradually increasing tension was exercised for five hours, when the wire broke. The next day a galvano-cautery snare loop was applied in a similar manner, and the growth quickly severed. It measured one and one quarter by one and two-fifths inches. Some fourteen months later a fragment the size of a grain of corn was removed from the left nostril and some thickening was found at the site of the main tumor in the pharyngeal vault.

CASE II.—Woman (negress), aged forty-eight. (Many writers have claimed that women are exempt from this class of diseases. Dr. Shields had never seen a similar case in a negro.) The tumor filled the entire naso-pharynx, pushing the palate well forward, but with no nasal attachment. Electrolysis faithfully tried for six weeks gave little result. Microscopical examination of a fragment removed showed true fibroma. Dr. Shields thought that but very few (if any) of such growths could not be reached through the natural passages and consequently that resection of the superior maxilla was rarely required. He regarded as unworthy of consideration ligatures, caustics, thermo-cautery, and evulsion. The hot or cold snare would generally answer. The use of irido-platinum wire is to be preferred on account of its stiffness, or the hot snare. The current should be used interruptedly, with time for the patient to rest between its applications. Pain is thus minimized and hemorrhage avoided. Moreover, the cold wire will sometimes break. In tumors with a broad base a groove can be made by a preliminary heating of the irido-platinum wire, thus preventing slipping of the latter. Finally, this mode of treatment effectually cauterizes the base of the growth.

DR. CASSELBERRY remarked that in operating on this class of tumors it was often advisable to slit up the mass with the cautery knife, so as to afford a hold for the wire. He believed also in the utility of electrolysis for these growths.

Tuberculous Infection of the Lymphoid Tissue of the Pharynx, with Some Remarks on Laryngeal Infection.—Paper by DR. JONATHAN WRIGHT, of Brooklyn. This paper was intended as an addendum to the paper read by the author at the congress of 1895. He repeated Dieulafoy's experiments in twelve unselected cases, inoculating guinea-pigs with tonsils and adenoids, which in each case were examined histologically and bacteriologically, with negative results. The animal experiments made by Dr. W. H. Park also resulted negatively. Tubercle bacilli having been found by Strauss and others in healthy noses and throats, Dr. Wright is inclined to think that Dieulafoy's results were due (as Cornil suggests) to surface contamination. Results similar to those of Dr. Wright have also been published by Ricardo Botey, of Barcelona.

Reference was also made to a case seen by Dr. W. F. Chappell, of New York. The patient had tuberculosis of the naso-pharynx following an operation for adenoid. Tissue taken from this patient and subjected to the same methods of examination as in the twelve unselected cases was found to contain tubercles and tubercle bacilli histologically, while Dr. Park by animal inoculation also obtained positive results. This goes to prove that Dr. Wright's methods were not at

fault in the twelve cases that were supposed clinically to be non-tuberculous.

In taking sections of tissue from a tuberculous larynx Wright found indisputable evidence of the penetration of intact epithelium by the bacilli, but he is not prepared to say whether this is possible in healthy throats.

The Relation of Diseases of the Nose and Throat to Disorders of Digestion—Acute Diseases of the Nose and Throat.—Paper by DR. H. R. BROWN, of Chicago. Pharyngeal hyperæmia is frequently present in stomach cough. Asthma frequently results from digestive disturbances. Angioneurotic œdema of the larynx, laryngeal hemorrhage, attacks of unconsciousness in laryngeal phthisis, hemorrhagic affections in hepatic cirrhosis are all caused by disorders of the gastro-intestinal tract. Swallowing secretions from sores often upsets the stomach. A distended stomach by upward pressure on the diaphragm may cause glottic spasm. In typhoid fever laryngeal complications are not at all infrequent. There is, however, no direct proof that disease of the upper air tract is caused by gastric disturbances, but clinical experience strongly suggests that this is true.

Chronic Disease of the Nose and Throat.—Paper by DR. T. R. FRENCH, of Brooklyn. Chronic nose and throat disease is often associated with digestive disturbances, but we cannot always demonstrate the relation of cause and effect. Many causes of catarrhal disturbances act by first influencing the digestive organs. The writer alluded to observations made on fifty medical students, all of whom had pharyngeal and faucial catarrh. In forty-seven there was digestive disturbance, fourteen were constipated, only one had a clean tongue, forty-five were rapid eaters, thirty-three smoked, sixteen had nasal obstruction, and two were mouth breathers. The smokers did not seem to have any worse pharyngeal condition than the non-smokers. In twenty-three cases of gastric disturbance in women, half of whom were distinctly neurotic, all had pharyngitis, four had clean tongues, four nasal obstruction, four had additional mouth breathing. The portion of the gastro-intestinal tract affected did not seem to have any bearing on the pharyngeal condition. Disorders of the stomach and bowels often produced reflex vasomotor disturbances.

DR. CASSELBERRY remarks that Türk had found the same bacteria in the stomach as in naso-pharyngeal secretion. By curing the pharyngeal disease we would cure the stomach condition also.

Case of Gun-Shot Wound of the Pharynx.—Reported by DR. D. N. RANKIN, Alleghany. A man was shot in 1847 in the pharynx, the missile passing in on the right side about two inches below the lobe of the ear, going across the pharynx and coming out at a corresponding point on the right side. Nothing could be learned from the patient as to the occurrence of hemorrhage or difficulty in deglutition after the wound. The latter cicatrized on both sides and the man lived nearly fifty years.

Second Day—Friday, May 15th.

Contribution to the Pathological Anatomy of Ethmoid Disease.—Paper by DR. JOHN N. MACKENZIE, Baltimore. The writer related several clinical histories of the ordinary type of the disease and gave detailed pathological reports upon the tissue removed from the ethmoid region. The tissue showed evidence of chronic inflammatory changes similar to all intranasal inflammations, the glands having been gradually destroyed by invasion of leucocytes and by the contraction of the fibrous tissue resulting from the inflammatory changes. To the tissue removed in such cases the name of myxomatous tissue was generally

given. The writer would take exception to such an application of this term. He advanced the following propositions:

1. So-called myxomatous degeneration is not in reality a mucoid change at all, but a simple inflammation. The word "myxomatous" is used in a loose sense. The nasal chambers are in reality the last place in which we would naturally look for a mucoid change. Myxomatous polyps are in reality only œdematous fibrous tissue, not myxomatous. They represent chronic degenerative destruction by round-celled infiltration and fibrous changes, and are a legacy of simple inflammation. He would suggest the term "endorrhinitis" as applicable to such cases.

2. Our usual method of using the term myxomatous is erroneous, because the question is approached from the clinical side alone and the tissue removed is rarely examined microscopically.

3. Ethmoiditis, even though purulent, may last for years without causing any bony lesion. Yet many writers intimate that caries and even necrosis are very frequent accompaniments. A primary original necrosis in these cases has not been established. Pent-up secretion may cause osteitis but not necrosis. He did not believe that nasal polyps ever arose from necrotic bone.

4. The various changes found represent successive stages of the same affection and hence a variety of names is not necessary.

5. A marked similarity exists between the granulation tissue and sarcomatous tissue. Hence we must examine different portions of the masses removed before forming our conclusions.

Sero-Purulent Maxillary Sinusitis in Chronic Lead Poisoning.—Paper by DR. H. L. WAGNER, of San Francisco (read by title). Patient was a male of thirty-two and for twelve years a carriage painter; family history negative. He had complained for three years of severe right supra-orbital neuralgia. Pains occurred daily at intervals of from one to twelve hours. He had hyperosmia, all strong odors producing an attack. Various opiates and coal-tar derivatives had failed to give relief, as had also resection of the right supra-orbital nerve. All teeth in the upper jaw, some decayed, had been extracted without improvement in the patient's condition.

Examination showed a well-built man with yellow skin, flabby muscles, no syphilis, eyes and ears normal, and slight dry pharyngitis. Left nares normal. On right side was slight hypertrophy of middle and lower turbinates. At entrance of hiatus semilunaris a daily crust formed, easily removed, and a slight sero-purulent discharge (containing staphylococcus aureus and a few non-pathogenic cocci) could be observed only every second or third day. Transillumination showed little difference between the two sides; face not swollen externally. No pain was felt from pressure over supra-orbital region. Right upper gum was hypertrophied, but no blue lead line visible. Pressure on region of right first molar caused severe neuralgic pain.

A diagnosis was therefore made of right antral trouble. The antrum could not be probed or irrigated through the hiatus, and Dr. Wagner therefore perforated through the hard palate. The injection of warm sterilized water was followed by a sero-purulent discharge from the nostril. The antrum was then opened with a large trephine through the canine fossa under chloroform anæsthesia. The cavity showed in the lower and side walls a peculiar grayish-blue hypertrophy of the mucosa. Probing revealed no caries, but pressure in certain places caused great pain. Examination of a bit of the hypertrophied mucosa showed loose connective tissue infiltrated with much serum and a fair number of round inflammatory cells, the tissue being cov-

ered with columnar epithelium and containing some micrococci.

After thorough removal of the tissue dry treatment with borated gauze gave no relief and other methods were also unsuccessful. The urine was then examined, but no albumin, sugar, or lead were found. Fresh tissue from the antrum, however, gave the characteristic lead reaction with sodic sulphate. Under the iodide treatment all pain disappeared after a few days, as did also the crust formation and sero-purulent discharge. Traces of lead were later detected in the urine.

The writer believes that in his case the antrum disease, including the neuritis of various nerves, must be ascribed to the deposit of lead, perhaps as an albuminate. Similar conditions have been observed in a few eye cases in which optic neuritis with severe cephalalgia was caused by chronic plumbism.

Study of Irruption of the Teeth into the Nasal Chambers.—Résumé of reported cases and report of additional cases. Paper by DR. A. W. MACCOV, Philadelphia. The writer gave a complete bibliography to date of this class of cases and related some of his own. Teeth in the nose may cause not only local irritation and purulent discharge but also reflex cough and laryngeal spasm. In one of his own cases, in the examination of the nostril in a case of sarcoma, the presence of a tooth in the nostril was accidentally discovered, and the question suggested itself as to whether such presence may not have been the exciting irritation which eventuated in malignant formation.

Control of Hemorrhage in Operations on the Nose and Throat.—By DR. A. COOLIDGE, JR., of Boston. In undertaking any operation under an anæsthetic, the position of the patient is a first consideration. The customary horizontal position is frequently contraindicated because it is possible that blood may enter the pharynx or larynx. When the operation is confined to the nasal cavity, such an accident may be headed off by the preliminary plugging of the posterior nares. The Rose position (head hung perpendicularly over the end of the table) is to most operators awkward, though it prevents escape of blood into the lower pharynx. The Trendelenburg position protects the trachea from blood in thyrotomy and operations on the lower pharynx. For operating, however, on the upper respiratory tract, advocacy is made of setting the patient in a chair opposite to the surgeon. If the body be inclined well forward, blood from the mouth or nasopharynx flows well outward. Of course, the patient must be under absolute control. This position is consequently more satisfactory with children than with adults.

To check hemorrhage compression if possible is to be preferred. Styptics are unreliable, irritating, and cause loss of time.

Nasal hemorrhage can generally be stopped by plugging the anterior nares, and every rhinologist should know how to do this thoroughly and well. Nasopharyngeal hemorrhage can be controlled by filling the cavity with gauze from below—just as we plug the posterior nares. The amount of bleeding depends on the size and number of vessels which may enter the part removed and the amount of contraction which is allowed by the structure of the intervacular tissue. Troublesome bleeding is seldom met with in adenoids, tonsils, and myxomatous growths. The reverse happens with sarcoma and fibroma attached to the basilar process. To control hemorrhage from the latter, immediate firm plugging both anteriorly and posteriorly should be done. In the adenoid cases less blood is eventually lost with the curette than follows the application of the forceps. In tonsillotomy the cold-wire snare with general anæsthesia, or the hot-wire snare with cocaine, will generally prevent bleeding.

Intermittent Dysphonia Spastica.—By DR. F. I. KNIGHT, of Boston (read by title). Dr. Knight reviewed briefly what is known in regard to this affection, which in its well-marked chronic form he continues to think very rare. He added a report of a recent case, in order to call attention to the intermittent character of the affection. The patient was a clergyman and the attack manifested itself only during the latter half of a sermon. This was presumably on account of fatigue. It appeared suddenly after the gentleman had spoken in a perfectly normal voice for an indefinite time. Dr. Knight said this was the only patient of the kind who had consulted him who did not unmistakably betray his affection during the interview.

A Case of Unusual Laryngeal Growth.—By DR. J. W. GLEITSMANN, of New York. The patient, a Russian Jew, aged thirty-eight, had suffered from hoarseness for one year, but without emaciation, pain, cough, dyspnea, or cervical adenopathy. The larynx showed on the right side a snow-white mass extending from the anterior commissure to the arytenoid cartilage. It seemed to lie between the true and false cord, looking very much like a bunch of cotton stuffed into the ventricle of the larynx. Its surface was slightly corrugated and its border a little irregular. The movements of the right side of the larynx were apparently normal. Adduction was perfect. Otherwise the organ seemed free from disease.

By means of a Landgraf's double curette a piece was excised, but it proved to be too superficial for satisfactory microscopical examination. Bleeding after operation was slight, and there was no special reaction. A fortnight later a second and larger piece—about one-fourth of the whole growth—was removed, and reported after examination to be a hard papilloma of the larynx, probably malignant and possibly carcinomatous. It was made up of a proliferated papillary mucosa with a thickened epithelial covering, apparently horny on the outside. The underlying epithelia were greatly proliferated and the nuclei split up. In consequence of connective-tissue proliferation there was a small-celled proliferation of the submucosa. The epithelial layer showed a tendency to invasion of the subepithelial tissues as in carcinoma.

The marginal glands were also changed. The cylindrical epithelia appeared to merge from one follicle duct to another, instead of being distinctly separate, as under normal conditions.

The patient disappeared from view after the second operation, and the later history is unknown. The writer of the paper had found no reference in literature to a tumor of the snow-white color this one presented. Such a color was to be regarded as strongly suggestive of malignancy. Cancerous growths did not by any means produce in their incipency hyperæmia or inflammation of the cords.

A Report of Cases of Tuberculosis of the Larynx, with Results of Treatment as Far as Ascertained: The Topical Use of Bromoform, Formaldehyde, Guaiacol, and Protonuclein.—By DR. S. SOLIS-COHEN, of Philadelphia. Dr. Cohen related the clinical histories of several cases, advocating especially the use of formaldehyde. His plan is to cleanse the larynx with a spray of hydrogen peroxide, followed by alkaline detergents. The formaldehyde occurs commercially in a forty-per-cent. solution, known as formalin. A ten-per-cent. solution of formalin therefore equals a four-per-cent. solution of formaldehyde. Water is used as a diluent, but as the solutions do not mix well extemporaneously it is well to have them prepared and kept on hand. Cocaine is first applied in four-per-cent. solution, and then two- to ten-per-cent. solutions of formalin rubbed in according to the tolerance of the patient and the progress of the case.

A slight burning pain was generally felt, lasting, however, only two or three minutes. Dr. Cohen has found that it reduces cough, as does also bromoform. The latter produces a certain amount of local anæsthesia.

DR. GLEITSMANN called attention to good results obtained by him with parachlorphenol. It produced a shrivelling and absorption of infiltration not obtained from lactic acid, which was better adapted to ulcerated surfaces. Two-per-cent. solution was strong enough, and in order to prevent stickiness therein he mixed the remedy in equal parts of glycerin and water.

Some of the Unusual Manifestations of So-called Catarrhal Laryngitis.—By DR. C. C. RICE, of New York. The following views were advanced:

1st. There are two ordinary types of catarrhal laryngitis—one following and dependent upon nasal obstruction, and the other upon a laryngitis sicca, an extension downward of atrophic rhinitis and dry pharyngitis. In these two processes the same pathological condition exists from the commencement of the nose to the bronchial tubes.

2d. Laryngeal disturbances occasionally occur, which from their appearance might belong to one of these two ordinary types, but the significant point is that they are present when the nose and pharynx are in excellent condition, or, still again, the laryngeal disorder, although in kind like that of the nose, is much greater in degree, which is the reverse of the usual condition.

3d. There are several disturbances, usually classified under "catarrhal laryngitis," which seem to bear little or no relation to a previously existing nasal or pharyngeal disease. They are commonly observed in singers and public speakers, and are undoubtedly caused by overuse of the voice and improper methods of breathing and of tone production.

4th. We also find:

(a) General tissue atrophy of the soft parts of the larynx and pharynx, which produces a disordered relation and a general muscular weakness of the larynx.

(b) Permanently enlarged and usually congested epiglottis, the larynx as a whole being normal.

(c) "Choked voice," caused by actual enlargement of the ventricular bands.

(d) Permanent and perhaps congenital vascularity of the vocal bands.

(e) Localized congestion of some portion of the larynx, indicating probably overuse of the transverse arytenoides, or possibly of some muscular group.

(f) "Singers' nodes," from incorrect vocal methods, and cured by proper breathing and singing.

(g) Muscular fatigue with hoarseness or aphonia.

5th. These various disorders should be recognized by proper names, their etiology appreciated, and they should not be confused with the phenomena of a simple catarrhal laryngitis.

6th. Little dependence can be placed upon topical treatment, unless special care be given to proper methods of breathing and voice production.

DR. ROALDES had noticed redness of the cords, especially in basses and baritones. He thought the condition more common in patients of gouty and rheumatic tendencies. The condition was less frequent in tenors and sopranos.

DR. SIMPSON called attention to the fact that few singers escaped more or less laryngeal trouble, and he had sometimes been led to think that singing was an unnatural use of the voice.

DR. NICHOLS had observed persistent redness of the cords in an alto singer, who nevertheless sang perfectly.

Report of a Case of Incomplete Fracture of the Left Cornu of the Thyroid Cartilage, Resulting from Self-Inflicted Violence.—By DR. A. W. DE ROALDES, of New Orleans. The patient, a man aged

thirty-seven, swallowed an olive seed. He experienced a sense of a foreign body in the throat, and manipulated the latter violently from the outside in trying to dislodge the seed. The sense of a foreign body disappeared, but the patient felt at the same time a creaking sensation in the throat. The next morning nothing could be seen except a projection on the inner side of the throat, without any marks of external violence. The mucous membrane over the site corresponding to the left cornu of the thyroid seemed to be poked inward by something underneath. The report concluded with an enumeration of the anatomical points which led the writer to regard the affection as one of the thyroid cartilage rather than of the hyoid bone.

Perichondritis of the Crico-Arytenoid Joint from an Unusual Cause.—By DR. H. S. BIRKETT, of Montreal. The case was reported of a young man who in the course of a gonorrhœal attack had inflammatory joint trouble, affecting the ankle, knee, and shoulder of the left side. In the course of this a soreness and difficulty in swallowing was experienced on the corresponding side only of the throat. Examination showed the mucosa over the left crico-arytenoid joint swollen and œdematous. The left aryepiglottic fold was not swollen. The true cords were white, and the abduction and adduction of the left one were decidedly slower than the corresponding movements of the right. Outside pressure over the affected joint was painful. Voice was hoarse. Treatment consisted in applying the ice-water coil, affording great relief.

Third Day—Saturday, May 16th.

The Sequelæ of Syphilis and Their Treatment.

—The discussion was opened by DR. C. H. KNIGHT, of New York, who spoke of the sequelæ and treatment of syphilis as affecting the nose. He said that it is not always easy to diagnose late nasal syphilis. It is often mistaken for sarcoma, and excision of the upper jaw needlessly advised. The grade of severity of symptoms depends on the fact as to whether only the soft parts are involved or whether the hard parts are also affected. Syphilis is responsible for some septal perforations, but by no means for all. When the bone is involved we have two problems to solve: 1st, when and how to remove dead bone; and 2d, how to remedy resulting deformity. The writer advocates conservatism in dealing with sequestra unless they are quite detached and accessible.

If dead bone is firmly attached or embedded, or if we cannot accurately define its limitations, or, again, if it is high up in the nasal cavity in the ethmoid region, we must approach it with great caution. The Rouge operation enables us to remove large sequestra when they are loose and of extreme hardness.

External deformity from loss of cartilage is frequently slight, but when the bone is destroyed the deformity is often hideous. For these cases the writer advocated the Martin platinum bridge.

Several cases were related in detail. This method is believed to be an excellent one with certain precautions. The active stage of the disease must have been long passed, and the patient must have had radical treatment. The bridge must be so constructed and shaped as to avoid friction and pressure. The dissection of the soft parts must be wide enough to obviate tension after the bridge has been placed in position. The writer, in closing, alluded to the use of a simple plate of platinum slipped under the skin of the dorsum nasi, the dissection in preparing a bed for the bridge having been made through the nostril. This plan is much simpler and is equally effective in moderate deformities.

DR. J. E. NICHOLS, of New York, continued the dis-

cussion, speaking of the question as it concerned the pharynx. It mattered relatively little how severely the uvula and tonsils might be affected, but it was quite another matter when we came to consider lesions of the soft palate. The epiglottis might be partly or even wholly destroyed without causing much trouble. If adhesion of the pharyngeal mucosa occurred to the inferior portion of the posterior faucial pillar, there were apt to be difficulty in deglutition and impaired movements of the tongue.

When the soft palate is at all adherent to the pharyngeal wall great care should be taken to avoid all caustic applications, which aggravate the very condition they are intended to relieve. The iodides should be systematically given.

When complete adhesion occurs the patient becomes, perforce, a mouth breather. The voice is affected, and traction from cicatrization upon the orifices of the Eustachian tubes is apt to develop aural complications. There is more or less danger of otitis media, muco-pus accumulates in the naso-pharynx, and anosmia comes on.

The writer then referred to the various means which have been tried to remove these adhesions. These include the cautery, knife, and subsequent digital or instrumental dilatation. No matter how deeply we may incise or how thoroughly dilate, cicatrization is apt to advance from below. He then described an operation devised by himself some years ago and subsequently reported, in which the adhesion bands are operated upon on the same general principle as is followed in the surgical treatment of "webbed fingers." He believed this operation to be practicable in every case, for there was no case on record in which the naso-pharynx was entirely shut off by adhesion from the oro-pharynx. The opening might be difficult to find and might be so small as to admit only a fine probe.

DR. W. K. SIMPSON, of New York, discussed the question as affecting the larynx. He drew attention to points of difference between the "sequelæ" of syphilis and the significance of the term as applied to other diseases. In syphilis they are to be expected and vary only in the length of time of their occurrence and in their nature. True sequelæ are those resulting from tertiary manifestations, and find their best expressions in chronic thickening, loss of substance from ulcerations and broken-down gummata or from perichondritis, falling-in of laryngeal walls from loss of cartilage, and ankylosis of various articulations, paralysis, and various deformities.

The two leading conditions produced are loss of voice and laryngeal stenosis. Aside from sequelæ resulting from structural change, there is often a hyperæmic condition which interferes with a perfect control of the voice, noticed especially in singers. This condition is liable to come on from overuse, exposure, sudden climatic changes—affecting, consequently, sailors, etc. Moreover, smooth intralaryngeal swellings may mask an underlying gumma, and hence the difficulty of intubating such cases.

Attention was next called to the difficulty of differential diagnosis between syphilis, tubercle, rheumatism, and malignancy. Without the finding of tubercle bacilli we can never be sure of tubercles, however strong the other points may be. Illustrative cases were quoted.

In the treatment the writer referred to the general use of the iodide and mercury, either alone or in combination, mentioning the recent paper of Irsai, who advocates intramuscular injections of bichloride directly at the site of the lesion. When stenosis is absent this general treatment is sufficient. When stenosis exists some mechanical treatment is necessary, either tracheotomy or some form of dilatation. Allu-

sion was made to the unsatisfactory results with the Schrötter instrument. Not until we had the O'Dwyer tube at our disposal were we convinced of the tolerance of the larynx in these cases to long and continued pressure, which is the main feature sought in bringing about a cure. The pressure of the intubating tube undoubtedly causes absorption of morbid tissues and wears out the tendency to recurrence of the stricture.

The author then laid down the general rules of technique for intubation in this class of cases.

The discussion was continued by DR. JOHN O. ROE, who said that the most serious nasal cases were those of hereditary syphilis. The cartilage disappears and often the bone, sometimes even the nasal bones themselves, so that there is a sulcus or cavity where the nose ought to be. In adults the disease was generally confined to the cartilaginous septum. Abscess frequently occurred and the sesamoid cartilages might be destroyed. He then described a subcutaneous flap operation, designed in these cases to restore the symmetry of the nose.

DR. ROALDES was opposed to the Rouge operation alluded to by Dr. Knight. As good results can generally be obtained by intranasal procedures. The drill can be used to pierce the sequestrum in different directions, and the latter can then be crushed.

DR. E. FLETCHER INGALS had found syphilitic ulcerations of the cartilaginous septum rare, unless the bony septum was also involved. Of perforations of the former, probably not more than ten per cent. were syphilitic. In giving the iodide in tertiary lesions, the dose should be gradually increased up to the maximum and as gradually decreased, then increased again, and so on. In this way the large amounts of the remedy so frequently needed would be much better borne.

DR. W. PEYER PORCHER called attention to the condition of the nose in leprosy as contrasted with syphilis. In treating the latter he was partial to mercury controlled by minute doses of opium.

DR. THOMAS HUBBARD, of Toledo, believed that mercury was liable to increase the destruction of cancellous bone, unless the parts could be kept thoroughly disinfected.

DR. D. BRYSON DELAVAN said that he had had one case in which there was total occlusion of the naso-pharynx from the oro-pharynx by adhesions. He called attention to the risk in operative procedures of both primary and secondary hemorrhage.

A Case of Fibro-Chondroma of Branchial Origin, or So-called Supernumerary Ear, Removed from the Throat of an Infant Six Weeks Old.—This case was reported by DR. A. W. DE ROALDES, of New Orleans. The family history in the case was negative. Immediately after the birth of the child a queer noise was noticed in its breathing and it seemed to have attacks of partial strangulation. These were ascribed to phlegm and croup, but an examination by the reporter of the infant's throat disclosed the presence of a growth. The child's external ears were normal in appearance. When it cried the growth seemed to come down from behind the palate. On continued crying it seemed to descend still farther to the aditus laryngis; finally, it would assume a third position on the dorsum of the tongue. It was noted that its covering was of a cutaneous (not mucous membrane) character. The naso-pharynx seemed to be free. The attachment was made out to be to the left posterior pharyngeal pillar. It was removed by evulsion and contained cartilaginous nodules, appearing in general like a supernumerary ear. The microscopical examination showed its outer covering to be identical in its histological elements with the true skin. The mass also contained fat and connective

tissue, and a diagnosis was made of branchial chondro-fibroma.

Acute Disease of the Lingual Tonsil.—DR. HENRY L. SWAIN, of New Haven, said that apparently not much had been written on this subject, but if he was to judge by his own experience during the last three years, the condition had formerly been overlooked by him. In any case he had persuaded himself that acute lingual tonsillitis was often the cause of symptoms referred to other parts of the throat, simply because the latter were more frequently the seat of disease and more easily accessible to view.

The anatomy of this region makes it evident that the inflammation is rarely of the peritonsillar type. The symptoms of the varieties of lingual tonsillitis were then described. The writer recognized three forms of the malady, the simple, the follicular, and the peritonsillar. Symptoms were the same in kind as in other acute throat affections, modified by the difference in the locality affected. Persistent cough is a frequent and troublesome feature. The larynx is often blamed therefor, while the lingual tonsil is at fault.

If the deeper tissues are affected the symptoms assume a severer type. The epiglottis and even the glottis may become involved. Life may become endangered and even tracheotomy may be required.

As to treatment, he preferred applications of glycerite of boroglycerin followed by a powder of tannin with the addition of a little morphine. Hot demulcent gargles were a valuable adjuvant. Systemic remedies were indicated as in the ordinary forms of tonsillitis.

The paper closed with the history of a case of abscess of the lingual tonsil slowly developing after an ordinary faucial tonsillitis. The attack was ushered in with a sharp attack of œdema of the glottis. The abscess had formed close to the aryepiglottic fold and had broken well back toward the arytenoid cartilages.

Treatment of Simple Acute Laryngitis and Bronchitis.—PAPER BY DR. THOMAS HUBBARD, of Toledo. The existing literature on the use of expectorants is full of inconsistencies and much of the treatment advised is irrational. Stimulating expectorants, fortified by opiates and local palliative treatment, are quite too popular to the unwise exclusion of a judicious use of relaxing expectorants.

Attention is called to the essential features of acute inflammation of the middle respiratory tract. Bronchial hyperæmia with more or less swelling produces a condensation of the cellular elements, since the same number of epithelial cells occupy smaller areas in proportion as the calibre of the tube is lessened. This is one reason why it is so difficult to re-establish the mucous flow, the outlets from the glands being thus closed. Retained mucus ferments and becomes acid and irritating, whether within the substance of the membrane or on its surface.

The first indication then is to re-establish the mucous flow. The best relaxing expectorant is apomorphine, given in one-thirtieth-grain doses every two to four hours. Except in severe cases and debilitated persons the subsequent use of stimulating expectorants is rarely necessary. The proper use of relaxing expectorants greatly lessens the need for opiates. All forms of abortive treatment are deprecated.

Squamous Epithelioma of Velum Palati Cured by Injections of Caustic Potash.—DR. HUBBARD also reported the following case: The patient, a male, had suffered for more than a year from a mass, of flat, tabular type, situated partly in the velum palati and partly in the right anterior faucial pillar. All internal and local treatment had been without avail. Cocaine habit had become established. In August, 1894, he was on the verge of collapse from malnutrition,

being able to take only a small quantity of milk and ice cream. The cocaine habit was first cured, but the pain incident to deglutition could not be relieved. With a curved platinum needle caustic-potash injections destroyed a conical-shaped tumor mass. Whenever proliferating epithelial growths were seen around the edges the injections were repeated in lesser amounts. Cicatrization and improvement in general health rapidly ensued. The patient gained forty pounds in two months. Up to two years after the first injection there had been no return of the growth.

Sarcoma of the Nasal Chambers and Accessory Sinuses.—DR. A. A. BLISS, of Philadelphia, reported two cases of this kind.

CASE I. Child of four years with negative family history. At the age of one year its left nostril was observed to be occluded by what the attending physician called polypi. The tissue was removed, but recurrence had taken place in the course of six days. During the ensuing eight months the nostril was cleared out no less than thirty times. When seen by Dr. Bliss the left nostril was occluded and the septum was deviated to the right. There was no swelling over the antrum. The left eyeball was protruded. There was no glandular enlargement. The antrum was opened and found filled with a fungoid mass. The orbital roof was found intact. The post-nasal space into which the growth had extended was cleared out by the finger and cutting forceps. There was considerable hemorrhage, which was stopped by stuffing with iodoform gauze. There was no recurrence, but in six weeks the glands under the jaw became enlarged and symptoms ensued suggesting involvement of the respiratory centres and of the brain. Death from exhaustion in six weeks.

CASE II. Boy of nine, with negative family history. Left nares occluded, cervical glands enlarged, and exophthalmos. It was stated that the boy had been well up to three weeks before. His general condition was so bad that operation was considered inadvisable.

During the congress the following papers were read by title: "Some Thoughts about the Prophylaxis of Nasal Catarrh," by Carl Seiler, M.D., Philadelphia; "A Case of Myxœdema of the Throat," by J. W. Farrow, M.D., Boston; "Tracheal Stenosis," by Samuel Johnston, M.D., Baltimore; "The Treatment of the Early Stage of Diphtheria," by S. H. Chapman, M.D., New Haven; "Erysipelas of the Air Passages," by Wm. Porter, M.D., St. Louis; "Some Observations on Laryngeal Tuberculosis," by S. O. Vander Poel, New York; "Reflex Epilepsy from Lymphoid Disease of the Pharyngeal Vault," by U. G. Hitchcock, M.D., New York.

At the executive session the following were admitted to active fellowship: Dr. G. V. Woolen, Indianapolis; Dr. Emil Mayer, New York; Dr. Ward, Pittsburg; Dr. T. Melville Hardy, Chicago; Dr. W. F. Chappell, New York.

Election of Officers for the ensuing year resulted as follows: *President*, Dr. C. H. Knight, New York; *First Vice-President*, Dr. T. Morris Murray, Washington; *Second Vice-President*, Dr. D. N. Rankin, Alleghany; *Secretary and Treasurer*, Dr. H. L. Swain, New Haven; *Librarian*, Dr. J. H. Bryan, Washington.

The next congress will be held at Washington in connection with the triennial meeting of the Association of American Physicians.

Eczema of the External Auditory Canal.—DR. HERMET (*Annales Oph.*, October, 1895) considers nitrate of silver the best agent to employ. After first cleansing the parts by means of boiled water, soak cotton in a solution of one to ten, introduce into canal, and leave it there for twenty-four hours.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. FOWLER'S GRIEVANCE IN PARLIAMENT—MEASLES—LONDON UNIVERSITY ELECTION—ST. ANDREW'S AND DUNDEE—CREOLIN—HOSPITAL FESTIVALS—SMALL-POX—CAVENDISH LECTURE.

LONDON, June 26, 1896.

SIR W. FOSTER brought forward Surgeon-Captain Fowler's case in the House of Commons, in accordance with the notice mentioned in my last. Several other speakers condemned the abuse of power which had worked such injustice, but the authorities pleaded that a technical breach of military discipline had been committed by the medical officer, who had failed to conform to the regulations. This defence was accepted by the house, and so far justice is still refused. But what a defence in face of the repeated declarations of high officers that the doctors are only "civilians." And this defence is set up for dismissing a surgeon against whom no charge of incapacity is made, and that at a time when the authorities are at their wits' end to find eligible candidates for the army medical service!

You will remember that the only omission of duty charged against Dr. Fowler was that he did not report misconduct which he had reprovved, because military officers, his seniors, were present, and they were the parties to make the report, according to the "Queen's Regulations." Nevertheless, a scape-goat was wanted, and who so helpless as the doctor?

"Murder by Measles" is the rather sensational title of an article in the *Nineteenth Century*, by Drs. Waldo and Walsh. The authors point out that there is a large mortality from this disease, especially in poor districts. Indeed, they estimate the case mortality of such a district at about three times that of the richer quarters. They tell us, further, that in 1894 measles killed in London about twice as many persons as fevers and small-pox combined. On these and other figures they put in a plea for the notification and isolation of measles. Assuming "the wisdom and necessity" of such preventive measures in other specific fevers, they pronounce it illogical to exclude measles with its greater mortality. They consider it a mystery why it should be thought right to attempt to control diphtheria, while measles and whooping-cough are left free. And yet they admit that the cost of isolating cases of measles must be enormous, though they regard that as a sort of national insurance. But it is not the cost alone that has caused ardent notificationists to recoil before the proposal to extend this measure to measles. Notification without isolation would be of no avail, but with the present pressure on our hospitals this looks impossible. Drs. Waldo and Walsh give us no estimate of the "ample hospital accommodation" that would be necessary to isolate the enormous numbers of cases of measles. Nor do they indicate how the popular opinion of the unimportance of this disease is to be changed to such a conviction of its deadliness as to support the advocates of notification and isolation.

Convocation of the London University met on Tuesday, when the election of a representative of the graduates on the senate took place. A list of three persons, to be submitted to Her Majesty for selection of a fellow, was duly proposed, viz., Mr. Rivington, Sir J. Lister, and Mr. R. M. Stephenson. The advocates of transforming the university into a teaching body worked for Sir J. Lister, and are disappointed at

the result, for he received only eight hundred and forty-six votes against nine hundred and sixty-three cast for Mr. Rivington, who, although a well-known medical reformer, desires the university to remain as it is. An attempt was made to make the great reputation of Sir J. Lister subservient to his party, but it must be remembered that Mr. Rivington is a distinguished graduate and also a teacher of great experience. It is not improbable that the result will encourage the government to prolong the *status quo*.

The Dundee College, which was to be incorporated with the University of St. Andrews, has not been able to secure the terms which it desired, and for some time past the public has been made acquainted with the differences between the two bodies. The new college at Dundee seems to plume itself on its modern foundation. The ancient university has no notion of sinking its history and privileges in a mere college of to-day. The university authorities are willing to grant Dundee College affiliation or incorporation on such terms as a college might expect from its university, and, while wishing success to the college, regrets the bitter attacks which it has made on St. Andrews. The truth seems to be that the college at Dundee wants to finger the funds of the university, to which it fancies itself the heir, and is longing to walk into its inheritance. But the end is not yet, and the venerable university may outlive the upstart college. Litigation has been carried on between the two, and will probably be continued.

Creolin has been extensively exploited as a non-poisonous disinfectant, but its absolute safety must not be too confidently relied upon in face of the results of an investigation made at the Veterinary College. In consequence of the effect of a lotion of one in twenty on some valuable ferrets, and of a stronger lotion on a dog, other dogs and cats were experimented on with the application, always with toxic effects and often fatal. Professor Hobday concludes that creolin is a narcotic and irritant poison to dogs and cats, and especially when applied over a considerable area of the body, and its effect is more rapid when diluted with water than when used pure or in the form of an ointment. It is not so easily absorbed from small wounds as from a large area of skin. It would seem, therefore, that more care in its use is desirable than has been previously considered necessary.

The Princess of Wales visited St. Mary's Hospital on Tuesday, and spent about an hour and a half in the wards, speaking a kindly word to each patient. Like other hospitals, St. Mary's is in want of funds, but it enjoys royal patronage. For the memorial Clarence wing £4,700 was raised at the annual dinner last week.

A bazaar on behalf of the Northeastern Hospital for Children was opened on Tuesday by the Duchess of Connaught, who was accompanied by the duke. The object is to pay off the debt, which amounts to £3,000. The present income is £500 short of the requirements of the hospital, which is located in a poor district. Purses were presented to the duchess, containing between £600 and £700, and the bazaar continued open on Wednesday and Thursday.

The annual dinner of the Metropolitan Hospital took place on Tuesday, when £2,762 was announced as the result. This hospital is in much need of help. It contains one hundred and sixty beds, but the treasurer says only sixty-six could be used, for want of funds. It is situated in a densely populated and poor neighborhood, and has separate wards for Jewish patients. It has, therefore, an extra claim on the rich members of the Jewish community.

Gloucester seems to have learned the lesson of the epidemic. It is estimated that when the outbreak began there were nine thousand unvaccinated children

in the city. Of these more than eighty-six hundred have been vaccinated, but Dr. Bond and his staff will not relax their efforts while one child remains unprotected. They have had a hard time, and, I hear, have inspected some nine thousand houses. Some other places, warned by the calamity of Gloucester, are putting their houses in order; for the neglect of vaccination has been very widespread. In London there are districts where the authorities have been growing more and more remiss. Hackney and Islington are among these, and are being hauled over the coals. In the latter an outbreak of small-pox has already begun.

The Cavendish lecture was this year delivered by Mr. Bryant, who devoted it to "Vaccination and its Discoverer." It may therefore be regarded as one part of our celebration of the Jenner centenary.

OUR BERLIN LETTER.

(From our Special Correspondent.)

OÖPHORIN TABLETS FOR THE MENOPAUSE—THE MICRO-ORGANISM OF CEREBRO-SPINAL MENINGITIS—IMPROVED INSTRUMENT FOR AUSCULTATION—LOCALIZING INTERNAL ORGANS.

June 20, 1896.

CONSIDERABLE interest is manifested in the recent experiments of Professor Landau, in regard to the alleged efficacy of ovarian extract in overcoming the varied and distressing symptoms attending the menopause. The distinguished observer gives his reasons for the method on the assumption that the phenomena of the climacteric is based upon a loss of power in the ovaries, and in order to balance such a deficiency that ovarian extract is indicated. He began by giving the minced ovaries of freshly slaughtered animals, but finding them unpalatable for the patients, he succeeded in obtaining an extract which he now administers in tablet form. Each tablet contains 0.5 gram of the extract, and three or four are given thrice daily until an hundred or more are taken, after which, if no success is obtained, the treatment is suspended. He claims to have cured twenty-four patients of the twenty-seven treated. No secondary symptoms have been reported in contraindication of the treatment.

Professor Heubner recently reported, in the *Verein für Innere Medicin*, that he had succeeded in isolating a new germ, which he obtained by the puncture of the spinal column by Quincke's method in living cases of epidemic cerebro-spinal meningitis. Heubner is the first one who has succeeded in demonstrating this coccus during life. This organism is called a "meningococcus," and is identical with the gonococcus. It has the same form and lies intracellular. Sometimes it assumes the diplococcus form, and other times tetraginous form. There is a very striking difference in growth which characterizes this meningococcus from that of the diplococcus of Fränkel, namely, that cultures made from meningococcus grow very rapidly, whereas those made from diplococcus grow very slowly and after a time lose their virulence. Thus far experiments to prove the positive disease by inoculating animals have not been successful. Heubner succeeded, however, in reproducing this disease in animals by inoculating them in the spinal region with a pure culture of this meningococcus. Former experiments of Jäger and Weichselbaum were unsuccessful because the proper animals were not selected. Mice are not susceptible to this poison, while horses, sheep, and goats are. Heubner was able to cause the disease by inoculation into the spinal cord in two goats. He lays much stress upon the demonstration of the presence of the meningococcus for differential diagnosis.

Dr. Schwalbe has perfected the improved instru-

ment for auscultation, the "phonendoscope," which the Italian professor, Bianchi, invented. Schwalbe reported very good results from its use. It consists of three parts—a resonance box (of metal), two rubber tubes for the ears, and a disc which can be placed against the box. This instrument conducts the sound of the organs to the ear, and can partially replace percussion. It produces by percussion different notes, according to the organ on which it is placed. The inventor claims to be able to distinguish even different lobes of the lung. According to Schwalbe's experience, one can hear better with the "phonendoscope" than with the unaided ear. It can be employed on parts of the body difficult of access, and eliminates extraneous and artificial sounds. It is specially good for physicians who are hard of hearing.

Professor Grummach has just published another method for localizing the internal organs. He has experimented with it, together with Dr. René de Bois-Reymond. They illuminated the person on whom the experiment was made with extraordinarily strong Roentgen rays, and were able to see the contours of the organs distinctly on a fluorescent screen placed behind the patient. The laryngeal cartilages, as well as the bodies of the vertebrae and the ribs, were to be seen distinctly as dark shadows. The movements of the diaphragm were clearly demonstrated. The normal movements of this muscle were from five to six centimetres, but in pathological cases only 1.5 centimetres. The experimenters claim to show the ascending aorta, the heart, and the stomach as shadows. In one case of arterial sclerosis the arteries of the arm showed fine dark lines by the illumination. They also claim to have seen the sclerosis of the coronary arteries of the heart. Further, they were able to demonstrate old calcified centres in the lungs.

GERMS AND SERUMS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: After reading the articles in your excellent journal in reference to antitoxin, I cannot refrain from writing you a few lines about germs and serums in general.

When will the medical profession learn that they are being made dupes of by some of the chemical manufacturing companies? These companies discover (?) some great drug or cure. Now, how do they set about to get rich from it? The answer is easy. Some physician of national repute and high-sounding title is sought. He is informed that the very moon revolves about his magnificent reputation and name; in other words, that he is the great medical mogul. They inform him of the wonderful remedy, supply him with some, give him to understand that it will be worth his while to write a scientific article for print about it. What does he do? Tries it in a few cases, writes a long, learned discourse, and gives it up to the company. What do they do? Print his learned article and strew it broadcast over the land. No one dares doubt the wonderful virtues of the remedy, for does not the recommendation come from the great So-and-So?

No one wants to be outdone, so the lesser lights rush into print—everybody goes wild. After a time some doubting Thomas finds nerve and gall enough to call a halt, and in about the length of time it would take the midday July sun to lick up a frost the remedy is a dead cock in the pit. The theory is exploded, but the company has grown rich.

Understand, I do not say all chemical companies are working the profession for what can be gotten out of it, because we are under a thousand obligations to many of them for the standard and reliable preparations they have put on the market.

What of antitoxin? Time will demonstrate, as it has almost done already, that it is a delusion and a snare. If so, you say, how are we to account for the reports of cures made by the leading men in the profession? Here let me say we are only human—big guns, little guns, and all. Enthusiasm carries them off their feet. Everything must bend to the theory; if we look through blue glasses we see blue.

I know of a man with a national reputation who secured a little vial, at great cost and trouble, of a new fad. He held it up before a class and said: "Behold! the science of a thousand years, concentrated in this vial!" The fact of the matter was that he could not have told what was in the vial to "save his immortal essence."

I doubt the efficacy of antitoxin upon two grounds: First, mistaken diagnosis and slight attacks; second, unreliability of figures.

As to the first reason—too many cases are diagnosed diphtheria which are not diphtheria. But, you say, the culture and test will settle it. I say no. We are overenthusiastic over germs and germ theories. The pendulum has swung too far and must come back. Time will prove that we have been too positive about disease germs. Stick a pin there.

Many and many a case of follicular tonsillitis has been called diphtheria, and a wonderful cure reported, and perhaps the physician was sincere in his diagnosis. Beware of the diagnostic powers of a man who reports anywhere from fifty to a hundred consecutive cases of diphtheria without the loss of a single one, antitoxin or no antitoxin.

The greatest medical man in New York or Paris is just as apt to make a wrong diagnosis as a doctor not known outside of his little country village. And with all due respect I say that in many, many cases, were we to judge of the true success of the two physicians by the bona-fide cures made and real good done, the cross-roads man would carry off the palm. Cartloads of men with national reputations are dismal failures in actual practice. Theory is one thing and practice another.

As to the second reason—difference in severity of epidemic, location, care, etc., leads to unreliability of figures. Another reason is that when we are dealing with the human organism we are dealing with a compound, complex, complicated affair. So that if we give a remedy and the patient gets well, what definite reason have we for assuming the patient would have not recovered without medicine?

LINCOLN PHILLIPS, M.D.

HARTWELL, O.

MEASUREMENTS OF THE APPENDIX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some one has advised us to give the appendix vermiformis a rest; but, if you, Mr. Editor, will permit, I should like to give the measurements of the appendix as I have found them in some post-mortem examinations made.

In one hundred and fifty cases I have found the length of the appendix to vary from two and a half to nine and three-quarter inches. Only two came above the general measurement—one six and a half, and the other, the longest I have been able to find any record of, nine and three-quarter inches. Both of these extra long appendices were found in males; the canal communicated freely with the cæcum; they were almost free, having only a short mesentery, contained some hardened faecal matter, otherwise were in an apparently healthy condition.

C. J. RINGNELL, M.D.

MINNEAPOLIS, MINN., June 12, 1896.

DOES THE APPENDIX DEMAND SURGICAL REST?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: With due deference to Drs. Morris and Wyeth, whose surgical skill and other attainments are the pride of our common profession, I must submit that they do not, in a measure, apprehend the situation, and they fail to rise to the exigencies of the occasion. The question is not whether the treatment given appendicitis by Drs. Morris, Deaver, Wyeth, McBurney, and others is the best treatment in their, or equally skilful, hands. This was long ago demonstrated, and there can be no question but that in the hands of the surgical expert the mortality is practically *nil*.

Nor would there be question if surgical experts were easily procurable. But, as a fact, appendicitis is common, expert surgical skill is extremely rare, and these few surgical experts are not so self-sacrificing as to respond to telegrams unmindful of the financial responsibility of patients and physicians.

The practical question for myself as a general practitioner, a large part of whose practice is surgical, is, what percentage of appendicitis cases ought I to submit to the knife?

In the solution I ask aid from the profession, and the statistics of Drs. Fenger, MacArtney, and others are valuable to me, if true, while the statistics of Drs. Morris, Deaver, *et al.*, as surgical experts deriving their data from consultation practice, are practically of no value at all.

To refer me to statistics of ninety-eight per cent. of recoveries at the hands of surgical experts, not surgical operators, when I invite aid, is to give me a stone when I ask for bread. The question whether eighty-five patients out of one hundred 'die under conservative management, or whether the mortality in general of appendicitis is only about five per cent.,' is a most important one, as is also the question whether relapse in cases surviving medical treatment is common or otherwise. To such of us as have "sweat blood" in determining for or against operation in certain cases, it is important that these questions be discussed without overestimating the tendency toward recovery on one hand or offering the expedients of the surgical prestidigitator on the other. The opinions of Senn, Fenger, Keen, Lamphear, and others counselling conservatism give us moral support in management of very many cases by medical aid alone. If we listen to the protestations of another school, represented by Morris in the East and Murphy in the West, we shall of necessity operate in the great majority of cases. In the aggregate will it be for good or ill? When Dr. Morris asks: "Why is Dr. Greene willing to have nine per cent. of appendicitis cases die under medical treatment?" he is manifestly unfair in his presentation of the question, inasmuch as he implies that more might be saved by general adoption of surgical practice. This is simply begging the question at issue. The general practitioner bases his practice on:

1st. The assertions of observers like Fitz, Hektoen, and Taft, who assert that thirty-five per cent. of all dead bodies show more or less evidence of appendicitis. So far as I am aware this is not disputed, and must of necessity indicate the inherent tendency of the disease toward recovery.

2d. The expressed opinion of many surgical operators of great experience who are recognized by the general profession as writers and teachers of authority. These men may or may not equal the surgical expert in certain technique, but it is to the consensus of their opinion that the general practitioner must turn for moral support, particularly in medico-legal cases.

¹ Wyeth: MEDICAL RECORD, May 9, 1896.

² Fenger: American Journal of Obstetrics, August, 1893.

3d. The almost universal testimony of most intelligent general practitioners in different sections of our country that a very large proportion of appendicitis patients get permanently well under medical treatment.

Under such circumstances I believe the general practitioner can fairly demand of the surgical expert that the latter give practical recognition of this well-nigh universal testimony, and can serve notice on him that he has no moral right to promulgate rules for the guidance of the general practitioner based on experience that leads him to conclude that eighty-five per cent. die under conservative management.

We general practitioners, who have devoted time and money to learn from them in post-graduate work how to diagnose and surgically treat appendicitis, know that the mortality rate is not so high and that their statistics are not drawn from cases as they occur to the rank and file of the profession.

Nor does it avail to insinuate unrecognized cases under the head of peritonitis, obstruction of the bowels, or typhoid fever, when the competent practitioner recognizes that any obscure abdominal inflammation may prove to be appendicular and when cases of supposed intestinal obstruction or even of acute gastritis threatening death demand and receive surgical interference in order to establish a diagnosis.

What we contend for is that the radical position presupposes moral cowardice or ignorance on the part of the general practitioner, when the fact is that he can give as much reason "for the faith within him" in his particular environment as Dr. Morris can in his.

To step from a carriage to the splendid appointments of a modern operating-room is one thing. To travel before daylight ten miles through mud and rain; to be confronted with unsuspected appendicitis that has demanded operation for days; to personally send messages over warring telephone lines, messages that must be repeated from one to the other; to secure under these circumstances necessary assistants, but with instruments and dressings hastily procured; and finally to operate successfully after 3 P.M. on a dark and rainy day in a country farmhouse is quite a different picture. As for myself, I have experienced both.

Would the gentleman demand ninety-eight, or even ninety-one per cent. of recoveries under these untoward circumstances?

Dr. Morris alleges that he "arouses the ire of fellow-surgeons" and "the enmity of general practitioners." This is to be deplored, as it is not a question of feeling but of fact. Dr. Morris' standing in the profession must disarm any suspicion that he had any feeling toward Dr. MacArtney's statistics, but in our section it has been somewhat the fashion that if any conservative man dared lift his voice he has been "jumped on" by surgeons who were making abdominal sections even upon, in one alleged case, typhoid fever, and whose zeal for operation, in my opinion, is stimulated by the opinions of radical men.

It has been repeatedly urged in the past that we had no ground for argument in the face of statistics and opinions of men like Dr. Morris and others. As stated in the beginning, what is the best treatment in the hands of the surgical expert has been demonstrated. What is the best treatment in the hands of the general practitioner cannot be determined on that line at all. I believe the solution is at hand when the general practitioner begins to gather statistics, lift his voice, and demand a hearing.

J. H. GREENE, M.D.

Dubuque, Iowa, June 13, 1896.

Asthma.—Chloride of methyl spray upon the back, up and down the spine especially, it is said will cut short an attack.

A BAD HABIT OF SOME SMOKERS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial on "Anti-Cigarette Leagues" touches upon a subject not only of great public interest, but one that is ill understood by a majority of the laity. The main facts presented, will not, I think, be controverted by thinking men. There is one most important point, however, which has been overlooked in summing up the evils of cigarette smoking, namely, deep inhalation of the smoke. Inveterate cigarette smokers are invariably addicted to smoke inhalation. Granting that the ill effects are due to the absorption of nicotine and other noxious material by the mucous membranes, it will be conceded that the amount absorbed by the chronic smoke breather will be many times that taken up by one who smokes a cigarette as he would a cigar. Cigar smokers are not smoke breathers. It is, therefore, not only the short smoke offered by the cigarette, but also the pernicious habit of smoke inhalation, wherein lie the evil and danger to our boys and young men.

FRANK P. PRATT, M.D.

JACKSON, MICH.

SPECIALISM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To the doctor who reads his medical journals regularly, nothing is more entertaining than the occasional rows which occur between physicians on the one hand and specialists on the other. The present wrangle in the *MEDICAL RECORD* between the general practitioner and the appendicitis operator is a thing of beauty.

I plead guilty to the offence of being merely a common every-day general practitioner, nor do I blush at the admission. I am this by choice. I believe I can be a more useful man, and, generally speaking, a more broad-minded man, as I am than by becoming a specialist. So long as human nature shall be what it is, so long will it be hardly possible for a man to devote himself exclusively to one thing without losing more or less of his general view. Every thoughtful doctor will see the necessity of making allowances for this tendency in our nature and of excusing the poor specialist with his limitations for many of his airs of importance. We must do this, because specialists when watched closely by the general practitioner are sometimes useful, and when carefully controlled and restrained undoubtedly do good in certain cases. Furthermore, by hammering at the same thing all the time, they evolve a fact now and then which may be of use in building up the science of medicine as a whole.

But when one of these individuals gets to that point of folly and impertinence that he, so to speak, bursts, and rises on his hind legs to inform the great medical profession that every man who does not treat his patients according to his peculiar formula or theory is incompetent or unscrupulous, it is time for the profession to call such a ridiculous person down and sit on him heavily. It is time for them to bring his attention to the fact which he must have forgotten, that his specialty, no matter how important, is only a side show in the practice of medicine, and that he, no matter how brilliant he may be, is only one of the agile tumblers in that side show.

No, sir! The general practitioner has during the last few years been fooled too often by specialists great and small to be thrown off his guard to-day by every utterance these one-ideal people see fit to give out. He cannot do his duty by his patients unless he takes a firm stand and uses his own judgment and experience in passing upon the jarring and often utterly

unreasonable and contradictory statements with which the journals teem. A specialist is like a man in the theatre with an opera glass at his eye. He sees with unusual clearness the actor on whom his glass is turned, but he sees little else. The rest of the stage he cannot see, and as for the great audience about him, he is for the time being hardly aware of its existence. But all the same he is merely a unit in the multitude, any other unit of which may be as good and as intelligent as himself.

The question of "fat fees" has been brought up by both sides in your recent communications, and therefore I claim permission to allude to it. My experience is that specialists who have seen patients of mine do not usually charge more than a fair sum for their services. On the other hand, I am sorry to say that a specialist may be a very mean and sordid man. I have seen it possible for such a one to send an unrighteous bill to a patient, and, when a polite and proper protest was made, to assume an offensive, menacing attitude, and finally to get down to the level of a greedy pawnbroker.

To come to the question of appendicitis: I have been practising sixteen years and have seen some cases. Not being a specialist, I have not seen anywhere from fifty to five hundred cases in the last year, but in sixteen years I have seen some and known of others. I wish to testify here earnestly that every case I have seen which was not operated on got completely well. I cannot say the same of those which were operated on. Not one of these patients who recovered has had a recurrence. One of these was a lady who was pregnant between five and six months, about three years ago. She got well, and passed through her confinement safely at the proper time. She has had no trouble since and is to-day a well woman. Of course it is in order for some one to say that these were not cases of appendicitis, but such an one will talk in vain, because I know they were, and tell the precise truth, statistics and specialists to the contrary, notwithstanding.

It is the duty of every practitioner to treat every case of appendicitis with a view to save his patient the expense and danger of a surgical operation. Surgeons may prate as they please about the freedom from danger in opening the abdomen, but it is a grave and serious procedure; I have a strong impression that no surgeon would look upon the matter lightly if there arose the question of opening his own abdomen. And even if he has operated successfully on twenty or thirty consecutive cases, he can give no guarantee that the thirty-first will not end fatally. It is this uncertainty hanging over each case which confounds all the statistics, and makes them of no interest or value to the friends or the physician of any patient who may have appendicitis. What shall it profit a woman if her husband is killed by having his belly cut open, if you show her the dry figures which exhibit the previous successes of the surgeon who cut him!

It is the business of the family physician to decide in every case of appendicitis if an operation is necessary. He can decide just as well as the surgeon, because the latter has no means of diagnosis which are not within his reach. And when we reflect that some surgeons are so far gone as to assert that every case of appendicitis should be operated on, the solemn duty of deciding the question for or against operation has got to rest on the shoulders of the general practitioner. Heaven deliver me and mine from that kind of surgeon! He is a reckless and dangerous man.

It is worth while to consider what would happen to the people if the general practitioner did not stand between them and the specialist. By the time the eye-man had clapped on enough glasses to satisfy his longings, and the nose man had gouged out enough

noses, and the throat man had cauterized his fill of throats, and the stomach man had let down his buckets and other paraphernalia into the last stomach he felt called upon to annoy, and the appendicitis hero had satisfied himself that he did not need another appendix, and the circumcision dragon had carried off his allowance of foreskins, and that fearful nondescript, the official surgeon, had humbugged all the human apertures which he longs to get at, and this recent iconoclast who has suddenly jumped into the arena, whose mission in life is to pull the testicles out of old men, shall have got his bag full of the contents of other men's bags—by the time these and many others had exhausted their efforts and become satisfied, there would not be a whole man or woman left in the country. It is becoming more and more the duty of the physician, to the community rather than to himself, to resist the fads which are more abundant in the medical field to-day than ever they were before.

We must have specialists, and the rank and file of the profession will be ever glad to learn any facts they may discover whenever they can agree among themselves for a reasonable time which are their facts and which are their theories. Furthermore, we shall render proper respect to every man who respects us in return and who respects himself; but the day is not here, nor will it ever come, when the general practitioner will consent for a moment to be pushed into the attitude of a schoolboy, while the specialist stands over him with the awful airs of a schoolmaster. All honor to the large-minded man who gives freely of his discoveries to his fellow physicians with the modesty and dignity which marks the true man of science as well as the true gentleman. We all know that kind of man when we see him, and recognize his value. We also know the other kind of man—the little chap with a swelled head. We would suggest to him that he go into the woods and commune with himself. After a while it may dawn upon him that he is only a man after all, and that he may not be a very big one.

W. J. SHREWSBURY, M.D.

BROOKLYN.

Pellotine.—Tolly presented a communication to a Berlin medical society concerning pellotine, a new hypnotic, which is not, like most of our modern remedies, a synthetic product, but is an alkaloid of a cactus-like plant, the *Anhalonium Williamsii*, introduced by Hefter. The natives of India, he said, had long known of the virtues of this plant. The first experiments on animals had seemed to indicate that its action was somewhat similar to that of strychnine, but experiments on the human subject, on the discoverer Hefter himself, demonstrated that pellotine is an hypnotic of the first order. Given in doses of one-third to one grain, it caused, in most of the cases observed by Tolly, a sleep of about four hours' duration, inducing at the same time in almost every instance a slowing of the pulse. According to Tolly's experience, it acts well in the pains of locomotor ataxia, in neuritis, nervous excitement, alcoholic delirium, etc. The only by-effects noted were tinnitus, a sensation of heat in the head, and vertigo. The speaker thought the remedy was worthy of a trial, a change in hypnotic remedies being in many cases of absolute necessity.

Ichthyol in Burns.—This drug is efficacious in treatment of burns of the first and second degrees. It alleviates pain, reduces œdema, and promotes healing. It is used dry, diluted with zinc oxide or bismuth, the powder being spread evenly over the surface; in ointment (ten to thirty per cent.); or as a combination of these two methods.

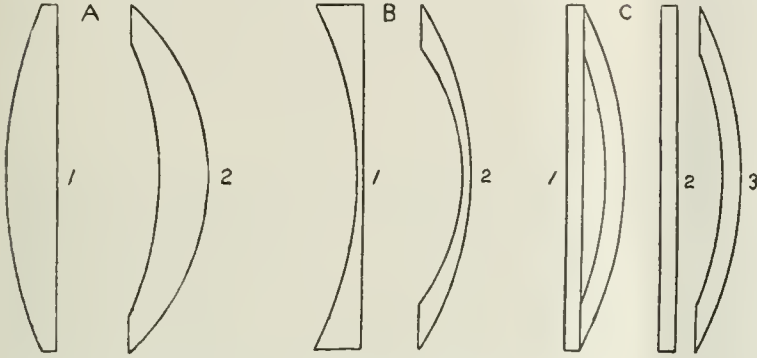
New Instruments.

A NEW SPECTACLE LENS—A COMPOUND ACHROMATIC PERISCOPE.

By F. PARK LEWIS, M.D.,

BUFFALO, N. Y.

With the more general recognition of the importance of refractive errors in their effects not only upon the eyes, but often upon the general nervous system, has come increased nicety in determining the focal correction, the proper position of the lenses before the eyes,



A. 1, Convex flint-glass cylinder; 2, convex crown-glass meniscus.
B. 1, Concave flint-glass cylinder; 2, concave crown-glass meniscus.
C. 1, Sectional view of both crown and flint glass lenses cemented together; 2, plain flint-glass cover (for correcting chromatic aberration); 3, concave or convex crown-glass meniscus.

the right adjustment of the frame, and an endeavor to relieve the eyes in every possible manner of unnecessary or unequal strain. Comparatively little attention, however, has been given to an element of quite as great, and in some instances greater, importance—the construction of the spectacle lens itself. The imperative necessity of a correction of all spherical and chromatic aberrations in the objective glass of the telescope and the microscope has compelled the makers of lenses to employ the highest skill in their construction. The necessity is equally great in the correction of the higher refractive errors; but, with the exception of the spherotoric lens, which, valuable as it is, has not come into general use because of the necessity of special moulds other than those usually employed, there is no compound focal glass by which spherical errors can be eliminated, and none whatever by which a complete spherical and chromatical correction can be secured. In order to meet the requirements of this class of cases, the writer has devised a practical combination, which has proved to be of such practical value that a brief description may not be without interest. Its simplicity and the fact that it can be constructed at a cost not largely in excess of the ordinary compound lenses give it a very general application. The necessity of a lens of this kind was suggested by the difficulty of securing as high visual acuity after the extraction of cataract and in other cases in which lenses of short focus were required as the absolutely clear media would seem to warrant. Aphakial patients were peculiarly annoyed sometimes by the sensation as of a blue haze surrounding every object, even after the most perfect possible correction with a lens had been secured. A suggestion made some time before by Mr. Herbert Spencer, the well-known maker of microscope objectives, that it was possible to secure achromatism in such strong lenses, led the writer to order in the construction of such glasses

a combination made by cementing a flint-glass cylinder of the proper refractive value upon a crown-glass lens having a plano-spherical surface. The result, while far better than that obtained from the ordinary test-case combination, was still unsatisfactory. The construction was therefore devised of a combination lens based upon the following principles: The spherical surface was to be a meniscus, either concave or convex as might be desired, the proximal surface of which, except a circle at the centre of suitable dimensions, was to be ground to a smooth surface. The plain surface of a cylindrical lens which was placed at the proper angle was then to be cemented upon this proximal surface, a narrow vacuum being left between the two lenses. One lens was to be of crown and the other of flint glass, in order that chromatic correction should be obtained. The strong spherical lens being periscopic, spherical aberration was therefore largely eliminated.

While with such a combination the exact values obtained in microscopical objectives would not be secured, the general effects have been so vastly superior to any heretofore employed as to make this lens an exceedingly satisfactory one. While it has been especially useful in cases of aphakial and highly myopic eyes with astigmatism, it has in some instances given relief in moderate degrees of ametropia in which ordinary lenses have not proved comfortable.

In such it has been especially valuable in giving periscopic vision, whereas with the convexity or concavity wholly in one side of the lens—a necessity in a compound glass—its focal imperfections are manifestly so great as to make the correction at best approximate.

It is evident that in such formulæ as the following, chromatic aberration cannot be avoided except by combining glasses of different refractive index, and the spherical correction can be obtained only by the use of a periscope:

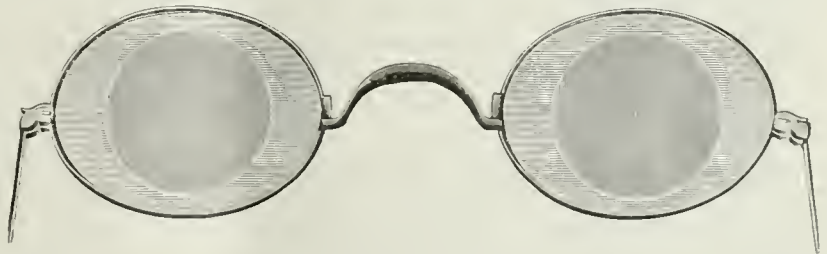
$$R. + 11 \text{ D. sph.} = + 175 \text{ D. cyl. ax. } 15^\circ$$

$$L. + 14 \text{ D. sph.} = + 175 \text{ D. cyl. ax. } 15^\circ$$

$$R. - 9 \text{ D. sph.} = - 2 \text{ D. cyl. ax. hor.}$$

$$L. - 10 \text{ D. sph.} = + 125 \text{ D. cyl. ax. } 90^\circ$$

But in actual practice the most complete correction has been obtained in the above and many other combinations, which have at once proven to be simple, relatively inexpensive, and eminently satisfactory.



Front View of Compound Achromatic Periscope.

The lenses are made by the Failing Optical Company, of Buffalo.

Gonorrhœa.—Dr. Shoemaker says the physician should caution patients suffering from gonorrhœa from carrying the finger to the eye before the hands have been thoroughly washed, as virulent ophthalmia is excited by contact with gonorrhœal pus.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 11, 1896:

	Cases.	Deaths.
Tuberculosis.....	95	93
Typhoid fever.....	15	5
Scarlet fever.....	53	6
Cerebro-spinal meningitis.....	5	6
Measles.....	180	10
Diphtheria.....	214	26
Small-pox.....	0	0

The Jenner Centenary in Berlin.—In Berlin, as elsewhere, the Jenner centenary was celebrated on May 14th, commemorating the first vaccination practised one hundred years before. On invitation of the city, several hundred physicians assembled in the great hall of the Rathaus. After an address of welcome by Virchow, who called Jenner one of the greatest benefactors of humanity, Gerhardt delivered the oration, in which he pictured in brilliant colors the life and labors of Jenner. Kruse, a deputy in the Reichstag, also spoke, referring to the antivaccinationists and warning his hearers against an underestimation of the harm they were capable of doing. The city councilman, Dr. Strassmann, delivered the oration in behalf of Berlin. In connection with the celebration was an exhibition of objects relating to vaccination. There were many Jenner portraits and letters, the pioneers of vaccination in Germany were commemorated, and even the antivaccination literature of the century was well represented. The impression made by this celebration was that the storm of the opponents of vaccination was not likely for many years to come to avail much against compulsory vaccination law.

Starving in Heart Disease.—At a recent meeting of the Berlin Medical Society, Dr. Hirschfeld read a paper on the nutrition of patients with heart disease. He took the somewhat startling position, in which, however, he was sustained with the approval of many of his hearers, that patients with heart disease, in the stage of imperfect compensation, should take as little food as possible, not even enough to sustain the body weight. It was formerly the custom to give as much nourishing food as possible, with the idea of strengthening the heart. The speaker maintained, however, that in this way too much work was thrown upon the heart, and that the organ was spared and its muscle strengthened by giving very little food, say about a pint and a half of milk a day. Senator, among others, agreed with the speaker in this view.

Regulatory Glycosuria.—Dr. Gustav Klemperer, in a paper at a recent meeting of the Society for Internal Medicine, opened up a subject of great general interest, namely regulatory glycosuria and renal diabetes, starting from the remarkable fact that in diabetics who have at the same time albumin in the urine the glycosuria ceases as soon as the disease of the kidney has reached the point of cirrhosis. Thus, a patient with typical granular atrophy of the kidney had formerly four per cent. of sugar in the urine. If, then, only healthy renal epithelium excreted sugar and the diseased epithelium did not, the case must have been one of renal diabetes, which Klemperer thought was also demonstrated by the following: First, it is certain that the diabetes produced in animals by phloridzin poisoning is of renal origin,

for the proportion of sugar in the blood of such animals is not increased after extirpation of both kidneys; and, furthermore, when the phloridzin is injected into the renal artery of one side saccharine urine is excreted only from the corresponding kidney. Klemperer has succeeded, as did von Mering, in producing phloridzin glycosuria in man. This occurred independently of the nature of the food, even when this contained no trace of starchy matters and there was no increase in the amount of sugar in the blood. It had, therefore, all the characteristics of renal diabetes. But as this renal diabetes is possible only when the epithelium of the kidney is sound, the speaker was unable to produce phloridzin glycosuria in a number of patients suffering from granular atrophy. But, on the other hand, Klemperer did not look upon the glycosuria, which was often noted after the exhibition of strong diuretics, such as calomel, digitalis, caffeine, and the like, as of renal nature, but regarded it as a regulatory glycosuria. In these cases the organism is ridding itself of a surplus of sugar, for this glycosuria occurs only when there is an increased ingestion of sugar at the same time with the exhibition of the diuretic, and examination shows also that the proportion of sugar in the blood is increased. Klemperer said that the object of his paper was to direct the attention of clinical investigators to the existence of a renal diabetes, in order to determine whether this experimentally produced variety of diabetes is also an actual clinical fact. He had himself observed a case of this nature, but in this instance the renal affection was already in the stage of granular atrophy. The patient excreted regularly, under the most varied dietetic conditions, about 0.35 per cent. of sugar, but the proportion of sugar in the blood was never increased. The speaker believed that the recognition of this form of diabetes was of practical therapeutic significance, since it would have an influence upon the regulation of the diet.

Syringomyelia.—Professor Eulenburg recently reported a very interesting case of syringomyelia to the Berlin Society for Internal Medicine. The disease had appeared in consequence of an injury of the hand. Through inadvertence a small piece of zinc was left in the wound of the hand, and this had resulted in a severe phlegmon. The first symptoms of muscular atrophy appeared soon afterward, first in the arm on the side of the injury. Eulenburg held to the traumatic origin of the affection, but did not believe that the presence of the zinc in the wound was of any etiological significance. The case was one of great importance, in relation to the laws governing accident insurance in Germany.

Medical Philadelphia.—The *Medical and Surgical Reporter* says that it is not, as we had supposed, administering weekly rebukes to its readers in that city for their lack of energy and failure to keep abreast of the times. "Readers of the *Reporter*," it truly says, "are necessarily fully abreast of the times. Even those physicians of Philadelphia who do not regularly read the *Reporter* cannot be said to be far behind the times. The generous support of New York journals indicates that a considerable portion of the Philadelphia profession is, or at least ought to be, as far advanced as is the profession in New York, concerning whose doings it is much better informed than it is of current work at home. However, the *Reporter* has never alleged 'a lack of energy or failure to keep abreast of the times' on the part of the Philadelphia profession as practitioners of medicine. Its comments have been upon the business policy and the fatuous methods of the body medical, the effects upon Philadelphia's reputation, and the derogation of the city's claim as the medical centre of America."

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Original Articles.

THE ENDOTHELIUM OF THE FREE SURFACE OF THE PERITONEUM.

By BYRON ROBINSON, B.S., M.D.,

CHICAGO,

PROFESSOR OF GYNECOLOGY IN THE POST-GRADUATE SCHOOL.

VALENTINE discovered the peritoneal endothelium. In 1862 Von Recklinghausen discovered that a solution of nitrate of silver produced dark lines between endothelia. In 1865 His introduced the name endothelium for the peritoneum instead of epithelium. Endothelium in general is a nucleated membrane, as the endothelial plates of blood-vessels and lymphatic vessels, and the lining of lymph sinuses. Many capillaries have their wall composed of simply a single layer of endothelium, *i.e.*, flat,

membranous nucleated plates joined edge to edge so as to compose a hollow tube for fluid conduction. Endothelium is derived from the middle germ layer of Pander and Baer. In this article will be discussed that form of endothelium which lines the free surface of the peritoneum. In other words, we will consider the connective-tissue cell which is flat and smooth on one side, for the peritoneal endothelia are only modified connective-tissue cells. The origin of peritoneal endothelia is no doubt due to fluid pressure in lymph spaces and visceral motion independent of the body wall. I mean

by this that the fluid pressure in lymph spaces became so constant and so vigorous that the fine partitions gradually atrophied or became absorbed until the spaces coalesced so much that a lymph space of varying size arose. This enlarged space is lined by what we are terming endothelial plates. Added to this, the viscera adjacent to these developing and coalescing lymph spaces become more and more independent in their movements relative to the body wall. Thus, by increasing development of lymph spaces and by increasing independent motion of viscera and body wall, the great lymph sac—the peritoneal cavity—was formed with its smooth lining endothelial plates. This evolutionary process in producing a monster lymph sac with smooth walls was an act of adaptation of the viscera to their environments. The need of progressive visceral growth and fixation of body wall was motion and this was accomplished by fluid in a

smooth sac. It reduced friction to a minimum and increased motion to a maximum.

By peritoneal endothelia is implied a layer of flattened, smooth cells lining its free surface. The plates of endothelia are so arranged edge to edge that a continuous, non-interrupted membrane is produced. Peritoneal membrane is different from mucous membrane or the membrane which lines glandular cavities. Mucous membranes possess epithelium and arise from hypoblast or ectoderm. The peritoneal membrane, serosa abdominalis, is derived from mesoderm or mesoblast. The naked-eye appearance of normal peritoneal endothelium is that it is shiny and glossy. The eye can distinguish no lines or unevenness on its surface: it is smooth. In color it is grayish-white, pink, or pearly, depending, however, on its vascular condition to some extent. It is transparent and many structures may be observed beneath it. The endothelial layer itself does not change so much in appearance as do the subjacent structures. Fat makes it appear yellow, pigment cells dark, while bile-stained subjacent structures give it a variegated color. In short, its color arises from subserous organs and conditions. Previously diseased endothelia returned to normal may even show a mottled condition.

To the touch the endothelial membrane feels smooth and moist. It is slippery from the viscid condition of its secretions. It is so thin that one could perhaps not distinctly feel less than four or five layers between the finger and thumb. The best method for observing the thin portion of the endothelial layers is to allow it, especially that from the omentum majus and gastro-splenic, to float in a large capsule of water, when the thin, delicate membrane will move about, sometimes almost invisible. On exposure to the atmosphere it quickly becomes dry, wrinkled, and brittle. A brownish color appears to arise when it becomes dry.

The extent of the peritoneal endothelium is not very much less than the extent of the skin. The endothelia, *i.e.*, the connective-tissue cells flattened and smooth on the free surface, are the essential elements of the peritoneum. Without the endothelia the peritoneum is robbed of that element which endows it with physiological properties and is the principal factor in preventing the invasion of disease.

The preparation of the peritoneal endothelium and the interpretation of its appearance under the micro-



FIG. 1.—Drawn from Frog's Cisterna Lymphatica Magna. (Oc. 2, ob. 8 a, Reichert.) The surface directed toward the cisterna is shown. Eight stomata vera are shown; some partially open, others tightly closed. Some of the cells of the stomata vera are marked with nuclei. There are scores of other stomata vera adjacent and distributed similarly. 2, The stomata vera cells showing no nuclei; 3, with two nuclei; 4, with one nucleus; 5, an elongated stoma verum.

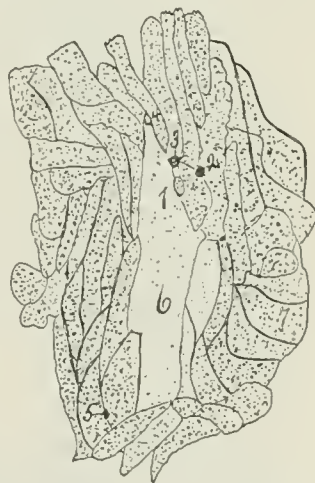


FIG. 2.—Drawn from Omentum Majus of New-born Child. It represents what I shall term a giant (6) endothelial cell surrounded by many small irregular ones. This irregularity I think cannot be the result of trauma, as it was handled with precaution. The giant cell is less stained than the adjacent endothelia. The omentum of this newborn is in a state of wild irregularity as to shape, size, and grouping of endothelia. 1, 2, 3, 4, stomata vera; 5, stomata spuria (adjacent in the microscopic field, not here shown, are other smaller giant endothelial cells surrounded by smaller groups); 6, giant cell; 7, common endothelia.

scope are the first steps to a knowledge of structure and function, and it is the second step to make such knowledge of practical benefit to combat peritonitis, the vigilant enemy of mammalian life. The first precaution in preparation for the observation of the peritoneal endothelium is that the membrane be as fresh as possible.

The second is that all possible trauma to the membrane be prevented: manipulating, dragging, and tearing must be avoided. The membrane should be handled only in a fluid medium, and even in the fluid with as little movement as is compatible with results. For the fresh specimen an animal may be killed and the parts of the peritoneum to be examined gently cut out with very sharp scissors

should be allowed to shine on it. The results depend on the strength and time the silver solution remains on the endothelium and the duration and intensity of the sunlight. I have examined specimens two months after mounting in glycerin, which were continually exposed to light and they improved with age. The silver-stained endothelium should remain in distilled water for an hour before it is placed in common water, for the salts in common water interfere with the working of the Ag No. 3 solution. If one wishes to check the effect of the silver solution on the membrane it should be placed in a salt solution, one-half per cent. Any trauma exercised not only is liable to desquamate the endothelium, but it will be liable to disturb the peculiar structures known as stomata vera, as well as the inter-endothelial substance, and, as this last-named material is pliable, semi-fluid, it can also become disarranged.

What does one see on looking at a silver-stained peritoneal endothelial specimen through a microscope? First, he sees irregular dark lines which separate brownish spaces from each other. These dark lines are precipitated albuminate of silver, the inter-endothelial substance being of an albuminous nature. Some have claimed that the dark lines are only precipitated albuminous fluid substance which exists in furrows on the endothelial membrane, for all admit a serous fluid exists on the surface. Some claim that the lines are elastic fibres. Schweigger-Seidel enunciated and defended this view persistently, and as proof said that if the peritoneal endothelium be first washed with diluted glycerin or diluted sugar solution the silver solution will not produce the dark lines. However, Klein positively denies the assertion. He repeats the rinsing of the membrane, and says the silver solution then produces the lines as before. Also, that by rinsing the peritoneal endothelium with water the silver solution will still produce the dark inter-endothelial lines. Hence this is sufficient proof that the dark inter-endothelial lines are not on the surface at all, but in the semi-fluid inter-endothelial substance between the plates. I can say that I have repeatedly watched the effect of the silver salts on the inter-endothelial lines, from just perceptible dark lines until a week later, when the lines have thickened in breadth, and also to some extent shown some connection with the substance on the endothelial plate: the endothelial plate will gradually brown deeper and deeper from the circumference of the plate, *i.e.*, from the inter-endothelial line toward the nucleus of the cell plate. But the dark, irregular, inter-endothelial lines appear first. Now, in many endothelia the nucleus remains an oval or round clear space, *i.e.*, the silver solution did not brown it, but the circumference of the nucleus is intensely brown. The only reasonable explanation I can offer for this phenomenon is that the nucleus is higher than the rest of the cell and therefore the silver solution flows away toward the edge of the plate; consequently, we shall assume that the dark, irregular endothelial lines are precipitates of albuminate of silver and therefore that they represent the outline of the peritoneal endothelial plates. There is a wise provi-



FIG. 3.—A, Drawn from Adult Human Omentum Majus. (Oc. 4, ob. 3, R.) It shows, 1, a stomata verum surrounded by six cells; 2, a stomata verum; and 3, a very brown spot on the surface of an endothelial cell, perhaps a rift or precipitated debris; 3, free edge of trabecula. Note the irregularity of the endothelial cells over a field of fat globules; doubtless the irregular growing fat globules account for the irregular shape and size of the endothelia.

B, Drawn from an adjacent trabecula (oc. 4, ob. 3, R.) surrounded by six cells. 1, Stomata verum with two long rifts and a round, white spot in it; 2, endothelia quite irregular; 3, free edge of trabecula. Note in both A and B that the inter-endothelial lines extend into the stomata verum and that the granular substance shimmers through.

and examined in serum from the animal's abdominal cavity, or placed in a large capsule of distilled water. Small bits of the membrane can be snipped off, allowed to float on the slide, and then examined in serum, water, or a drop of glycerin applied to the under surface of the cover glass just before it is placed over the specimen. A one-half-per-cent. solution of common salt (NaCl) is an excellent medium. Much knowledge may be gained by the microscopical examinations of such specimens; in fact all the knowledge of peritoneal structure rested on such examinations up to 1860. But I shall base my investigations and interpretation on peritoneal endothelium treated with Ag No. 3 solutions, as Von Recklinghausen taught thirty-five years ago, besides the more modern reagents. The Ag No. 3 solution should be of from one-quarter to one-half per cent., always in distilled water, and should be freshly made every two weeks (two grains of Ag No. 3 to an ounce of distilled water). For example, a rabbit is killed by bleeding or other method. The abdomen is opened with care and a solution of Ag No. 3 is poured over the peritoneum *in situ*, while the animal lies on its back. No viscera or peritoneum should be touched or traumatized before the Ag No. 3 is poured on the peritoneum. The silver solution should remain from two to fifteen minutes. But by experience and knowledge of desired results one soon learns how long to leave the silver solution on and how much sunlight

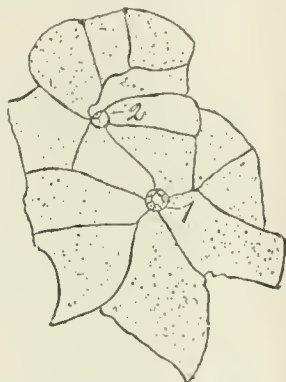


FIG. 4. Gastro Splenic Omentum of two months' Fetal Pig (oc. 3, ob. 8 A, R.), showing endothelia grouped around stomata vera. 1, Stomata verum which shows a distinct vertical canal lined with granular cells, which stain well with Ag No. 3; 2 is not quite so plain, as some of the guard cells have dropped out. The foetal pig shows the most typical grouping of endothelia of all animals which I have examined. The typical endothelia groups surrounding a stomata verum only occur on germinating tracts. It appears that with age the endothelia become more polygonal.



FIG. 5 is drawn from human omentum over a field of fat globules. The irregularity of its endothelia is doubtless due to the irregular expansion of the fat globules. 1, 1, Stomata vera; 2, 2, endothelia representing centres of endothelial grouping. Several endothelial cells were required to cover one fat globule, and the microscopic focus required readjusting for endothelia on the top of the fat globule and at its base. In this cut irregularity of endothelial contour and variation of focus for uneven surface are noticeable.

sion in this inter-endothelial substance being semi-fluid, in that it accommodates motion and friction to such a degree that the endothelial plate will not be torn. The brownish precipitates on the endothelial plate after the application of silver solution must be of an albuminous nature also. Perhaps it is albuminous fluid lying on the uneven surface of the endothelial plate, of a nature similar to that of the inter-endothelial substance.

In the inter-endothelial substance is the seat of the physiology of the peritoneum. At the common junction of several (three to fourteen) endothelial plates may be observed an oval or round opening known as a stoma. The mouth of this opening takes on a deeper stain than the surrounding endothelial plates and it is lined by granular polyhedral cells. The stomata-vera cells no doubt are young cells and contain more precipitable albumin, and hence are darker than the adjacent endothelia. The opening shows itself to have depth and hence may be termed a vertical canal. The interpretation is that the stomata (stigmata) vera are vertical canals lined by granular polyhedral cells and serve as a communication between the peritoneal cavity and the subperitoneal lymph channels. It seems to me that they regulate serous fluids.

Again, on the single inter-endothelial lines are found black dots, stomata spuria, or pseudo-stomata, which



FIG. 6.—From Human Broad Ligament. Age 39, dead 20 hours. Ag No. 3. (Oc. 4, ob. 4, R.) The drawing represents two stomata vera; 1 is open, 2 is closed. The endothelia are quite small and of a fairly uniform shape. This specimen was taken from the peritoneum where it diverged from the lower surface of the Fallopian tube. In this locality the subserous lines—fibrous and elastic—are very rich in quantity, making it appear that the peritoneum which loosely surrounds the Fallopian tube is quite thick and strong. The germinal endothelia surrounding the stomata vera are intensely brown.

with logwood, we note sharply defined round or oval bodies, which are interpreted as nuclei. Thus, in the technique of preparations of peritoneal endothelia much of the interpretation is dependent upon the kind of reagent employed. I must say that neither the technique of microscopical preparations of peritoneal endothelia nor the interpretations thereof are universally agreed upon. Many claim that the interpretations of what is known as stomata vera rest on a faulty technique.

The shape of the endothelia varies in different animals and is different in the embryo and in the adult. However, generally analogous-shaped endothelia are found in analogous localities. Afonassiew, Muscatello, and others appear to think that the general and original form of an endothelial cell is polygonal. My examinations include man, the cow, sheep, horse, pig, cat, bird, dog, rabbit, frog, and the embryos of pig and man. So far in the examinations I cannot generalize any single form of endothelial cell. It is probable that the polygonal form outnumbers any other single form. Again, the endothelial cells or plates in the embryo are quite different from those in the adult. The frog possesses the largest and most irregular forms of endothelia of any animal I have examined. The horse and cat possess large areas of very uniformly shaped endothelia.

The outlines of the peritoneal endothelia are generally those of curves and straight lines. Occasionally we find sinuous outlines which may resemble the cranial sutures. But sinuous outlines is the chief characteristic of endothelia covering lymph channels. Some endothelia are perfectly round, some show obtuse angles, while others show acute angles. They may be oval, square, spindle-shaped, or present graceful loops and necks, or assume the shape of a rectangle. They may be triangular (pig), pentagonal, or

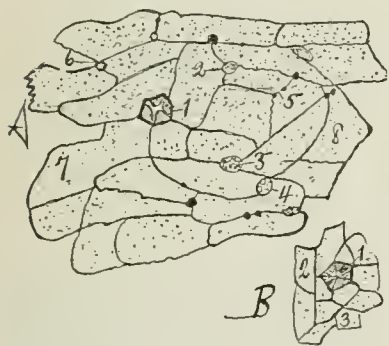


FIG. 7.—A, New-Born Human Omentum Showing Stomata Vera and Spuria and Very Irregular Shape and Size of Endothelia. 1, Stomata vera, a typical case; 2, 3, 4, other stomata vera; 5, stomata spuria; 6, stomata verum with its granular polyhedral cells; 7, 8, endothelia dropped out.

B, Drawn from a foetal (two months) pig's diaphragm, abdominal side. It shows a typical stomata verum (1) and it represents it distinctly as shimmering through the common endothelia (2 and 3). There is a round black dot in the centre of the stomata vera through which growth process takes place. The endothelia on this foetal pig's diaphragm are much more regular in shape and size than on new-born humans.



FIG. 8.—(b) Pleural Side of Diaphragm. Drawn from pleural surface of three-months-old dog. Ag No. 3. 1, 1, 1, Stomata vera; 2, 2, 2, stomata spuria; 3, 3, 3, nucleus. This, no doubt, covers lymph vessels.



FIG. 9.—(a) Abdominal Side of Diaphragm, Dog's (three months old) diaphragm. Cent. tend. Abdominal side. Ag No. 3. (Oc. 2, ob. 8 a, R.) 7, 7, Membrana limitans, from which the endothelia have been shed; 1, stomata vera; 2, 2, 2, stomata spuria, inter-endothelial stoma.

are interpreted as connective-tissue corpuscles or lymphoid corpuscles. It is supposed that the young connective-tissue corpuscle projects upward between the endothelial plates and becomes stained with the Ag No. 3 solution. Again, in the preparation of peritoneal endothelium with silver salts we notice that portions of the membrane take on a very much denser coloring from the silver than do the adjacent portions. The intensely browned portions with very irregularly sized cells are interpreted as young endothelia or germinating endothelia. We also note in preparing some portions of the endothelium that certain cells are vacuolating, *i.e.*, the endothelia are multiplying to produce lymph channels. If the endothelia are stained

hexagonal. The length may exceed the diameter, perhaps by six times. But the peritoneal endothelia do not vary in size like the endothelia covering lymph channels. In many cases, especially in embryos or new-born, the long, rectangular endothelial plate may assume a bent or curved shape to accommodate blood vessels and trabeculae. A peculiar appearance is lent to the surface of the endothelium by the reception of an acutely pointed angle in the recess of two or more other endothelia. The uniform shape of considerable areas of endothelial surface in some animals produces a beautiful mosaic, which is occasionally only varied by stomata vera and spuria. In other regions the delicate mosaic is relieved of its uniformity, especially

in the omenta, by germination and vacuolation of cells, while streaks of fat globules may come in to vary the scene.

The varied shape of the endothelia found in the adult body I am now fully convinced is an acquired



FIG. 10.—Horse's Gastro-Hepatic Omentum. (Oc. 4, ob. 3.) Drawn with absolute care. 1, One of the nuclei of a granular cell, i.e., the protoplasm has shrunk; 2, granular cell of stomata verum; 3, rift between two endothelia, debris brushed off; 4, half-cells not brushed off; 5, half-cell fallen off; 6, half-cell closed and open (very numerous); 7, a cell around which seven endothelia are grouped intercellularly; 8, rift or precipitate. The drawing is taken from between two tendons and is much lighter in color than the endothelia covering the adjacent tendons. Note the uniform shape and size of endothelia. Large tendinous bundles exist under this endothelium.

condition, and the plate is so incidentally found in one or the other condition. So far as the elastic feature of endothelial plates is concerned it is a well-known clinical fact. The distention accompanying ascites and the sudden contraction of the peritoneal endothelia immediately following the evacuation of the ascitic fluid are sufficient proof. Of course the chief elastic force lies in the subserous elastic fibre. But the endothelial plate must contract very much to readapt itself to its original form. If it did not contract enormously the edges would overlap.

However, we must not allot too much elasticity to the endothelial plate, for the inter-endothelial semi-fluid substance has also no doubt shared in the expansion and actually shared in the contraction.)

(c) The semi-fluid, soft, yieldable inter-endothelial substance allows varieties of shape. This view appears the more reasonable when in all probability ascitic fluid rests on peritoneal inflammatory origin; hence the very œdema alone accompanying peritonitis would expand the inter-endothelial substance. In experiments I note that alcohol and formalin contract the endothelia while water expands them. Again, by observ-



FIG. 11.—Omentum of Horse, perhaps Twelve Years Old. 1, 1, Stomata vera; 2, 2, nuclei; 3, rift in cell edge; 4, stomata-verum cell with two nuclei; 5, stomata vera with two cells, each having a nucleus (note it has nine cells around it); 6, an extension of the stain; 7, stomata-verum, five nuclei in it; 8, a granular cell of stomata 1 (Oc. 4, ob. 3); 9, there are here four stomata vera very granular; 10, rifts between cells; 11, stomata spurium; 12 shows stomata vera indefinitely divided with a nucleus to each cell. This drawing is of epithelia lying adjacent to regions with innumerable stomata vera. It is from the surface of a trabecula. The horse's peritoneal endothelia is characteristic for peculiar irregularity and grouping of endothelia. This endothelium lies in a germinal tract.

ing many specimens occasionally one will be found in which the bent or curved endothelium will spring forward and backward in the waving water, such condition being best observed by elevating the cover glass above the slide sufficiently to allow free fluid currents in various directions. On organs, to which the endothelia are quite fixed, but which expand and contract in a rhythm, the endothelial plates no doubt expand and contract, yet some of its adjustability must be due to the semi-fluid albuminous inter-endothelial substance.

The acquired-shape of the endothelial plates from expansion and contraction of vessels due to emptying and filling I have investigated to a considerable extent. If one of the figures is observed, a typical sample may be seen in a frog's mesentery, in which the endothelia covering the blood-vessels are enormously elongated transversely over the vessel from its emptying and filling. Of course an elastic endothelial plate is like rubber, which, being repeatedly stretched, loses some of its original shape and gradually assumes a shape in accord with the direction of its chief tension. Now the acquired shape of endothelia is not alone due to the emptying and filling of blood and lymph vessels, but the shape of endothelia may be gradually moulded by fixed organs which have a definite movement to go through.

For example, the stomach is fixed at the pylorus and the entrance of the œsophagus through the diaphragm, but the chief portion of the stomach as it empties and fills repeatedly passes, no doubt, through the same motions, and in this manner certain portions of the peritoneal endothelia will acquire a shape peculiar to the direction of the chief force. The same may be said of the emptying and filling bladder. Whatever the factors be, the peritoneal endothelia assume a wonderfully varied shape—a multiform outline. In other words, the major and minor diameters vary in a wide degree.

It may be noticed that on the mesentery and diaphragm of the horse, cat, dog, and other animals, organs which possess a high range of motion, the endothelia are smaller and more uniform than in many other parts. In adult animals the endothelia are subject to a wide range of shape. The shape of the endothelia in embryos and new-born also has a wide range. I have noticed in pig embryos enormous numbers of triangular endothelia and also those having the shape of a cone with a curve for a base. Another element which produces acquired changes in the shape of endothelia of both new-born and adults is the development and disappearance of fat. Fat globules simply collect and expand in a connective-tissue corpuscle, and as the fat globules accumulate and expand the endothelia immediately over them acquire new



FIG. 12.—Gastro-Splenic Omentum of Three-months-old Fetal Pig. This is a typical group of endothelia surrounding two stomata vera. (Oc. 2, ob. 8 a) 1 points to stomata vera with one cell broken away; it is surrounded by eight endothelial plates; 2, 2, nuclei; 3, 3, endothelial plates; 4, stomata spuria; 5, stomata verum surrounded by plates; 6, 6, stomata spuria; 7, inter-endothelial stoma; 8, 3, endothelial plates. This very typical figure is drawn as closely as possible to nature. It illustrates the original arrangement of the endothelia of the peritoneum and I cannot too highly recommend the foetal pig for peritoneal study. Its stomata cannot be mistaken and its vertical lymph canals show appreciable depths.

shapes. The endothelia on the top or summit of the fat globule become much more varied in shape than the endothelia at the base or circumference of the fat globules. I sketched several figures of fields of fat globules to show the very marked variation in the shape of the endothelia covering them. Under histology should be included the shape of the germinating and vacuolating cell, for these are simply renewing the place of dying comrades. It may be stated in general that the germinating or growing cells are of all shapes from polyhedral to polygonal. The granular polyhedral cells lining the vertical lymph channels or composing the stomata vera are one typical set. The innumerable round and oval forms accompanying many tracts of peritoneal germination represent another set. The germinating cell is almost endlessly variable in shape, *i.e.*, outline.

The arrangement of the endothelia is a subject of more significance than its shape, for in the arrangement appears to be the original physiologic indication. It appears to me that the pig embryo shows more definite arrangement in its endothelia than any of the above-mentioned animals. One can note very systematic arrangements of endothelial plates around stomata vera, on the gastro-splenic omentum, and quite



FIG. 13.—From a Young Dog's Kidney. The peritoneum was snipped off with a pair of scissors. (Oc. 2, ob. 8 a, R.) Ag No. 3. Note the grouping of cells. 1 and 2 are two endothelial cells around which eight cells are grouped. The cells are quite uniform. The fibrous and elastic network below the endothelia is very dense. Two endothelial cells are not drawn brown from the Ag No. 3.

symmetrical. In other portions of the pig's peritoneum the triangular shape of some endothelial plates allows a symmetrical mosaic to be produced. The first arrangement of endothelia to which attention may be called is that around stomata vera. The stomata vera are situated at the common junction of from three to fourteen endothelial plates. In the embryo pig there exists the most typical and symmetrical arrangement of endothelia about the stomata. The endothelia assume a cone shape and their sharp points meet in common about the stomata. It would appear that in these embryos the symmetrical arrangement of endothelia about stomata vera was a design of nature to accomplish the purpose of physiology in the peritoneum. I am convinced they are preformed openings, original, anatomic, and physiologic structures for the purpose of holding in definite relation the peritoneal cavity and the subperitoneal lymph channels. The circumferential edges of the stomata vera are lined with granular polyhedral young cells, around which are symmetrically or otherwise placed endothelia. The stomata vera are at the common junction of endothelial plates.

The endothelia tend to group themselves about stomata vera. The number of endothelia composing the group include from three to fourteen cell plates. The best samples of endothelia around stomata I found in the embryo pig, but the frog and other animals also produce good samples.

Again, there is a tendency for the endothelium, espe-

cially in early embryos and even in adults, to arrange themselves in relation to blood-vessels. The elongated shape of the plates is easy to make out, grouped in large numbers along the course of the blood-vessel. Great whorls of long rectangular endothelia, curved to suit the course of the vessel as it lies in a trabecula, may be plainly viewed in embryos and in a less typical condition in adults.

If one examines the centrum tendineum of the diaphragmatic peritoneum under the microscope, long, straight dark and light streaks may be observed. The dark streaks or cords are the tendons of the diaphragm, while the light streaks are the spaces between the tendons. By careful observations of the abdominal diaphragmatic serosa it will become apparent that the endothelia covering the tendinous or dark streaks are of a larger size than those covering the light spaces. Hence the distribution of the endothelia is arranged in two tracts over the diaphragm. The explanation first given to the phenomenon by Ludwig and Schweigger-Seidel was that the endothelia covering the light spaces between the tendon bundles of the diaphragm were over lymph channels. In other words, the lighter inter-tendinous spaces are really long lymph tracts, and as endothelium approaches lymph channels it is known to change its outlines and become more sinuous and smaller. For the purpose of demonstrating the arrangement of the endothelia on the tendinous and inter-tendinous portions of the diaphragmatic abdominal serosa the rabbit is first recommended. So far as the arrangement of the peritoneal endothelia is concerned, it is simply irregular. The irregularly shaped endothelia become arranged so that they wrap themselves around the trabecula, leaving no subserous tissue exposed to the abdominal cavity. I generally found the endothelia more irregular in shape and arrangement on the viscera than on the omenta, diaphragm, and parietes. No doubt this greater irregularity of shape and arrangement on the viscera is due to the greater and wider motion of viscera. The shape and arrangement of endothelia differ in different organs and even in the same organs of the same animal. The wide variation in shape and arrangement of peritoneal endothelia must rest on (a) original or (b) acquired condition. What the primordial arrangement of the endothelia is we are not yet informed, though some think the original shapes of the endothelia are polygonal and others think they are preformed about stomata vera. In primordial arrangement of endothelia it appears to me, judging from my own work, that they are preformed about stomata vera.

As to shape of endothelia it appears probable that they were originally polygonal. The acquired shape and arrangement of endothelia are a matter which rests more on physical forces of a tangible nature. Motion, friction, expansion, and contraction unfold a long evolutionary story in acquired conditions of the endothelia of the free surface of the peritoneum.

After the consideration of the shape and arrangement of the endothelia we will take up the constituents of the inter-endothelial substances, which include three divisions, viz.: (a) the stomata vera, (b) the stomata spuria, and (c) the inter-endothelial substance itself, or rather inter-endothelial space.

The stomata vera are round or oval openings situated at the common junctions of three or more endothelial plates. They were discovered by Von Recklinghausen by injecting milk or other finely divided matter into the peritoneal cavity of animals and

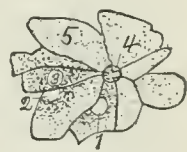


FIG. 14 is drawn from omentum majus of new-born child to show grouping of cells around a stomata vera. 1, 2, 3, Nuclei; 4, granular cells; 5, endothelium. The group is composed of eight cells.

then tracing its absorption through the abdominal serosa by the aid of staining with silver solution. The careful methods of experiments by which Von Recklinghausen arrived at his conclusions in regard to the stomata vera on the diaphragmatic serosa are worthy of the highest admiration. With persistent and indefatigable labor he worked the matter out systematically from beginning to end, the chief part of which may be read in *Virchow's Archiv*. The stomata vera are among the chief structures in the endothelia of the free surface of the peritoneum. They are found distinctly in all the animals enumerated in this paper. In fact no animal was found without numerous stomata vera. The typical locality of the stomata vera are omenta and abdominal serosa of the diaphragm. However, my best specimens generally come from the gastro-splenic omentum. They may be found open or closed. The embryo pig, the rabbit, and the frog furnish in my experience the most typical stomata vera. It appears to me that the stomata vera are the centres or preformed openings around which endothelia group themselves. Of all animals examined the embryo pig on its gastro-splenic omentum furnished the most typical, systematic, and numerous grouping of endothelia about stomata.

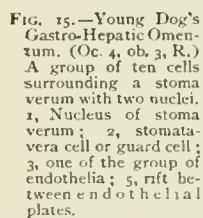


FIG. 15.—Young Dog's Gastro-Hepatic Omentum. (Oc. 4, ob. 3, R.) A group of ten cells surrounding a stomata verum with two nuclei. 1, Nucleus of stomata verum; 2, stomata-vera cell or guard cell; 3, one of the group of endothelia; 5, rift between endothelial plates.

If one examines the stomata vera situated at the common junction of several cells, with a high power after staining with Ag No. 3 solution, there can be observed at their mouths which open on the free surface of the peritoneal endothelium small, reddish granules possessing a nucleus. These small masses are much darker red than the surrounding area and of a distinctly granular character and they may present a granular polyhedral shape with nuclei. They are in all probability young germinating cells lining the surface of the canal known as the stomata verum. The silver solution intensifies their color. After considerable time spent on examinations of many scores of specimens, I am convinced that the stomata vera are canals lined with granular polyhedral nucleated cells. The stomata vera are not only mouths, but canals of more or less perceptible length. In short they are vertical canals lined with granular cells passing through a definite distance and structures of the peritoneum. In the embryo pig the stomata vera may appear like the interior of a long, thick cylinder or like the cavity of a well lined with stone. The stones may represent the granular cells. In the diaphragm of the rabbit I could find some of the stomata-vera canals passing obliquely from the peritoneal endothelia in the subserous lymph channels showing a distinct length. If trauma be inflicted on the specimen examined, one may frequently observe a part of the granular polyhedral cells which line the vertical canal broken away, adherent in a beaded line, and floating about in the glycerin under the cover glass. It shows distinctly where it was previously situated and waves about as a still intact membrane. Again, trauma which may be due to the Ag No. 3 solution will produce a cleft between the lining membrane of the vertical canal or stomata verum and the smooth mouth made by the common junction of the endothelial plates. The cleft may be empty or filled with granular debris. The cleft or rift between the granular lining cells of the stomata verum and smooth circumference produced by the common junction of the several endothelial plates may be compared to the separation of the mucous membrane of the ureter from its outer wall produced by passing a sound. The loose mucosa of the stomach may also be

compared to this result of traumatic separation. It is easy to separate the stomachic mucosa from the outer wall. It may be that the granular lining membrane of the vertical stomata vera contracts by the application of Ag No. 3 solution. The vertical canals of which stomata vera are the mouths are not always perpendicular to the peritoneal surface. They pass from the endothelia of the free peritoneal surface to the subperitoneal lymph channels in an oblique direction. The specimens obtained from a rabbit's diaphragm after injecting a carmine solution into its abdomen



FIG. 16.—From Woman of 30 Delivered Twelve Hours, who Died of Eclampsia and Acute Peritonitis. Bit off a broad band reaching from uterus to rectum. This sketch was drawn with Ag No. 3. (Oc. 4, ob. 3, R.) Stoma verum is perhaps a vacuolated cell, as is also 3; 4, shed endothelia (the whole patch is germinating and very brown); 5, nucleus. It shows that on peritoneal bands new endothelia frequently spring up, i.e., connective-tissue corpuscles flatten out and assume endothelial functions. The only difference that I have so far noted between endothelia found on an old inflammatory peritoneal band and common original peritoneal endothelia is that the new endothelia found on the old peritoneal band of exudate are generally smaller.



FIG. 17.—Sheep's Omentum Majus. (Oc. 4, ob. 3, R.) Some of the granular cells contain nuclei. The figure represents two stomata vera surrounded by somewhat irregular, coarse, granular endothelia. Stoma verum 1 has nine granular cells around its open mouth, while 2 has four granular cells around its closed mouth. The granular cells 3, 4, and 5 contain double nuclei showing rapid growth or division. Some stomata vera show an elongated mouth closed like the human lips, and may have a dozen granular cells lining the circumference of the mouth. 6 and 7 are common surface endothelia and 8 is a nucleus of same.

fourteen hours before death would indicate that many of the stomata of the lymph channels lie immediately beneath an endothelial cell of the peritoneal surface, and it would appear that occasionally the endothelial cells show marked symptoms of a very granular nature and a semi-fluid character. It is difficult and almost impossible to assert whether the granular condition of the peritoneal endothelium immediately over the stomata of the lymph endothelia is original or acquired. But when a stomata verum of the peritoneal endothelia is found directly over a stomata verum of the endothelia covering lymph channels the picture changes to something more definite. By slowly turning the fine adjustment screw of the microscope one can view the interior of the vertical canal with its granular lining cells for some distance, especially the oblique canals. The most typical specimens for studying the relations of the stomata vera of the endothelia of the free peritoneal surface to the subserous lymph channels came from the serosa on the abdominal side of the diaphragm of a rabbit which had been injected with a solution of carmine the day before it was killed. The carmine had obtained access to the subserous lymph channels and was impacted into stomata of the endothelia covering the lymph vessels. The carmine made them easy to observe, by reason of its red color. The frog shows the relations well in some specimens. The stomata vera may be found closed, partially or completely, or they may be found wide open. The frog and rabbit show typical specimens in regard to the degree of closure. Again, there is a condition of the stomata vera which induces endless discussion and many interpretations. In short it appears to me to be a condition in which the stomata are filled with granular material like grains of corn meal colored dark red. Is it not this condition that sorely puzzles Muscatello? He concedes they are stomata, but a kind of

closed stomata which allow passage of finely divided matter, when it really forces the granules apart and slips through. He claims that such stomata vera are just like the apertures in the walls of blood-vessels which every now and then allow the exit of a certain number of blood corpuscles. Of course it is easy to recall similar conditions asserted by Von Recklinghausen, when he said he could see whorls produced in the milk globules and see the milk globules duck into the peritoneal endothelia and disappear, but he never could find the real mouth which received the milk globule until he marked the spot of ducking under the milk globule and then allowed Ag No. 3 solution to



FIG. 18. — The Peritoneal Side of the Diaphragm of a Woman 26 years old. Dead three days. Ag No. 3. (Oc. 4, ob. 3.) The figure shows four stomata vera, 1, 2, 3, 4. Enormous numbers of stomata vera exist on the peritoneal side of the diaphragm, more than were found on the pleural side.

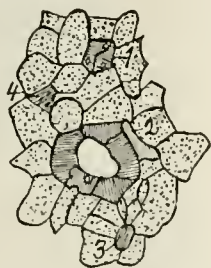


FIG. 19. — Drawn from the Pleural Side of Same Diaphragm as Fig. 18 (woman 26 years old). The figure shows three stomata vera, 1, 2, 3. No. 2 is wide open and Nos. 1 and 3 are closed, while No. 1 shows a slight mouth and No. 3 nuclei for two granular cells. No. 2 has six granular cells around its mouth. The stomata vera here (pleural side) are larger than in Fig. 18 (peritoneal side). 4, a granular cell or a cell much more browned than others.

trickle under the cover glass, when by its stain it showed at the marked spot the stoma verum but no open mouth. All that Von Recklinghausen could see was the dark granular cells marking the stoma verum, which had opened to allow the milk globule to pass and then closed, leaving no trace of an open aperture. It is like a swimmer diving in water: he has left no aperture behind—all is closed. Those who have watched frogs in a pond during the summer season will note the water entirely covered in places by green vegetation; the frog dives through this vegetation into the water beneath, but the springy vegetable matter closes immediately after the frog and no trace is left behind. This granular or filled condition of the mouth of the vertical canal is not well understood. It may be that the canal has an elastic sphincter and that an excess of granular cells exists at its mouth. Also the granular polyhedral cells themselves may entirely fill the stoma but the microscope be unable to discriminate the absolute outlines of the granular cells.

What are the functions of the stomata vera? First, the endothelium immediately surrounding them stains darker red than that more distant: so far as we know, this indicates more precipitate albumin, newer cells, or younger protoplasm. Hence it would appear that the stomata vera are the source of new endothelia to supply the ranks of dying comrades. Second, it appears to me from investigations that they are the regulators of peritoneal fluids. For example, if inflammation attacks the stomata vera, too much or too little fluid will prevail in the abdominal cavity. Inflammation of the granular cells which line the vertical canals—stomata vera—would enlarge them and obstruct the return flow of peritoneal fluid, resulting in ascites. The active condition of the stomata vera may account for the rapid death in perforative peritonitis, for the reason that they then quickly absorb the toxic matter existing in the peritoneum and transfer it immediately to the vast subserous lymph lakes of

the diaphragm. The stomata vera, as anatomic and physiologic structures, give at least a reasonable explanation of the existence and regulation of the peritoneal fluid. Ascites must of course rest on inflammation of the cells in the vertical canals or the stomata vera. The claim that stomata vera only exist on the diaphragmatic serosa of the peritoneum must be emphatically denied. Dubar and Remy claim that matter in the peritoneal cavity is absorbed by other regions, and no doubt this is true, though I have as yet found no absorption of carmine in the other portions sufficient to warrant this assumption. The claim that stomata vera do not exist as anatomic and physiologic structures is generally based on the idea that they are irregular in numbers and distribution; that large areas exist without a trace of them. Others claim that stomata vera are the product of Ag No. 3 or of some trauma. They are simply the results of precipitation in the intercellular substance. Muscatello even claims that they are the result of the retraction of endothelia and precipitation of the intercellular substance. Muscatello says the stomata vera are the same kind of openings as those which exist in the walls of the blood vessels, that will under certain circumstances allow the escape of many white blood corpuscles. This comparison makes no denial of the existence, only it belittles the high significance of the stomata vera. I at first thought that I would be able to note some especial difference in endothelia and stomata in different animals to account for the difference in resistance against peritonitis, but so far no light has broken on that subject. For example, the mare resists peritonitis so slightly that laparotomy is not practical and puerperal fever is rapidly fatal. So far as I am aware solipeds do not resist peritonitis well. Man and dog are about equal in this respect, while the pig resists peritonitis to a high degree. Yet so far the microscope has indicated to me no marked differences. Much stress is laid on the fact by some that irregularity in number and distribution contraindicates the stomata vera as being anatomical structures. It is true that anatomic structures are generally regular. The irregularity and distribution of the stomata vera may be acquired. Again, Schweigger-Seidel and Dogiel claim that the granular polyhedral cells projecting into the stomata vera are the nuclei of the group of endothelia surrounding the stoma verum. This I have disproved in many specimens, especially those of the embryo pig, in which the nuclei of the endothelial plates surrounding the stomata are distinctly shown in the cells themselves, far removed from the edge of the stoma verum. One might describe even two kinds of stomata vera, viz.: (a) the stoma verum which connects a lymph channel directly with the peritoneal cavity and (b) a stoma verum which leads into capillary lymphatics from the peritoneal cavity and has polyhedral granular-mouthed cells only at one end, the peritoneal opening being a simple aperture between endothelia (Klein). The most significant variety is those connecting the peritoneal and lymph trunks directly. I mention here a noticeable feature in the lymphatic channels of the diaphragm of a rabbit on the abdominal side. It is

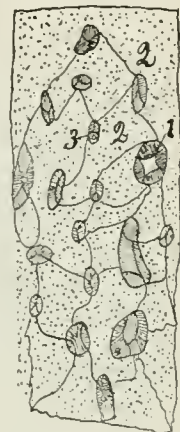


FIG. 20. — From Frog's Lymphatic Cisterna Magna, Peritoneal Side. (Oc. 4, ob. 3, R.) It shows stomata vera mostly closed. 1 is open, the remainder closed. Ag No. 3, 1/2%. (It is very difficult to say positively that some are open, for the space is filled with granular matter which resembles the stomata-vera cells. The figure was sketched under good sunlight, as near to nature as possible.) 2, 2, endothelia; 3, a stoma verum, one of the cells of which shows a nucleus.

some that irregularity in number and distribution contraindicates the stomata vera as being anatomical structures. It is true that anatomic structures are generally regular. The irregularity and distribution of the stomata vera may be acquired. Again, Schweigger-Seidel and Dogiel claim that the granular polyhedral cells projecting into the stomata vera are the nuclei of the group of endothelia surrounding the stoma verum. This I have disproved in many specimens, especially those of the embryo pig, in which the nuclei of the endothelial plates surrounding the stomata are distinctly shown in the cells themselves, far removed from the edge of the stoma verum. One might describe even two kinds of stomata vera, viz.: (a) the stoma verum which connects a lymph channel directly with the peritoneal cavity and (b) a stoma verum which leads into capillary lymphatics from the peritoneal cavity and has polyhedral granular-mouthed cells only at one end, the peritoneal opening being a simple aperture between endothelia (Klein). The most significant variety is those connecting the peritoneal and lymph trunks directly. I mention here a noticeable feature in the lymphatic channels of the diaphragm of a rabbit on the abdominal side. It is

that the stomata are far more numerous in the wall of the lymph channel than they are on the peritoneal endothelia immediately over them. It may be that fluid material will pass through the inter-endothelial substance of the peritoneal serosa without a distinct aperture or stoma lined with distinct cells, but the apertures became more marked and distinct, yes, even lined by granular cells, when they reach the wall of the lymph channels. At least it is very evident in specimens which I have examined that the walls of the lymph channels show stomata much more frequently than the peritoneal endothelia which lie immediately over them. I may be deceived by the closure of the stomata of the peritoneal endothelia. The superior number of stomata in the walls of the lymph channels directly underlying the peritoneal endothelia, which has so few, would indicate more special use. It seems to me that it would indicate that fluid matter could more readily pass through the inter-endothelial substance of the peritoneal endothelium than it could through inter-endothelial substance of the lymph-vessel endothelium.



FIG. 21.—From Frog's Lymphatic Cisterna Magna, Cisternal Side. (Oc. 4, ob. 3, R.) Ag No. 3, 25. The stomata are closed. Specimens (a), peritoneal, and (b), cisternal, side are drawn from the same specimen. I first drew (a) and then reversed the slide and sketched (b). One cannot decide the difference of the stomata on each side in separate specimens. 1 and 2, stomata vera.

The subject of inter-endothelial material or space is all-important in the study of the free peritoneal surface, as it appears to me the chief physiology of the peritoneum lies in the inter-endothelial spaces. I noted above that the chief anatomical structure was located at the common junctions of several endothelial cells, stomata vera, and it appears to me that the chief physiologic function occurs through the means of this structure, *i.e.*, the regulation of fluid currents and the production of new endothelia. We also noted that on the single inter-endothelial lines there are black dot-like droplets, which are interpreted by Virchow as lymphoid cells; by Von Recklinghausen, Oedmannson, Klein, and others as connective-tissue corpuscles, whose function may be to produce new cells. They are known as stomata spuria. Now, besides stomata vera and spuria there is a large inter-endothelial space filled with matter which stains dark and brown with Ag No. 3. The precipitate produced by the Ag No. 3 solution, of one-quarter



FIG. 22.—Omentum of a Woman Aged 30. (Oc. 4, ob. 3.) 1, Stoma verum (it is really divided into a light half and a dark half, and both contain nuclei or glistening spots); 2, 3, 4, 5, germinating cells intensely browned with permanent nuclei (notice that besides the stomata vera 6 and 8 there are five other intensely brown cells, no doubt new germinating cells; many similar adjacent fields exist); 10, 11, 12, common flat surface endothelia. The interpretation lies in the stomata vera 6 and 8. It looks as if it was jelly-like, granular protoplasm and was precipitated, aggregated into clumps by the Ag No. 3. In cell 4 the nucleus has two nucleoli.

The centre of the line one might say is black, but the color of the line becomes brown as it recedes, *i.e.*, precipitated material on the endothelial plate is nearly always brown. It appears from the use of Ag No. 3 solution on the peritoneal endothelium that the endothelial line may be announced as black, while that on the surface of the plate is brown. Whether this is due to two different kinds of material, one for the surface of the plate and one for the inter-endothelial space, on



FIG. 23.—Horse's Omentum to Show Endothelia Grouping around a Stoma Verum. 1, 2, 3, Endothelia; 4, rift between cells (the endothelia appear to be new themselves; they are surrounded by long fields of new or germinating endothelia); 5, 6, show some of the adjacent growing endothelia; 7, stoma verum (oc. 4, ob. 3); 8, 9 show a field non-prepared which lies on the border of still newer germinating endothelia (6, 6); 9, rift between cells, *i.e.*, a shrinkage of the granular protoplasm.

which the silver solution acts differently, or whether it is due to the quantity being greater in one place than in another is still uncertain. It may be that a thin layer of albuminous substance appears brown and a thicker one dark. It may also be thought that the age of the material on which the Ag No. 3 solution acts is different. The matter on the surface of the endothelial plate may be older than the inter-endothelial matter. However, the inter-endothelial substance is a soft, semi-fluid material of an albuminous nature. It is pliable and yielding, allowing considerable motion to an endothelial cell without destroying its integrity of position or of function. It adapts the cells to strains and trauma without rupture. Really the endothelial cells are resting in a semi-fluid bed, and the inter-endothelial substance acts like a buffer in sudden motion. It endows the endothelia with power to suddenly alter their course, position, and relation without losing the integrity of structure and function. This inter-endothelial semi-fluid bed adapts itself readily to sudden changes, as in the filling and emptying of organs and vessels. In an overfilled bowel the peritoneal layer gives way first. I have proved that peritoneal rents occur first in overfilling of dog's

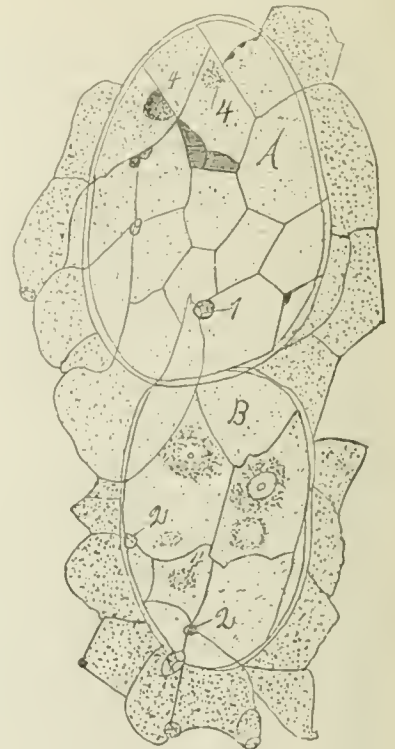


FIG. 24.—Gastro-Hepatic Omentum of a Woman of 45. Two vacuolated cells which are widely expanded, almost sufficiently to be called a lymph sinus. A has five stomata vera, B has two stomata vera, 2, 2; 3 another vacuolated cell begins. (Oc. 2, ob. 8 a, R.) Ag No. 3 applied. One of the best places to study vacuolation is on the adult human omentum, especially along the large trabeculae. 4, 4, 4 are very brown spots. In these germinal tracts the endothelia are of all sizes and shapes. This was taken from a region where numerous vacuolated cells existed of all sizes.

ter per cent. to one-half per cent., is considered to be an aluminous of silver. The precipitate begins slowly in fresh specimens and gradually increases in breadth from a fine, dark, irregular line, just perceptible with a high microscopic power, to a broad line extending even over the surface of the adjacent endothelial plate.

intestines, showing that the inter-endothelial substance is put to active service in dilatation and contraction of organs and vessels. The inter-endothelial substance shares in inflammatory attacks, for the endothelia desquamate, leaving only the pitted, semi-fluid bed, which can but feebly protect itself and because of its fluid nature absorbs the invading hosts. The endothelial plates are so adjustable and the inter-endothelial line is of such a magnitude that the endothelial plate has a considerable range of normal adaptability. To the anatomic and physiologic structures (stomata vera and spuria) found in the inter-endothelial semi-fluid albuminous bed must we look for new revelations in further research, which must be of an experimental order. If one places peritoneum in water and allows it to remain several hours, the inter-endothelial line appears to enlarge, *i.e.*, it appears to swell by absorption of water, and the reverse is true if one places the peritoneum in alcohol or formalin. When the endothelia are brushed off they leave an oval depression, but the inter-endothelial line is frequently left almost intact, and even it remains if

the sunlight carefully regulated with distilled water, one will soon be able to detect with the naked eye brown spots or patches, and when these brown patches are mounted in glycerin they are seen under the microscope to be chiefly composed of germinating endothelia. The young growing protoplasmic cell readily stains a dark brown with the silver solution. Germinating endothelia present all grades of cells from the polyhedral to the multiple-sided, sinuous-bordered cells. These germinating endothelia are apt to be found along large blood-vessels. Certain propositions in regard to germinal peritoneal endothelium may be made:

1. Germinal cells generally grow over the surface of the common endothelia of the peritoneum. They project entirely above the surface, so that even different foci are required for them and for the peritoneal endothelia.

2. The germinating endothelia are of all grades of size and shape.

3. Their common and typical location in animals is

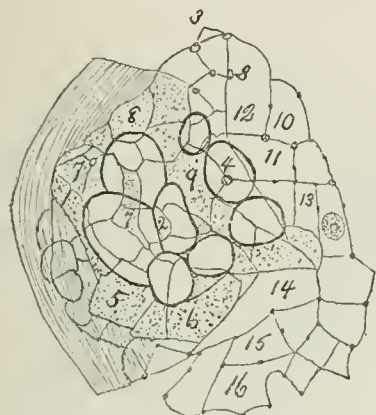


FIG. 25.—Woman's Omentum Majus. Eight vacuolating cells. (Oc. 4, ob. 3.) 1, An endothelial cell on the bottom of the lymph sinus or capillary very much browned, as well as 2 at the bottom of another stomata verum in lymph sinus endothelia; 4, stomata at bottom of large sinus or vacuolated cell; 5, 6, 7, 8, 9, germinating endothelial cells around the circumference of the lymph sinus or vacuolated cells; 9 also shows the brown growing endothelia between and among the vacuolated cells. 7 is doubtless a karyokinetic figure. Note that the growing brown lymph endothelia of the vacuolated cells is continuous directly with the lymph endothelia (10, 11, 12, 13, 14, 15, 16) to the right, *i.e.*, these seven vacuolated cells will soon form a new lymph sinus or capillaries. The vacuolated cells are widening stomata.



FIG. 26.—Young Dog's Lymph Sinus, or well-developed vacuolated cell in a region of germinal endothelial cells. 1, 1, 1, Open stomata on the lymph sinus; 2, 2, 2, 2, endothelia covering the lymph sinus or vacuolated cells; 4, 4, 4 show the edge of the vacuolated cell or lymph sinus is brown and hence young protoplasm. Note the very brown endothelia surrounding the vacuolated cells (4, vacuolated cells. Ag No. 3). The vacuolated cells continue to multiply and form lymph sinuses. Observe how the endothelia enlarge as they diverge from the lymph-sinus border.



FIG. 27.—Drawn from the Mesentery of Frog. (Oc. 4, ob. 3, R.) The sketch represents a nodule of germinating endothelial cells elevated above the surface. 1 represents the stalk of the nodule; 2, the growing nodule; 7, one of the quite granular endothelial cells in the top of the nodule; 6, nucleus of common surface endothelial cells; 5, intra-endothelial stomata; 3, common surface endothelia. This stalk (1) of growing, germinating endothelial cells, of a protoplasmic character, is elevated above the surface of the common endothelia. Notice the grouping of cells in the nodule at 6.

the stomata spuria—black dots—seem to be left intact also: but for some reason the black dots on the inter-endothelial lines sometimes appear to increase in number. The stomata vera disappear on brushing.

The regeneration of peritoneal endothelia will be considered here only as it affects the normal peritoneum. It does not partake of the domain of pathology. The regeneration of peritoneal endothelia will simply be considered as a natural process whereby new endothelia are produced to supply the ranks of dying or worn-out comrades. The endothelia of the peritoneum are like a standing army which demands a steady recruiting to supply the various kinds of loss. The peritoneum being an organ of intense vascular and functional activity, its needs are vast, and they are fully supplied by what we shall term germinating endothelia. We might call these young as well as germinating endothelia, but I adopt the term germinating from Klein as an apt expression. One soon has the attention drawn to germinating endothelia in the microscopical study of the peritoneum. If epithelium from an omentum majus or gastro-splenic, fresh from man, rabbit, dog, or any animal we have so far examined, be carefully placed in a solution of from one-eighth per cent. to one-half per cent. of Ag No. 3 and

on the omentum majus and gastro-splenic. However, they may be found almost anywhere in the peritoneal sac.

4. The intense brown color they quickly assume on the application of a silver solution characterizes them as young, germinating, protoplasmic cells, with considerable precipitable albuminate.

5. They grow in irregular tracts, cords, or nodules, and are especially common about the edges of the lymph spaces and vacuolated cells.

6. The stomata vera will be considered as one of the chief sources and the stomata spuria as a secondary source.

The rabbit, dog, and man may be studied advantageously for excellent specimens of growing endothelia. Yet some very typical specimens I secured from the frog. For a long time I studied the germinating endothelia as to classification and am still unsettled as to the best, but we may simply describe the germinating endothelia as (*a*) nodules, (*b*) cords, and (*c*) patches. It may be that both cords and patches can result from the fusion of nodules. Accessible literature concerning germinating endothelia is not abundant: it is even very scarce.

In the first place it may be noted that the germination

of endothelium of the normal peritoneum differs from a pathologic process but little, and it may be very difficult even for an expert to make out the difference between germinating endothelium, *i.e.*, regenerating endothelium, and the proliferating endothelium of an inflammatory process. I think that in some cases it is impossible to decide on an omentum of some animals whether the process is actual regeneration of germinal endothelia or the result of a chronic peritonitis. This paper is entirely confined to normal and regenerating germinal endothelia. Neither do I wish to enter into questions relating to the subperitoneal lymph vessels, except so far as to discuss the very significant vacuolation of cells—a step in the process of proliferating or multiplying endothelial plates.

Active germinating endothelia may be found on the omentum of man, frog, dog, and rabbit, in some of which it is rich and abundant. Splendid specimens of germinating endothelia may be found on the lateral portions of rather wide trabeculae. If one place

variable in extent. The cells may be single, in rows, or united into large patches. The new growing cells may have one, two, or three nuclei.

The patches or tracts of germinating cells are only the result of fusion of the cords. The blood-vessels of these patches are not easy to make out in their relations and development. Neither have I fully satisfied myself in regard to the nerve supply in its chief relations.

A feature in regard to the germinal endothelia is that they are not so easily differentiated from the normal. The normal endothelia are very easily broken away from their attachments. For example, by the slight trauma in carrying portions of the peritoneum of cows and sheep fresh from the slaughterhouse to the laboratory, the normal endothelium is badly desquamated, but the germinating endothelium is so much more adherent that it is more easily and accurately studied.

Conclusions.—1. The endothelium is the essential structure for physiologic function of the peritoneum.



FIG. 19.—Human Omentum of a Woman Thirty Years of Age. Dead twenty-four hours. Ag No. 3. (Ob. 3, oc. 4.) The lightly shaded common endothelia and the darkly shaded germinating endothelia which are growing up over the surface require different foci. 1, 1, Common endothelia; 2, 2, germinating endothelia; 3, clumps, debris; 4, lymph or capillary sinus with a stomata verum seen at its bottom; 5, stomata verum. This figure shows merely the formation of a lymph sinus in the midst of germinating endothelia. 4 is a vacuolating cell which will eventually end in a lymph vessel.



FIG. 20.—Omentum of Woman Aged Thirty, Twenty-four Hours after Death. Ag No. 3. (Oc. 4, ob. 3, R.) This is an interesting specimen, showing two vacuolated cells. 1, 2, 3, 4, 5, show the common endothelia brushed off and lymph endothelia irregular and many stomata spuria; 6, 7, 8, 9, 10, 11, stomata vera of lymph capillaries. 1, 2 are become lymph sinuses or capillaries. The endothelia adjacent to the vacuolated cells 1 and 2 (or lymph sinuses or lymph capillaries) are chiefly of a germinal character, but some resemble common endothelia in character.



FIG. 30.—From Rabbit's Omentum Majus. A typical lymphatic sinus surrounded by typical germinal endothelia. 1, 1, 1, The lymph or capillary sinus; 2, 2, a secondary lymph sinus; 3, 4, 5, 6, 7, the germinal endothelia (note the three elongated cells at 8; 9, closed stomata verum). It appears that such lymph sinuses arise by the vacuolation of cells; the cells by repeated vacuolation form large, numerous, and irregular endothelial plates; here they have really become a lymph channel. (Oc. 4, ob. 3, R.) This drawing is taken from a vast region of germination. Note how the endothelia enlarge as they recede from the sinus, 1, 1, 1.

under the microscope a portion of a frog's mesentery, mounted in glycerin, the typical germinal growths may be observed. First, one may note nodules or club-shaped bunches of endothelia projecting above the common surface endothelia. The nodule or club has a small constricted neck or stalk, which starts distinctly from its common surface. Some have the shape of a half-sphere and the flat surface rests on the endothelia. The stalk appears to me to have its origin from (a) stomata vera, (b) stomata spuria, (c) from the circumference of a lymph sinus. The lymph sinus may be a vacuolated cell. It seems that the endothelial cells have grown in such a shape as to fit the nodule. Sometimes the nodule resembles a cone. The stalk may be composed of one or several endothelial cells. Two nodules may originate from the same point, and this fact induces me to consider both stalks as originating from a stomata verum. In some specimens may be observed cords of germinating endothelia. They run in various directions, but they lie chiefly on the circumference of lymph sinuses.

No doubt such areas of germinating endothelia are what Klein designated as perilymphangeal. The vacuolating cells seem to multiply the endothelia indefinitely and thus form new lymph channels and sinuses. The endothelial cells growing from the circumferences of the areas of vacuolated cells are very

2. The peritoneal endothelium lines an enormous lymph sac, which originated from fluid pressure and independent motion of viscera and body wall.

3. There are four distinct elements in the free peritoneal serosa, *viz.*: (a) the endothelial plate, (b) the stomata verum, (c) the stomata spuria, (d) the inter-endothelial substance or space.

4. The endothelium is an elastic connective-tissue corpuscle, flattened and smooth on one side and oval or irregular on the other side, with various processes jutting from it. It contains a sharply defined nucleus, centrally or excentrically located. The plate is covered by an albuminous, semi-fluid substance, which is precipitated by Ag No. 3 and is probably originally polygonal in shape. However, the plate acquires a very varied shape from living forces. It contains a reticulated network. There are certain apertures in the plate which I have designated intra-endothelial stomata, but so far I have not been able to define their structure or function. It may be such intra-endothelial stomata are the result of trauma or of reagents. The utility of the peritoneal plate is in permitting maximum motion with minimum friction; it also allows the location and fixation of friction of inter-endothelial structures, *i.e.*, an adjustable bed of inter-endothelial substance, stomata vera, vertical canals to regulate fluid currents and grow endothelia, with stomata

spuria, which are additional points where endothelium can renew itself.

5. Stomata vera are vertical canals located at the common junction of several endothelial plates lined by germinal, granular, polyhedral nucleated cells. The canal opens with one end in the peritoneal cavity and the other end into the subperitoneal lymph channels. A second kind of stomata vera is those which represent simply a discontinuity between the peritoneal endothelia, with no mouth lined by granular cells but with the subperitoneal end opening into lymph spaces and lined by granular polyhedral cells. These stomata vera or vertical canals regulate fluid currents and are the source of new endothelia. The septum cisternæ lymphaticæ magnæ of the frog shows typical examples. It may be that rapid death from perforative peritonitis is caused by the stomata vera quickly absorbing toxic microbes. The stomata vera appear to possess an elastic sphincter to control the degree of opening or closing of the mouth. The granular cells of the stomata vera on the application of Ag No. 3 become dark brown or reddish, which doubtless indicates that they contain more precipitable albumin than the adjacent endothelia.

6. The stomata spuria are located on an inter-endothelial line. The application of Ag No. 3 produces a black dot or droplet-like appearance. The stomata spuria are probably connective-tissue corpuscles or the processes projecting upward between the endothelial plates. They have been compared to lymphoid corpuscles. They are not likely to be accumulated products of reagents or of trauma. They are no doubt also sources of new endothelia.

7. The chief arguments against the existence of stomata vera and spuria in the peritoneal serosa are their irregular distribution and number and also that they are accidental products or trauma or reagents. The argument may be proposed that the stomata vera or spuria are not preformed openings, but are the result of dragging and widening of the intercellular substance due to motion of the abdominal wall and viscera. Through these openings red and white blood corpuscles and leucocytes may find passage, in consequence of circulation disturbances. It may be asserted that the stomata spuria are only a sudden widening or enlargement of the inter-endothelial lines.

8. The inter-endothelial substance is a semi-fluid, albuminous material which becomes black or brown by the application of Ag No. 3. The inter-endothelial lines appear to thicken and broaden as they descend toward the subendothelial tissue. It exists chiefly in the form of a thin, straight, curved or sinuous line between the endothelial plates. The size of the line depends on the strength and duration of the Ag No. 3 and sunlight. The soft, yielding semi-fluid material in which the endothelia rest allows a wide range of movement and considerable adjustability of the plate; also it permits the plate to assume varied shapes to suit environments and correlation of forces. It adapts the endothelia to sudden motion, acting as a buffer to prevent trauma. It no doubt allows fluids and even solids to pass through it, either toward the peritoneal cavity or toward the subperitoneal lymph channels. The inter-endothelial substance is the seat of the physiology of the peritoneal serosa, as it has located in it structures known as the stomata vera and spuria.

9. So far as my experiments in intraperitoneal injections and microscopical examinations are concerned, the diaphragmatic serosa is the only territory where the material is absorbed. However, both my experiments and microscopical examinations are too limited for any definite conclusions. The reasons for the diaphragmatic serosa being the only region where material is absorbed are given by Bizozzero, Salvioli, and Mus-

catello as due to the anatomical fact that the membrana limitans possesses perforations only on the serosa of the diaphragm. So far, I am not definitely able to confirm the above opinion of apertures being confined to the membrana limitans exclusively, but certainly stomata vera do not appear any different on the diaphragm than they do in other regions.

10. The absorption of organic and inorganic finely divided material being confined chiefly to the diaphragmatic serosa, it seems that a stream must be directed toward the diaphragm, which may account for rapid deaths in perforative and other kinds of peritonitis. The idea of a current toward the diaphragm is based on the result of experiments; e.g., carmine suspended in fluid is what I employed to inject into the rabbit's peritoneum and the red granules could be found in the subserous region of the diaphragm, especially in the large-branched connective-tissue corpuscles and the lymph channels.

11. The views of Muscatello, that the peritoneal serosa is normally a continuous sheet or surface without any apertures except those made when leucocytes force their way through the soft intercellular substance, which apertures may persist, I do not consider in accord with experimental and microscopical evidence. Certainly the stomata vera found on the sheep's mesentery or the frog's cisterna lymphatica magna are absolutely and distinctly anatomical structures, and cannot be reasonably interpreted as merely temporary apertures produced by a few leucocytes forcing themselves through the inter-endothelial substance. No number of leucocytes forcing their way through inter-endothelial substance would leave behind an aperture lined by distinctly granular, polyhedral cells capable of being outlined by a microscope.

12. In our labor on the peritoneum of man, the horse, bird, dog, pig, cow, sheep, rabbit, frog, and embryos of pig and man, it was observed that the endothelium of the peritoneum was easily desquamated by trauma and inflammation. In many specimens of tubes, ovaries, and uteri which Dr. Lucy Waite and I removed, by immediately staining with Ag No. 3 it was found that the inflammation of the organs and the accompanying trauma of removal nearly always desquamated the endothelia so much that it destroyed the specimens for proper study. Severe inflammation desquamated almost every plate from its bed.

13. The structures located in the free surface of the peritoneal endothelium show powers of rapid absorption, and hence free drainage of the abdominal cavity is the prophylaxis against invading septic peritonitis.

14. Beck¹ experimentally demonstrated and confirmed the well-known clinical fact that the peritoneum absorbs material more than three times faster than the pleura. In opening bodies in autopsies it is well known that inflammatory pleuritic bands are far more numerous than inflammatory peritonitic bands. The reasons that inflammatory pleuritic bands are in excess of peritonitic bands is that the slower absorptive power of the pleura allows ample time for exudates to form. If the pleura or the peritoneum is given time to oppose the invasion or absorption of material protective exudates arise. The rapid absorptive powers of the peritoneum, over the pleura, is an important clinical fact, and in all probability is due to the inter-endothelial structures, viz., stomata vera and spuria, and also its extensive inter-endothelial substance.

NOTE.—Since the above article was written I have consumed several months of investigation on the inter-endothelial substance or space in quite a number of animals, employing the one-fifteenth oil-immersion lens (Reichert), and the reagents Mueller's fluid, osmic acid, and tannin. The investigation has induced me to discard the term inter-endothelial substance and to substitute

¹ Wiener klin. Woch., 1893, No. 46.

for its inter-endothelial space. The dark inter-endothelial lines are capable of being dissolved into two lines, each one bordering on the edge of the cover plate. Also, these two parallel lines show numerous anastomosing protoplasmic processes passing transversely from one to the other. The hypothetical inter-endothelial cement substance is dissolved into a network of anastomosing processes, and hence we will hereafter speak of a space and not a substance. The anastomosing processes belong chiefly to the lower portion of the endothelial cell, *i.e.*, the protoplasmic part. The cover plate or metamorphosed indurated portion has but slight connections with the anastomosing processes. The suggestions of Dr. A. Kolosow, of Moscow, Russia, induced me to employ osmic acid and tannin as fixation and reduction agents. The effect of these reagents is to produce specimens by means of which more definite observations can be made and conclusions drawn. The investigations show that the endothelia of the peritoneum are connected organically into cell colonies.

SOME FORMS OF NON-OBSTRUCTIVE ISCHURIA.¹

By ALEXANDER W. STEIN, M.D.,

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INABILITY to empty the bladder may be due to

1. Atony of its muscular parietes, or to

(a) Deficient contractile power of the so-called detrusor from overstretching of its fibres (duration usually temporary).

(b) Loss of power of detrusor from atrophy and fatty metamorphosis (duration permanent).

2. Neurotic retention, or

(a) Deficient power of the detrusor concomitant with some psychical or other functional disturbance of the nerve centres, *viz.*, alcoholism, narcotism, stupor, etc. (duration temporary).

(b) Paresis, or cystoplegia, due to organic derangement of the nerve centres (duration usually permanent).

3. Spastic or reflex retention, due to irritation from some neighboring organ, inducing sphincterismus (disappears with the cause that produced it).

The degree of atony resulting from overdistention of the bladder may vary from a slight and temporary impairment in the expulsive power of the bladder to a complete and permanent inability to empty its contents, depending upon the age and health of the person, the condition of the bladder, the degree of distention, and the length of time the detrusor fibres have been upon the stretch. In the aged and feeble this condition is not uncommon, and permanent disability of the viscus often results from a single inattention to its behests. In the young and robust atony is much less frequent, and the bladder once relieved of its burden regains its functional activity. We may recognize five stages or degrees of atony:

1. An enfeebled expulsive action of the bladder.

2. Retention relieved without catheterization.

3. Retention relieved after single catheterization.

4. Retention requiring repeated catheterization.

5. Retention requiring continued catheterization.

We have perhaps all experienced the momentary difficulty of micturating that obtains when we have permitted the bladder to become unduly distended. Availing ourselves of the first opportunity for relief, we find the flow occurs only after a moment's hesitation, requiring some effort to start it, and when the stream comes it is at first small and feeble, increasing in force as the sphincters relax and the detrusor fibres regain their power. Regarding the other forms of retention, I recall some typical phases that may serve to furnish the practical data for the above title. It will be observed that in these, as in most cases of atony, the impaired motility was preceded by a deficient sensibility of the bladder.

A middle-aged gentleman has on several occasions

during the past few years, when much engrossed in business affairs and neglectful of self, suffered from attacks of retention. His bladder fills to a degree without creating any marked discomfort, after which a sudden and urgent desire to micturate comes on. He suffers greatly with tenesmus and strains ineffectually until he gets into a hot sitz bath. Thus the necessary relief is always afforded and he has never been obliged to resort to catheterization.

A prominent politician, a free liver in an alcoholic sense, consulted me because he thought there was something wrong with his "waterworks." He had no pain, at the most a vague feeling of having imperfectly evacuated the bladder, and on coughing or sneezing stillicidium would occur. This was the first and only intimation he had of something being wrong, and he sought advice for what he affirmed was an inability to hold his water. There was no mechanical impediment, but on palpation it was found that his bladder was distended up to the umbilicus. He was so sceptical on this point that I asked him to evacuate the bladder as much as possible by his unaided efforts, and I would demonstrate to him that his bladder was still surcharged or in a waterlogged condition. It was certainly a great temptation to relieve him at once, because he could not be made to realize his condition; but it was not done. Incidentally it may be mentioned that he died somewhat suddenly some months afterward, and at the autopsy all there was found of one kidney was its fibrous capsule, the excreting elements were completely atrophied. The other kidney was in the condition of compensatory hypertrophy; there was no calculous history. In one instance the bladder will be but slightly distended and occasion more urgent symptoms than in one in which it has risen above the umbilicus. In the latter case the nerve endings of the vesical neck, never very sensitive perhaps, require only a slight cause, such as vicissitudes of temperature, free indulgence in spirits, etc., to obtund them still more. Expulsive factors, both muscular and nervous, are always very feeble when compared with the retentive factors, as only the latter are directly subject to sensation and volition.

The frequency of micturition is not alone due to the quality of the urine, as I think we in practice too often imagine it to be, but it depends in a great measure on the degree of tonic contraction existing in the vesical walls, which contraction is at first augmented as the muscular fibres are subjected to tension. The retentive and expulsive factors are so admirably adjusted one to the other as to bring about a harmonious sequence of action, and the feebly developed detrusor will gradually accommodate itself in power to any embarrassment to the escape of urine so long as the vesical neck retains its sensibility; but as soon as this is lost the fate of the patient is in most cases sealed. The thin, pale, flaccid, and insensible detrusor, associated as it often is with feeble health or exhausting disease, only requires to be once overstretched to become permanently atonied. If the muscular fibres have undergone no structural change other than overstretching, they will of course recover their tone more readily than when atrophic or fatty changes have involved their texture, which is the frequent outcome of old age, and in such cases recovery is obviously not to be anticipated. A gentleman of spare build and feeble health, while out yachting with a party of ladies, was obliged to hold his water all day, and when he got a chance to micturate found that he could not do so. He had not passed his urine except through the catheter from that time to the day of his death, more than twenty-six years. He was then about eighty years of age. In this instance there was no obstructive or mechanical impediment to the escape of urine at the time of the advent of the trouble, and

¹Read before the American Association of Genito-Urinary Surgeons, June 1, 1896.

but slight concentric hypertrophy of the prostate when I examined him, twenty-three years afterward. The too sudden removal of the hydrostatic tension was apparently responsible for the mischief. This, though an exceptional case, impresses us again with the lesson that we have repeatedly learned that the length of time taken to empty the bladder should at least approximate to the length of time that overdistention has existed. Secondary retention is always to be feared when the bladder has once suffered prolonged distention. Hence catheterization should be repeated until the bladder manifests its accustomed expulsive power by the force and volume of the stream and is apparently free from residual urine. A good manœuvre, which will sometimes succeed and should always be resorted to, is to pass the catheter as far as the vesical neck, allow it to remain until it begets the desire to urinate, and then quickly remove the instrument. The bladder is thus coerced, as it were, to perform its natural function.

In some persons the only confession that nature makes of a neurotic temperament is through the uropoietic viscera, while others of the same family who may be decidedly neurotic show no disturbance whatever in this respect. The surplus of nerve force not taking the habitual channels expends itself upon the sphincters in an efflux of motility, producing what we term sphincterismus. In some instances the patient will tell us that when he has the desire to micturate he feels a sense of constriction at the vesical neck, which he finds impossible to overcome with the most powerful effort of the abdominal muscles and diaphragm, and is obliged to wait until a momentary relaxation of the sphincters occurs. Thus spasm and relaxation alternately recur a number of times during an act of micturition. Such persons are apt to suffer from dysuria with partial retention. A gentleman, aged thirty-five, was in such a high state of nerve tension while on shipboard that he could not pass water except with the aid of the catheter in either of his trans-Atlantic trips, though he never experienced the slightest difficulty while on terra firma. In him the inhibitory influence on the vesico-spinal centre was very apparent and effective.

A maiden lady said she never felt the natural impulse to micturate, and did so morning and evening more from habit than from necessity. She was subject to hysterical attacks about the time of her menses, when she indulged pretty freely in whiskey. I was invariably summoned in the dead of night, and would find her in a condition of semi-alcoholism, suffering from retention of urine. There was so much vaginismus that extreme delicacy of touch had to be exercised, and so much sphincterismus that the catheter was felt to be firmly grasped at the vesical neck. Upon the introduction of the instrument an enormous quantity of pale limpid urine escaped. For five consecutive months, at almost precisely the same time, this séance had to be repeated, until she was considerate enough to go South. She never required but one catheterization for each attack.

An elderly gentleman, somewhat ataxic, says that for a period of years he has noticed a gradual but steadily increasing difficulty in emptying his bladder. He ascribes his trouble to an attack of paresis which he had ten years ago. There was at first simply a hesitation in micturition, with an enfeeblement of the expulsive power. This increased until for more than two years he has not been able to micturate without exerting the full expulsive action of the diaphragm and the abdominal muscles. He dreaded instrumentation and was inclined to leave pretty well alone, but about six weeks ago, coming home from the club one night, he had absolute retention, for the relief of which he called to his aid a well-known surgeon who

lived near by. Up to this time he was free from cystalgia, the urine remained uniformly clear, there was no undue frequency in micturating, and hence he leaves nothing to the imagination in his phraseology in saying that his present condition, with excruciating pain, great frequency in urination, broken rest, and offensive, ropy urine has been brought about by the dirty catheterization of his former surgical attendant. This is an experience which you can doubtless multiply. The long-suffering, patient bladder copes successfully with the enfeebled contractile powers, until retention occurs or residual urine accumulates, necessitating artificial means for relief, when at the same time the pathogenic spark is introduced, which sets up a conflagration in the viscus not readily extinguished. This case stands in a striking contrast to another one above cited, in which the bladder was indifferent to septic germs, and tolerated with apparent equanimity rude instrumental manipulation for more than a quarter of a century.

"Strange! that a harp of a thousand strings
Should keep so long in tune."

Urine is and will remain aseptic so long as certain micro-organisms do not have access to it and remain in contact with it long enough to effect the hydrolysis of the urea. If the bladder is capable of completely emptying itself within a few hours of the introduction of these organisms they will not have time to induce the fermentative process, but if some change exists in the physiognomy of the viscus whereby it will contain residual urine they will find a most favorable culture medium prepared for their reception and multiplication, and the attendant sequelæ are to be anticipated. This latter patient had either a vulnerable spot on the vesical mucous membrane which the pyogenic organisms could invade directly, or, which is more probable, the viscus was incapable of thoroughly discharging its contents. Fermentation of the urea ensued, irritation and inflammation resulted. Another noteworthy point in this case was the enormous manufacture of mucus. The production of so much mucus in so short a time from a membrane devoid of goblet cells and with but few and very minute racemose glands, is a fact most interesting in the metabolic activity of the bladder.

Hence, to prevent microbic infection, we have, first, to be scrupulously careful in having the instrument and lubricant employed in a thoroughly aseptic condition, particularly in cases in which the bladder is suspected to contain residual urine. Most atonied bladders, especially those of elderly subjects, will contain residual urine after ordinary catheterization, unless this is effected with the patient in an erect posture, which for obvious reasons is not done. In the recumbent attitude, the bladder manifests its loss of inherent power by the slow and feeble character of the stream, which discontinues often before the viscus is half empty, requiring firm pressure over the hypogastrium to renew it. Second, we reiterate the injunction not to remove the internal tension too soon, particularly because of the hyperamia of the mucous surface which it occasions, whereby the most favorable environment will be obtained for the development of the pyogenic germs. Third, to inject an antiseptic solution after each catheterization, especially at the finish, and to aspirate and irrigate the bladder as a prophylactic measure. For the microbes of ammoniacal or catarrhal cystitis may be destroyed betimes; not so when the pyogenic organisms have invaded the submucous coat, producing suppurative cystitis. Then we have a much more aggressive and intractable matter to contend with.

Various local conditions, some of which have already been described, may reflexly induce spasm of the

extra- and intra-pelvic sphincters sufficient to cause retention. The bladder often manifests its sympathy with neighboring organs when in trouble; it cries out in painful tones, enduring the burden of a disease located elsewhere, of which it is entirely innocent. I call to mind a strikingly illustrative case in which sphincterismus with retention was induced by a deep stricture of large calibre, which was relieved by the relaxing effect of ether. Frequent but unsuccessful attempts at catheterization had been made at intervals by adepts, and it was decided to perform external perineal urethrotomy without a guide. The patient was anæsthetized, brought into the amphitheatre, put in position, and the staff introduced. The operator was about to make the incision, when to the great astonishment of all present, the instrument glided into the bladder with the utmost facility. A catheter of larger size was immediately substituted and introduced with equal facility, and the bladder emptied.

Although somewhat irrelevant to the subject in hand, I am impelled to speak of a recent experience. It was a case of retention due to a periurethral abscess located in the perineum. The man was thought to have a tight stricture, ulceration of the urethra, and extravasation of urine. In this belief he had been repeatedly but unsuccessfully catheterized with small instruments. When I saw him there was unmistakably some extravasation, but no stricture was apparent. If an abscess exists in the perineum associated with difficult micturition, the sooner it is evacuated the better, and this should always be done before instruments are introduced, otherwise a urethral communication may be made with the abscess, endangering extravasation of urine, as obtained in this case.

MÉNIÈRE'S DISEASE—APOPLECTIC FORM.

BY THOMAS A. KENEFICK, M.D.,
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FOR many years Ménière claimed to have seen certain cases with such decidedly characteristic localized and reflex symptoms as to convince him there existed a lesion, the pathology of which alone remained to be demonstrated.

His opportunity came in 1861, when his patient died after an illness of five days, during which she exhibited the typical symptoms of this rare disease. He then showed in this case that the lesion was a reddish plastic exudation into the mucous membrane and labyrinth of the internal ear, there being no other evidence of trouble.

Previous to this demonstration, we read, he was convinced of this lesion, as men are frequently to-day with other diseases, in which a diagnosis of the pathological changes is borne out by the symptoms, making a post-mortem examination almost an unnecessary requirement.

Still, with these facts in view, doubt is frequently expressed from different parts of the world as to its real existence, owing possibly to its exceedingly rare occurrence in the true apoplectic form.

It must be admitted that with the light of our present knowledge of anatomy and physiology, together with the art of physical diagnosis, if we are given certain well-marked, definite, and localized symptoms associated with and pointing exclusively to a limited and special area, we have collected all the knowledge required for a correct and scientific diagnosis.

A consideration of the lesion and the physiology of the immediate and distant effects is a preliminary necessary to a claim for the report of a case of this character, in which sudden deafness, vomiting, and dizziness were the prominent and only phenomena.

The anatomical parts involved and affected are the membranous labyrinth, and the terminal endings of the auditory and vasomotor nerves. These terminal endings are not distributed generally over the membranous surface, but in well-defined spots characterized by a thickening and by peculiar epithelia provided with stiff pointed cilia, called auditory hairs, whose function is to aid in the transmission of sound waves. It can be readily appreciated how a sudden exudation into and upon this membrane would prevent at once the further performance of this function.

Högyer affirms that these same terminal endings from their communication with the cerebellum form an apparatus which regulates according to the position of the body the movements of the eye and probably those of all the muscles exerted in the preservation of equilibrium.

This theory is also shared by Moos, Löwensky, and Politzer. So that for the giddiness we have only to trace the auditory nerve to its connection with the cerebellum, this being the main peculiarity which distinguishes this one from all the other cranial nerves. The vomiting and perverted vision are then accounted for by reflex action through the ocular and vasomotor system. Trousseau has noted a giddiness similar to that of Ménière's disease dependent upon a chronic gastric catarrh, proving the close relationship existing between the stomach and these same terminal endings. The accompanying report, I trust, may add a little to our limited knowledge of this subject.

On the morning of September 22, 1895, I was called to see a Mr. J—, and found a man about forty-five years of age, robust and healthy in appearance, unmarried, and by profession an architect. He was then fairly comfortable and gave the following brief history: He had always been perfectly well; he had no history of disease, specific or otherwise, and since childhood he had lived a careful and regular life. I learned, however, that he had been an indefatigable worker. Besides attending to his profession during the day he applied himself to developing ingenious devices long into the night. Many of these have been patented and are successful. This mode of life he had carried on for more than twenty-five years with hardly a single day's holiday or interruption.

The previous night he was suddenly aroused during sleep by a most violent attack of vomiting, consisting of large quantities of dark greenish fluid accompanied with persistent and alarming dizziness. There were noises in the ear on the right side and also marked deafness. A thorough physical examination found him in splendid general condition, with no rise in temperature, no pain, no disturbance of the different reflexes, nor of motion or sensation. Microscopical examination of the urine gave negative results. Examination of the tympanum on the affected side showed a slight congestion of this membrane. The vomiting and dizziness continued for several hours, then ceased, only to return again the instant he attempted to raise his head or even turn it from side to side. The vomiting yielded finally to small doses of ipecac, but the dizziness and deafness persisted, the latter being absolute on the right side. In addition to these were certain symptoms of perverted vision which may or may not be of importance, but as a matter of interest I report them. He saw by his bedside the slanting roof of a conservatory on which sat a glazier rapidly fitting in panes of glass. The moment the glass was laid, it slipped through, when the glazier would quickly try another with the same result. This scene continued until the afternoon, when it was replaced by the figure of a woman dressed in brilliant red. At first the figure was short in stature but gradually increased in length until it appeared one hundred feet high and seemed to be surrounded by millions of active little

nice. These disturbances vanished toward evening, and but for the dizziness he appeared perfectly comfortable.

With these localized and sudden symptoms, and the absence of any general disturbance, in a previously strong and healthy man, this diagnosis was therefore decided upon. In this condition he remained, the slightest attempt to rise giving him the sensation as if he and the bed were rapidly revolving. The vomiting ceased, but the deafness remained until about two weeks, when this and the giddiness gradually improved, and at the end of six weeks he managed with a tottering gait and by the assistance of a friend to daily reach his office, which he persisted in doing until he fully recovered.

The treatment consisted of at first large doses of quinine and later a combination of bromide and iodide of potash, but with no marked success. Galvanism was applied and really seemed to give decided benefit and was persisted in, though I am of the opinion the disease ran an independent course toward recovery, with possibly some assistance in the process of absorption by the electricity. I have seen this man within the past few days and he assured me that all the symptoms have disappeared and that his recovery has been complete.

The diagnosis was made on the presence of these three distinct symptoms produced evidently by a lesion such as Ménière discovered, and which, by direct and reflex action and according to physiological teaching, is traceable and confined to the region previously described.

Progress of Medical Science.

Abnormal Labor Pains and Their Treatment.—

Dr. Schaeffer, we are told in an article summarized in the *American Journal of the Medical Sciences*, divides abnormal labor pains into those which are purely atonic and those which are partially spasmodic in their character. There have been various divisions made of atonic pains, some referring them to the various portions of the uterus, and others dividing them according to the degree of atony which is present. The uterus contracts more frequently when atony is present, but much less effectually. Such pains do not increase in vigor as dilatation advances. The pauses between these pains are shorter than in normal cases. In the latter portion of the period of expulsion atonic pains are more frequent and longer than in normal cases, so that in some patients the same effect is produced, although in longer time, which is obtained by normal pains. The amount of actual work done by the uterus is found by careful observation to be much greater than in cases of normal contraction. The work done by the uterus is most efficient in the first portion of labor: while compensation is wholly or largely effected in the latter part. It is observed that the latter portion of birth in these cases is practically accomplished by contraction of the abdominal muscles, and that these contractions are greatly influenced in a reflex manner by uterine pains. The diagnosis of atonic pains is often neglected, and this condition is mistaken for other complications. In partially tetanic pains there is no special delay in the rupture of the membranes. The most frequent cause of this condition is endometritis of the cervix, resulting in slow dilatation and increased suffering. Another cause of this condition is frequent examinations during labor, and the irritation which they produce. An abnormal position of the uterus may also produce partially tetanic contractions. The treatment of this condition consists in placing the patient in a favorable posture,

in the use of warm baths, and in hot vaginal douches. For weak pains, when simple atony of the uterus is present, small doses of ergotin, given by hypodermatic injection, are found useful. It was observed to produce an effect in about eight minutes after its administration.

The Leucocytes in Tuberculosis.—Drs. Stein and Erbmann have made a new study of this subject, based on the accurate observation of sixty cases. In many of these the clinical diagnosis was confirmed by post-mortem examination. In counting the white corpuscles a modification of the method of Thoma was used, in which, instead of counting the corpuscles in the squares of the blood counter, all those in a number of fields were counted, after estimating the contents of the space covered by the field. For many interesting details the original should be consulted; the following conclusions give the most important results: In beginning phthisis the number of leucocytes is normal. In advanced cases, but in which cavity formation has not taken place, the number is also normal. After attacks of hæmoptysis there is usually moderate leucocytosis, which disappears after the cessation of the hemorrhage. In advanced tuberculosis with chronic infiltration, but in which destruction of tissue is slight or has not yet begun, the leucocytes may be normal. Increase of leucocytes is encountered in cases with cavity formation, in cases with chronic suppuration as the result of carious processes, in final exudative processes, and in cases with hyperplasia of lymph glands. As regards cavity formation the following statements are important: If leucocytosis occurs in a tuberculous case in which there is no chronic suppuration and no exudation, ulcerative change, i.e., cavity formation, may be diagnosed. If in a case with normal leucocytes for a long time an increase takes place, excavation may be concluded. So long as the leucocytes are not increased the existence of a cavity, at least one of considerable size, may be excluded. The cause of the leucocytosis is not the tuberculous poison itself, but a secondary infection, a septic process, which may be the result of various bacteria.—*Deutsches Archiv für klinische Medicin.*

Pneumonotomy.—From an article published in the *British Medical Journal* we learn that Dr. Quincke has tabulated and analyzed fifty-four cases of pulmonary abscess treated by surgical operation. These cases, seventeen of which were treated by the author, are arranged in three groups: the first of acute abscesses, both simple and gangrenous; the second of chronic abscess and putrid bronchiectasis; and the last of putrid suppuration caused by a foreign body in the lung. In a large proportion of the fifty-four cases (eighty-three per cent.) the inferior lobe of the lung was the seat of the disease. Of the total number of patients, twenty recovered and twenty died: in the remaining fourteen cases, the surgical treatment either failed altogether or gave but imperfect results. The author makes out from his collection of records that while the mortality from operative interference is almost equal in acute and in chronic cases, the percentage of complete recoveries is higher by about forty-five in the former than in the latter. It is concluded that the operative treatment of acute pulmonary abscess will be attended with complete success in two of every three cases. The prognosis of such treatment in cases of chronic, and especially putrid, abscess is much less favorable. The author believes, however, that in future better results may be attained by earlier intervention. Surgical treatment, he holds, is indicated in cases of acute abscess which show no tendency to spontaneous healing. The prospects of an operation in such cases are better than those of an expectant treatment. If such suggestion be generally

followed chronic pulmonary abscess with secondary bronchiectasis will, it is thought, less frequently be observed. Notwithstanding the less favorable prospects of operation in cases of chronic pulmonary abscess and sacculated bronchiectasis, such treatment is here recommended for these morbid conditions with the view of protecting against acute secondary inflammation the portion of lung still remaining sound. In cases of multiple bronchiectasis, although *a priori* a good result could hardly be expected from surgical operation, still, the author thinks, improvement may be brought about by such treatment. As such a condition constantly threatens fresh and fatal mischief, an operation, though not clearly indicated, need not be regarded as unjustifiable. In discussing the diagnosis of pulmonary abscess the author regards as important indications the purulent nature of the expectoration and the presence in the discharge of minute portions of broken-down lung tissue. The quantity of expectorated fluid, he points out, affords no sure indication of the size of the cavity. In considering the diagnosis of the seat of a supposed pulmonary abscess, he states that when on general grounds the existence of such a cavity is assumed, and a localized area of dulness exists without any distinct local symptoms of suppuration, this area should be selected as the object of the surgical attack. If not the precise situation of the disease, it will in most instances serve as a guide to the purulent collection. Exploratory aspiration is objected to as a measure of diagnosis. It will not show whether the cavity be a large or a small one, and is a very probable source of danger in cases in which the affected portion of lung is not adherent to the wall of the chest. The author, in concluding his paper, describes his method of treating pulmonary abscesses, which consists in resection of portions of one or more ribs, free exposure of the parietal layer of pleura, and in making with the thermo-cautery a free opening into the cavity after he has assured himself that adhesions exist between the lung and parietal pleura, or by a prolonged application of caustic has artificially established such adhesions. Pleural adhesions at the seat of operations he regards as an imperative condition in pneumonotomy. If there be any doubt as to the existence of such adhesions the surgeon must act upon the assumption that they are absent.

Acute Nephritis from Oxalic-Acid Poisoning.—

At a late meeting of the Pathological Society of London (*The Lancet*), Dr. Hale White brought forward two cases of "Acute Nephritis due to Oxalic-Acid Poisoning." The first was fatal, apparently from uræmia, six days after the acid had been swallowed. The necropsy revealed acute tubal nephritis, with several minute masses of oxalic crystals in the kidney only visible with a high power. Neither patient showed any œdema, high-tension pulse, or hæmaturia, nor did they complain of pain in the loins, although this might have been obscured by the general abdominal pain. The symptoms appeared, judging from these two cases, to be scanty urine—the fatal case had almost complete suppression—and albuminuria. The urine contained granular and epithelial casts, together with calcium oxalate crystals. Both the crystals and the albumin were found in both cases in the first specimen of urine passed after the acid had been swallowed. In the case which recovered the crystals disappeared from the urine in twenty-four hours, the albumin persisted four days and the casts about a week. The quantity of urine gradually increased until on the fifth, sixth, seventh, and eighth days from swallowing the acid much more than normal was passed, and it was pale and of low specific gravity. Seven days after taking the poison this patient passed a quantity of phosphates in his urine, and after this he often passed a considerable

quantity of uric acid. In the fatal case the oxalate crystals and the albumin remained in the urine till the end, and the amount of urine passed in twenty-four hours varied between a drachm and four ounces.

Cancer of the Cervix Uteri.—Dr. Cordier (*International Journal of Surgery*, June, 1896, p. 158) draws the following deductions: 1. Cancer of the cervix uteri, if left without surgical interference, always kills. 2. The disease, in most instances, is, primarily, a local process. 3. Early hysterectomy will cure quite a percentage of these cases. 4. The microscope, while a great diagnostic assistant, is not infallible in its findings. 5. The experienced surgeon is warranted in resorting to a hysterectomy, even in the doubtful cases. 6. All malignant pregnant uteri should be removed when seen before the disease has advanced beyond the period of a probable cure.

The Tonsillar Cough.—According to Dr. Furet, this cough may result from any pathological alteration of the tonsils. It was sufficiently explained by the complex innervation of the gland. In fact, the glossopharyngeal, the lingual, the spinal, and the pneumogastric nerves were blended and became entangled at their outer surface, where they formed a small plexus, which Andersch had described under the name of the tonsillar plexus. It must not be forgotten that the tonsils were inclosed by the muscles of the pillars of the fauces, which were very distinctly connected with the muscular apparatus of the larynx. Tonsillar cough was violent, spasmodic, and even extremely painful. It was frequently accompanied by reflexes in the neighboring region, and particularly by watering of the eyes. It was distinguished from the cough due to affections of the respiratory tract by the complete absence of expectoration, and, owing to this fact, it did not yield to any of the remedies generally used.—*La Presse Médicale*.

Results of the Bacteriological Examination of One Thousand Cases of Suspected Diphtheria.—

Drs. Hewlett and Nolan publish a review of results of the bacteriological examination of specimens from one thousand consecutive cases of suspected diphtheria, forwarded by medical officers of health and practitioners from all parts of the kingdom to the institute for diagnosis. In five hundred and eighty-seven cases the diphtheria bacillus was found, in four hundred and nine cases it was not found, and in four instances there was doubt as to its presence. Two specimens were from cases of conjunctivitis: in one the diphtheria bacillus was found; in the other, which was associated with faucial diphtheria, only the streptococcus pyogenes. In one instance specimens were taken from the fauces and from the vagina of the same case, and bacilli were found in each. In another, a pure culture of the diphtheria bacillus was obtained from a severe case in which the infection of the throat probably originated from a diphtheritic wound of the finger incurred during laboratory work. Examinations were also made to determine the time of disappearance of the bacilli from the throat. This was found by them, as it had been by former observers, to be exceedingly variable. The bacilli were commonly found for two or three weeks; in one instance they remained for seven weeks, in another for nine weeks, and in another for twenty-three weeks. In the latter case they remained virulent for guinea-pigs. In conclusion, the authors insist upon the desirability of a bacteriological examination in all cases in which the throat symptoms are at all doubtful, as many of their cases which were not regarded clinically as diphtheria proved to be such. They also emphasize the necessity of repeated examinations after convalescence, with isolation, until the absence of the infective agent has been shown.—*British Medical Journal*.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, July 25, 1896.

DIPLOMA MILLS AND STATE PROTECTION.

IN spite of the strenuous efforts of all honest men interested in the advancement of medical qualifications and in the face of laudable endeavors in enacting suitable laws to such an end, it is quite discouraging to notice that the State of Wisconsin in particular comes boldly to the front as an open abettor of fraud and by the sanction of authority offers a direct encouragement for the free and shameful sale of medical degrees. The profession of that State owes it to itself, to common decency and fair play, to everything that is right and honest, to see to it that such a traffic shall be duly exposed and promptly stopped. Whatever may have been the intention of the framers of the law at present in force in Wisconsin, it is quite evident from the following correspondence, kindly forwarded by one of our readers, that the literal construction of the provisions of the act makes possible the most outrageous abuse of statutory provisions:

"Always give your Full Address every time you write, no matter how often it may be."

"FRED. RUTLAND, M.D., *Pres.*; A. NEVE RUTLAND, M.D., *Sec.*; JULES GORDON, M.D., *Treas.*

"Incorporated under the Law of the State of Wisconsin.

"WISCONSIN ECLECTIC MEDICAL COLLEGE,

"OF MILWAUKEE, WIS.

"CORRESPONDENCE DEPARTMENT,

"1001 WEST CONGRESS ST.,

"CHICAGO, ILL., July, 1896."

"DEAR DOCTOR: We notice your name in a Medical and Surgical Directory, but with a * appended. This usually means (although not necessarily so) that the person so designated is not a graduate of a medical school, and has no diploma. If, however, it should be that you are a graduate, and have a regular diploma, then we can but tender our most sincere apologies for troubling you on the matter. But, on the other hand, if you are not a graduate, and have no regular diploma, then the perusal of the enclosed prospectus cannot fail to be of the most primary importance and interest to you. We would also desire to draw attention to the fact that to practising physicians our fees are much reduced from the regular rate. To this class our fees are \$35, all inclusive.

"As proof of our legal standing and right to confer the degree of M.D. we can supply certified copies of

our charter at 25 cents each, simply covering the cost of certifying officer's fee.

"Trusting soon to hear from you and standing ready to answer any or all questions you may wish to submit,

"We are, yours very sincerely,

"WISCONSIN ECLECTIC MEDICAL COLLEGE,

"Fred. Rutland, M.D., *President.*"

Accompanying this letter is the following circular:

"This is a True Copy of the Charter of Our College.

"UNITED STATES OF AMERICA.

"THE STATE OF WISCONSIN,

"DEPARTMENT OF STATE.

"To All to Whom these Presents shall come:

"I, Henry Casson, Secretary of State of the State of Wisconsin, do hereby certify that there has been this day filed in this department an instrument in writing, purporting to be Articles of Association, with a view of forming a corporation to be known as

"Wisconsin Eclectic Medical College,

"at Milwaukee,

without Capital Stock, the business and purpose of which shall be to conduct a Medical College, etc., and verified as a true copy by the affidavit of Fred. Rutland, M.D., and Ann Neve Rutland, M.D., who appear in said instrument as two of the signers of said articles; theretore the State of Wisconsin does hereby grant unto the said

"Wisconsin Eclectic Medical College,

"at Milwaukee,

the powers and privileges conferred by Chapter 86 of the Revised Statutes of the State of Wisconsin and all acts amendatory thereto, for the purposes above stated and in accordance with their said Articles of Association.

"In Witness Whereof, I have hereunto set my hand and affixed my official seal, at the Capitol in the City of Madison, the thirty-first day of December, in the year of our Lord one thousand eight hundred and ninety-five.

"HENRY CASSON,

[Seal.]

"Secretary of State."

These are the plain facts in the case and can speak for themselves. The college in question, judging from the print in the circular letter, is situated in one corner of the upper story of a business block and evidently has abundance of room for a correspondence department.

The prospectus to which reference is made in the personal letter takes it for granted that there are great numbers of deserving students who cannot practise medicine because they have not means enough to attend high-class colleges, and therefore that the college in question will make it easy for such aspirants who in its estimation should have legitimate privileges for obtaining a living, in spite of the oppressive and unjust laws in other States. To such as have, "owing to the medical laws, practised medicine illegally the Wisconsin Eclectic Medical College comes as a boon and a blessing." Again, "it is possible for students to graduate without attendance." It is apparently sufficient to "arrange for their examination before a notary public of their town and if the examiners of

this college can be satisfied they can be legally and lawfully graduated, receiving the diploma of the college conferring the degree of doctor of medicine without attendance at the college." Of course an examination appears to be requisite, but where is the guarantee that the conditions requiring it will ever be fulfilled or ever be anything more than the merest pretext for a graduation fee? The object of this missionary work is too transparent for explanation or discussion. What can we think of any State legislature that could make such doings possible? What will eventually be the standard of medicine in Wisconsin when it can be lowered to such a level? Surely our good brethren of the Wisconsin State Society should take this matter in hand, promptly and with a becoming seriousness of purpose.

IS PULMONARY CONSUMPTION A FACTOR FOR THE ELIMINATION OF THE UNFIT?

DR. THOMAS J. MAYS, of Philadelphia, in the discussion of this question calls attention to the fact that in addition to the inherited tendency to pulmonary disease, nervous diseases—such as insanity, idiocy, hysteria, chorea, epilepsy, and asthenia—may be translated into pulmonary consumption between parents and children, and that the latter may be convertible into the former in the same way. Dr. G. Fielding Blandford says: "I have found phthisis and insanity frequently coexisting in the same family." Dr. Stearns says: "We often see a consumptive having a child which, instead of developing consumption, develops insanity, and *vice versa*." Dr. Clouston makes the observation that the death rate from pulmonary consumption among the insane is four times greater than it is among the general population, and both diseases are very common among different members of the same family, and that heredity toward consumption may determine insanity and heredity toward the latter may produce the former. The forms of insanity commonly associated with phthisis are monomania of suspicion and melancholia. Dr. Mays says that there is a similar prevalence of consumption in families burdened with idiotic children. The influence of heredity in transforming nervous diseases into pulmonary consumption and the reverse is so obvious that even lay writers have observed it.

The poisons of influenza and of whooping-cough, and alcohol, lead, and mercury are powerful exciting causes of pulmonary consumption. In fact, any influence which depresses or disintegrates the brain and nervous system may prove an exciting cause of pulmonary consumption. Dr. Mays states that the above facts would seem to brand the consumptive as a degenerate and unfit to survive the struggle for existence; but he goes on to show that the nature of many of these stricken with this disease stamps them as beings of the highest order of beauty and intelligence. Dr. Churchill says that the connection between acute sensibility and phthisis is so striking that poets of all times and all countries have employed their most touching accents to deplore the premature fate of some of those victims

to consumption whose youth was bright with promise of future excellence and distinction. The author says that high intelligence and physical beauty belong to a certain type of phthisical temperament and that, in all probability, both are the outcome of a refined nervous organization, delicate by reason of the exalted place it has obtained in the process of evolution, more easily unbalanced by unfriendly influences, and consequently less fit to undergo the severe and exhaustive struggles which are necessary in the present imperfect state of our civilization. More people succumb to phthisis and insanity between the ages of twenty and thirty than at any other time of life, which fact would seem to conform to the above statement.

The author concludes as follows: "Facts, therefore, fail to confirm the belief that pulmonary consumption is designed to purge society of the unfit; on the contrary, sufficient reason has been given to show that many of those who fall victims to this disease are drawn from a class of society which represents the most progressive type of human development."

Has the author actually proved that the consumptive is not eliminated as unfit? The fact that he succumbs is evident proof that he cannot sustain the struggle for existence under present conditions. His faculties may be brilliant, but he is in an unstable condition in that his physical development has not kept pace with his nervous and mental evolution. In barbaric ages, war, famine, and disease were regarded as a means of disposing of surplus population, but the economist tells us there need be no fear of overpopulation, as three-fourths of the products of the earth go to waste annually. The altruistic feeling that now prevails abhors the idea that nature should employ disease as a means of elimination. It seems more reasonable to regard it rather as an accident of the human race, a misfortune which science can in time rectify. Dr. Mays gives statistics to show that pulmonary consumption is on the decrease, and says the reduction is due to better food, better clothing and shelter, better homes, better physical and mental training, better sanitation, and elevation of the moral standard. It is to be regretted that in addition to these means, that hold so much promise to future generations, we cannot have laws preventing the marriage of consumptives, that those to whom the moral side of the question would not appeal might still be controlled. It is also to be regretted that the many suffering from this disease seem doomed, and that medical science holds out so little prospect of immediate relief; but we have evidence that we are slowly progressing, and science may yet find the means of wiping out pulmonary consumption as effectually as it has small-pox.

A Dumb Thermometer.—A member of the Zurich Medical Society recently exhibited a self-registering clinical thermometer on which there were no degree marks. The instrument could be left with the patient's family to take the temperature in the absence of the physician, and the latter could then read it by means of an attachable scale of glass or metal.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the United States Navy for the week ending July 18, 1896: July 14.—Surgeon R. C. Persons, orders to duty at naval hospital revoked and ordered to continue on present duty; Passed Assistant Surgeon H. N. T. Harris, ordered to the Pensacola navy yard. July 15.—Surgeon S. H. Dickson, ordered to the *Texas*; Assistant Surgeon J. M. Moore, detached from naval hospital, Norfolk, and ordered to the *Texas*. July 17.—Assistant Surgeon A. Farenholt, detached from the *Monterey* and ordered to the Mare Island hospital, California.

Anti-Vivisection Legislation.—The following preamble and resolutions were passed by the American Surgical Association at its session in Detroit, May 27, 1896:

"Whereas,

"(1) The American Surgical Association has learned that the committee on the District of Columbia in Congress has reported favorably a bill adverse to the practice of vivisection in the District of Columbia, and

"(2) The passage of such a law will put an end to all the experimental work in the governmental laboratories at Washington from which have emanated important and useful discoveries, especially as to the diseases of animals, and

"(3) The passage of such a law by Congress will be used as a lever in promoting the enactment of similar laws in other parts of the country and so do double harm;

"Therefore, *Resolved*, by the American Surgical Association,

"(1) That to their personal knowledge the marvelous progress of surgery, especially within the last twenty-five years, is due very largely to experiments upon animals, and the continuance of such experiments is absolutely essential to the further progress of surgical science.

"(2) That in their opinion the humanity of the entire profession is too well known and too constantly and conspicuously shown in their enormous charitable and kindly work to allow the assertion that they would countenance the practice of cruelty or the infliction of needless pain in such experiments to be believed by the American people or their representatives in Congress.

"(3) By reason of this very humane sentiment, this Association protests against the passage of the bill in question, because it will be a cause of untold cruelty to both man and animals by arresting to a great extent the beneficent progress of surgery.

"(4) That a copy of these resolutions be sent to the President of the United States and to the Senate and House of Representatives.

"W. W. KEEN, H. L. BURRELL, JOSEPH D. BRYANT, committee."

Jefferson Medical College Hospital.—Eckley Brin-

ton Coxe, Jr., has contributed \$5,000 for the endowment of a free bed in the contemplated new Jefferson Hospital.

The Spanish Soldiers in Cuba.—During the last third of June there were about 8,000 men lying ill in the Spanish military hospitals in Cuba, of which number 1,300 were suffering from yellow fever. The mortality rate of this disease is increasing. The epidemic of small-pox shows no signs of diminishing.

Dr. Frank Whitman Ring, of this city, died on July 17th, in New Haven, from disease of the heart. He was born in Portland, Me., forty-eight years ago, and studied medicine in Bowdoin College, where he received his degree in 1878. He came to New York to practise in 1879, and soon became associated with the Manhattan Eye and Ear Hospital, retaining his connection with this institution up to the time of his death. He was a member of several medical societies of this city, and was the author of a number of papers on subjects relating to his specialty. He had two brothers who are physicians, and he leaves a widow to whom he was married but a few months ago.

Obituary Notes.—DR. WILLIAM H. MATLACK died at Downingtown, Pa., on July 12th, at the age of 59 years. He had been a paralytic for many years, but as one time was a prominent practitioner and an active politician.—DR. CHARLES DE COSTA BROWN died in New York City on July 12th, at the age of 79 years. He was a native of Philadelphia and was graduated from the University of Pennsylvania. He practised medicine for a time, but subsequently engaged in the practice of dentistry. During the war he acted as government embalmer. He was a prominent member of the Masonic fraternity.—DR. FRIEDRICH AUGUST KÉKULÉ, professor of chemistry and first examiner in pharmacology at the University of Bonn, died on July 16th.—DR. E. B. STEVENS, of Lebanon, O., died at his residence, July 11th, in his seventy-third year. For seventeen years he edited the *Cincinnati Lancet and Observer*, now the *Lancet-Clinic*, and afterward conducted the *Obstetric Gazette*. He was professor of materia medica and therapeutics in the Miami Medical College from 1865 to 1873, and in the University of Syracuse from 1872 to 1877.

Arsenic in Cigarettes.—Dr. William Murrell publishes in the *British Medical Journal* of July 11, 1896, a preliminary report of an analysis which he has made of the paper wrappings of smoking tobacco and cigarettes. He found that of seventeen samples of tobacco and cigarette packages arsenic was present in the labels of six. The presence of arsenic in the wrappers of cigarettes, he thinks, must be attended with considerable risk to the smoker, for the coloring matter easily rubs off on to the fingers, especially when moist, and from the fingers on to the cigarettes. Most packet tobaccos are put up by machinery, but the papers are spread by girls, who must of necessity in the course of their work absorb a good deal of arsenic. The danger is both to the consumer and to those engaged in the manufacture of cigarettes. The presence of arsenic is by no means confined to the cheaper brands,

for it occurs abundantly in many of the high-priced packet cigarettes. The rice papers, which form the wrappers for the cigarettes, and the tobacco itself have been examined by Dr. Murrell, but the experiments are not yet sufficiently advanced to permit the formulation of positive conclusions.

The Cholera in Egypt.—During the first half of July, 5,441 cases of cholera with 4,602 deaths were reported in Egypt. The unusually large percentage of deaths is doubtless to be explained by the fact that most of the cases that recover are not reported, and it is probable that the number of cases was much nearer 9,000 than 5,000. In the Soudan there were 269 cases with 165 deaths on July 18th among the Egyptian and English troops.

War Dogs and the Wounded.—A special feature in this year's German manœuvres, says a writer in *La France Militaire*, will be supplied by war dogs which have been most admirably trained for seeking the wounded and carrying dispatches. At the command "seek," accompanied by a gesture indicating the direction in which the dogs are to search, they will start off without allowing themselves to be disturbed by any surrounding circumstances; they will find the men who figure as wounded with unfailing certainty, take a piece of their clothing—cap, helmet, or piece of cloth torn off, and bring this back to the ambulance men, whom they then conduct to the spot.

Wholesale Prosthesis.—The Italian government recently sent an artificial-limb maker to Africa to supply hands and feet to about two hundred and fifty native soldiers who had been captured by the Abyssinians and, after having each a foot and a hand cut off, were set free again.

The Third International Psychological Congress will be held at Munich, Bavaria, from the 4th to the 7th of August, in the halls of the university. The work of the congress will be distributed through five sections: (1) The physical basis of psychical phenomena, the anatomy of the brain, and the province of psycho-physics in general. (2) Phenomena of consciousness in the strict sense of the term, psychology of the normal individual, including laws of association, activity of the imagination, doctrines of the emotions and of the will, the evolution of the personality, facts of ethics, etc. (3) Psycho-pathology, genius and insanity, illusions of the senses, fixed ideas, suggestion, psychology and criminology. (4) Psychology of sleep, dreaming, hypnotism in its application to the healing art, telepathy, mind reading, etc. (5) Comparative psychology, mental capacities, and moral conceptions of the lower races of mankind, graphology, the relation of psychology to pedagogy, the instruction of backward children through suggestion, and kindred topics.

A Field for the Energy of Anti-Vivisectionists.—Attention has been called in the *London Times* to the feather ornaments of women's hats, and especially to those from the osprey. In order to obtain these the parent birds are killed during the breeding-season and their young are left to starve to death. This agitation

has, however, had little effect, and the feathers continue to be worn by many women who are doubtless moved to tears at the thought of the cruelty practised by physiologists in their experiments. But, as the *British Medical Journal* well says, "more suffering is produced to supply the bonnets for one garden party than in all the physiological laboratories of the world."

The Jenner Centenary in Japan was held in Tokio on May 14th, the occasion being one of great solemnity. There were many speakers, including the president of the House of Peers, the minister of education, the surgeon-in-chief of the army, Count Hijikata, and the British minister to Japan. Many Japanese notables and the members of the diplomatic corps were present.

The British Medical Association will hold its sixty-fourth annual meeting at Carlisle on Tuesday, Wednesday, Thursday, and Friday, July 28, 29, 30, and 31, 1896. The president-elect is Dr. Henry Barnes, physician to the Cumberland Infirmary, Carlisle. The address in medicine will be delivered by Sir Dyce Duckworth, lecturer on medicine, St. Bartholomew's Hospital; that in surgery will be delivered by Dr. Roderick Maclaren, senior surgeon to the Cumberland Infirmary. The scientific business of the meeting will be conducted in nine sections.

Hebrew Medical Men at the Moscow Congress.—It is stated in the St. Petersburg *Viedomosti* that the Russian minister of the interior has decided to permit the entry into Russia of foreign Jews without distinction of calling. Such persons, however, must be provided with passports bearing the visé of a Russian consul, who shall have previously received the requisite authority from the Russian minister of the interior. The announced intention of Virchow to resign his post as president of the German committee for the International Medical Congress, unless the Russian government altered the passport regulations in favor of the Jewish members of the medical profession who will visit Moscow from Germany, has probably had something to do with this action of the Russian minister. The present law practically prohibits the entrance into Russia of any Hebrew, whatever may be his occupation or the business which takes him to that country.

Homœopathic Representation on the Medical Staff of a Hospital.—A committee of the board of managers of the Chester (Pa.) Hospital has reported favorably upon a petition of homœopathic practitioners for representation upon the medical staff of the hospital.

The Center County (Pa.) Medical Society, at its session at Bellefonte on July 14th, listened to papers on "Gastro-Intestinal Antisepsis," by Dr. W. B. Henderson, of Philipsburg; on "Post-partum Hemorrhage," by Dr. George F. Harris, of Bellefonte; on "Typhoid Fever," by Dr. E. A. Russell, of Unionville.

Dr. Samuel Wilks, president of the Royal College of Physicians, has been appointed one of the physicians extraordinary to the Queen, in place of the late Sir George Johnson.

Reviews and Notices.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE, AND TOXICOLOGY. By R. A. WITTHAUS, A.M., M.D., and TRACY C. BECKER, A.B., LL.B., and Collaborators. Volume III. New York: Wm. Wood & Co., Publishers.

THIS is the third of the four volumes which this treatise comprises. The two previous volumes have already been noticed in these columns. The present volume is made up of the following-named articles: "Vision and Audition in Their Medico-Legal Relations," by Dr. J. H. Woodward; "The Medico-Legal Aspects of Insurance," by D. Murray and G. J. Edmonds; "Insanity in its Relations to Medical Jurisprudence," by Dr. E. D. Fisher; "Mental Unsoundness in its Legal Relations," by T. C. Becker; "Care and Custody of Incompetent Persons," by Goodwin Brown, and a table of cases cited in the volume.

The chapters by Dr. Woodward are carefully prepared, although the discussion of many of the subjects embodied is by no means exhaustive. In some instances, such as in the chapter on simulated blindness, the preponderance of quoted matter is striking. The visual shortcomings associated with and dependent upon traumatic neuroses and hysteria are inadequately considered. On the other hand, the chapters which embrace the traumatic affections of the eye and its environs are handled more skilfully and satisfactorily. Relatively inadequate space is given to audition as compared with that given to vision, fifteen pages to the former, one hundred and ten to the latter. In the dissociation of nerve impulses following injury in hysteria, in malingering, conditions which are continually being worked over in courts of law, much information of value can be obtained by examination of the auditory apparatus; and although Dr. Woodward does not attempt to treat any affections of the ear except those due to injury, we believe a brief consideration of these subjects would not have been amiss, even if consideration had been given them under another caption.

The medico-legal aspect of insurance is considered by Mr. D. Murray, of the Equitable Life Assurance Society, and G. J. Edmonds, Esq., of the New York bar.

The manner in which the matter is presented, as well as the way in which the subject is conceived, are both deserving of the highest praise. There is no obscuration of facts by words, no tedious citation of matter that is not directly pertinent.

The most pretentious article in the volume is by Dr. E. D. Fisher, whose contribution covers about two hundred pages. The writer has contributed to his reputation as an alienist and to medico-legal knowledge. Dr. Fisher follows Krafft-Ebing in both classification and definition with the closeness of a genuine disciple. If space permitted the extensive consideration of this article, such as it deserves, it would be necessary to point out, here and there, positions assumed by the author which we do not think are shown to be tenable, either by virtue of such assumption or by any arguments advanced. For instance, impulsive insanity is said to be a mental state similar to those which he has just previously been considering with moral insanity, hallucinatory mania, dementia with apathy, etc. Nor do we see the necessity of considering the opium habit as a mania, for psychical exaltation, the *sine qua non* of mania, is not a part of it.

Amittoris paranoia is a most unfortunate designation to indicate what is desired to be conveyed by the term paranoia reformatoria. In discussing paranoia Dr. Fisher differs very radically from other writers, particularly in his statement that paranoia is rare in any form before puberty, as most authorities, such as Krafft-Ebing, Krapelin, Werner, *et al.*, believe that one great class of paranoias, *i.e.*, those presenting the rudimentary form of paranoia, is present before puberty.

The various forms of insanity are taken up by the author and illustrated in many instances by typical cases related by word and picture. The mental perversions attending on alcohol and epilepsy are particularly noteworthy.

In one particular we must take serious exception to Dr. Fisher's teachings, and that is concerning aphasia. He says "aphasia may be simply motor, in which there is difficulty to express the ideas desired by reason of impaired articulation, or there may also be a loss of the names of things, *i.e.*, amnesic aphasia, so that communication has to be carried on by gesture." In the first place, communication is never carried on by gesture, for gesture is not the product of

cognition, but is an external expression of feeling strictly analogous to an oath, and is very similar to if not quite a reflex act. Communication may, however, be carried on by pantomime, but this may also be destroyed in motor aphasia, the condition constituting what is known as amimia. So that the inference which the sentence quoted would give, *viz.*, that in motor aphasia communication of percepts and concepts can still be made in some way, is a decidedly erroneous one. The importance of this matter is brought home to one most emphatically if he be called upon to affirm or deny the testamentary capacity of one with motor aphasia. And most emphatically do we deny that an extreme degree of dementia is always present with mind blindness, in which apraxia, or loss of the faculty to use things properly, is present. It would be just as tenable to hold that there is necessarily dementia in those cases in which the percept of words is lost.

Next to Dr. Fisher's article is one on the legal relations of mental unsoundness by Mr. Becker, which naturally follows on the discussion of insanity from the physician's point of view. So far as we are capable of judging, this is a lucid exposition of what it purports to consider. The second part, on criminal responsibility, has been done with the aid of Dr. Fisher.

Mr. Goodwin Brown, who as State lunacy commissioner has had opportunity to make himself familiar with the custodianship of insane persons in the State, writes a most useful and exhaustive article on the care of incompetent persons and their estates. As a reference work for the practising physician, this contribution is invaluable. It not only gives a careful consideration of the processes of inquisition and supersedeas, and intructions as to committees and guardians, management of estates, etc., but an exhaustive digest and *résumé* of the statutes of all the States. The latter must be of great service to every examiner in lunacy, as well as to physicians and lawyers generally.

The volume as a whole is abreast of its predecessors. In some respects it is in advance. If the succeeding volume maintains the standard of merit of those that have gone before it, we shall be able to say that at last we have a system of medical jurisprudence worthy of highest commendation.

DIRECTIONS FOR WORK IN THE HISTOLOGICAL LABORATORY. By DR. G. CARL HUBER, Assistant Professor of Histology and Embryology in the University of Michigan. Ann Arbor: George Wahr, Publisher.

THIS little volume of 175 pages, half of which are left blank for drawings, consists of twenty-five lessons more especially arranged for classes in the University of Michigan. The directions are explicit, sufficiently comprehensive, and the little work fulfils what it purports to do. The lessons on examination of the blood are least satisfactory.

SCIENCE PROGRESS; A MONTHLY REVIEW OF CURRENT SCIENTIFIC INVESTIGATION.

THE February number of this magazine contains among other contributions a highly interesting article on emancipation from scientific materialism, by Professor Ostwald, of the University of Leipzig, the continuation of a suggestive article on the space relations of atoms, by Dr. A. Eiloart, formerly of the New York Post-Graduate School, and a decidedly valuable article on the suprarenal capsules, by Dr. Halliburton, professor of physiology in King's College, London. This number maintains the commendable scientific standard set by its editors.

TRAITÉ DE CHIRURGIE CÉRÉBRALE. Par A. BROCA, Chirurgien des Hôpitaux de Paris, Professeur Agrégé à la Faculté de Médecine, Membre de la Société de Chirurgie, et P. MAUBRAC, Ancien Prosecteur à la Faculté de Médecine de Bordeaux.

TREATISE ON CEREBRAL SURGERY. By PROF. A. BROCA and DR. P. MAUBRAC.

THE increasing interest in brain surgery is shown not only by the numerous articles upon this subject which appear in the medical journals, but also by the publication of monographs and formal treatises, of which the present one is the latest. Professor Broca has been known as one of the few surgeons in France who has taken an active interest in this subject, and the record of his operations in this book numbers thirty-one. The work opens with a chapter on the anatomy of the convolutions of the brain, which is followed by a chapter upon the topography of the various functional areas as re-

lated to the skull. These chapters are very carefully prepared, and give a *résumé* of all the various methods proposed for determining the relations between the surface of the head and the convolutions of the brain. The third chapter presents in clear form the facts of localization upon which are based the diagnosis of local lesions, and this is followed by a chapter upon the operative technique and its dangers. The authors seem to prefer the trephine to the chisel in opening the skull.

The second part of the book is devoted to a study of the various diseases in which operative interference is warranted. These are taken up in the following order: the traumatic lesions, primary and secondary; the intracranial complications of otitis media; meningitis; phlebitis of the sinuses and abscess; intracranial tumors; hemorrhage and meningitis; hydrocephalus, microcephalus; various functional troubles, including epilepsy, psychoses, and headache; encephalocele. Each of these subjects is discussed with great care and thoroughness, and all the facts at present accessible are put clearly before the reader.

The book is to be especially commended for its full references to modern literature, including both English and American authors, who are usually entirely neglected by the French writers. The references alone demonstrate how much more interest has been taken in cerebral surgery in England and America than on the continent of Europe. It is to be hoped that this work, like that of Chipault, will succeed in convincing our continental confrères of the utility of this form of surgical interference. The standpoint of the authors is not optimistic, and yet the propriety of surgical interference in certain cases of brain disease is forcibly presented. The work can be highly commended, as it is a reliable presentation of the facts up to date.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By HENRY C. CHAPMAN, M.D. With 55 illustrations and 3 plates in colors. Philadelphia: W. B. Saunders. 1896.

THIS little volume has reached a second edition in three years. With the exception of a brief bibliography, the present edition is the same as the first. The contents of the volume are divided into two parts, the first being devoted to medical jurisprudence, the second to toxicology. In the first part the chapters devoted to the signs of death and the examination of blood stains are particularly lucid and helpful, considering the short space which the author has given himself for their discussion. The chapters on rape, signs of pregnancy, fœticide, and infanticide contain nothing new, they reflect with accuracy the universal teachings on these subjects. The chapter on feigned bodily disease, hypnotism, etc., is incomplete and does not add materially to the knowledge of these subjects. The two chapters devoted to toxicology are the embodiment of discriminate and careful statement.

SYPHILIS IN THE MIDDLE AGES AND IN MODERN TIMES. By DR. F. BURET. Translated by DR. A. H. OHMANN-DUMESNIL. Philadelphia: The F. A. Davis Company. 1896.

THIS is the second part of Buret's well-known historical work. It consists of two volumes, the first dealing with syphilis in the Middle Ages, the other with syphilis in modern times. The first chapters of Volume I. are taken up with a discussion of syphilis in Europe in the first fifteen centuries of our era, while the last discusses the pretended American origin of the syphilitic virus. Buret's pronounced views on this question are too well known to need repetition; a simple examination of facts shows how fragile was the evidence on which the supposition of the American origin of syphilis was made. The little volume is well translated and is a handy work of reference.

DAME FORTUNE SMILED: THE DOCTOR'S STORY. By WILLIS BARNES. Boston: Arena Publishing Company. 1896.

"Dame Fortune smiled,
And never did a dame smile more."

It may be a true story and it may have happened to the author's hero, but such luck never came to any mortal doctor before, nor will it come again.

Such a work is simply an irritation to a struggling practitioner, thinking where his next small fee is to come from.

German medical students may be attracted to this country by the glowing, glittering accounts of the string of financial and other good fortunes which overtook this adventurer abroad. May they bear their disappointments with the same fortitude as Mr. Barnes' hero displays in bearing his fortunes. As a novel of absorbing interest, not much can be said in its favor.

CLINICAL LECTURES ON ABDOMINAL SURGERY AND OTHER SUBJECTS. By CHARLES T. PARKES, A.M., M.D., Late Professor of Surgery, Rush Medical College, Surgeon to the Presbyterian Hospital, Surgeon in Charge of St. Joseph's Hospital, Surgeon in Chief of Augustana Hospital, Consulting Surgeon of the Hospital for Women and Children, etc. Edited by DR. A. J. OCHSNER. Chicago: The W. T. Keener Company. 1896.

THESE lectures have been prepared for publication and edited by a former pupil and clinical assistant of the late Dr. Parkes. They are reproduced from the stenographic notes taken during the past few years; the form of language in which the original lectures were delivered being retained, thus lending an especial force and charm to the work for all those who were formerly students and friends of the author.

Chapter I. deals with abdominal tumors. Chapter II., gun-shot wounds of the stomach and of the small intestines, including numerous experiments upon dogs, and gun-shot wounds of the abdomen. Chapter III. is upon renal calculus and surgery of the kidney. Chapter IV. includes tuberculosis, malignant growths, hernia, tumors, fractures, and many other subjects of minor surgery.

The work is not systematized, nor does it have the finish we might have expected had the author personally prepared and supervised the sheets for publication.

Some of the chapters contain matter which has already appeared as contributions to scientific societies.

DEAF-MUTISM. A CLINICAL AND PATHOLOGICAL STUDY. By JAMES KERR LOVE, M.D., Aural Surgeon to the Glasgow Royal Infirmary, Honorary Aurist to the Glasgow Deaf and Dumb Institution. With Chapters on the Education and Training of Deaf-Mutes, by W. H. ADDISON, Principal of the Glasgow Deaf and Dumb Institution. Pp. 369. Published by James MacLehose & Sons. Glasgow. 1896.

THE writer treats the subject exhaustively and scientifically. He considers deaf-mutism in general, the character of deaf-mutes, congenital and acquired deaf-mutism, the defects and maladies of the ears. He takes issue with Hartmann and Toynbee in the matter of total deafness of deaf-mutes. These writers found most of their patients totally deaf, while he believes that total deafness is not common among them. The chapter on congenital deafness, which deals with its relation to heredity and consanguineous marriages, claims the thoughtful attention of the reader. He says that in calculating the chances of deafness in offspring the family antecedents of both sides as well as of the father and the mother should be considered. Much has been written on the relation between consanguineous marriages and deaf-mutism, and the author reviews the literature on this subject in an instructive manner.

He says that the study of census returns shows that there is a steady stream of deaf-mutism, flowing through decade after decade in spite of all efforts to check it. It should be combated by all means which can prevent deafness following disease, and by the discouraging of marriage between those afflicted and those near akin.

The chapters on "Education of Deaf-Mutes" will be of special value to those whose work is in this direction.

TEXT-BOOK OF GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY. By RICHARD THOMA, Professor of General Pathology and Pathological Anatomy in the University of Dorpat. Translated by ALEXANDER BRUCE, M.A., M.D., F.R.C.P.E., F.R.C.S.E. Vol. I., with 436 illustrations. London: Adam and Charles Black. 1896.

THIS work, though entitled a text-book, is far from elementary. The physician as well as the student will read with interest and profit the result of Professor Thoma's researches in the ever widening domain of pathology. The chapters vary in interest and importance, showing an inequality in the presentation of various subjects. The chapter on infec-

tions and parasites, which includes the recent researches in micro-organisms, is full and interesting and brings the subject up to date. The chapter on malformations, including monstrosities and other embryonic deformities, is especially elaborate and will be consulted as a valuable reference on that subject. The chapter on tumors is disappointing. The copious illustrations are finely done and contribute markedly to the success of the volume.

The translator is to be congratulated upon the thorough and conscientious manner in which he has performed his difficult task.

A TEXT-BOOK OF BACTERIOLOGY. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General, U. S. Army; Ex-President American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Royal Academy of Medicine of Rome, of the Academy of Medicine of Rio de Janeiro, of the Société Française d'Hygiène, etc., etc. Illustrated by Heliotype and Chromo-Lithographic Plates and Two Hundred Engravings. New York: William Wood and Company, 1896.

THOSE who are acquainted with the author's "Manual of Bacteriology," published a few years ago, and which won for itself at once the position of an acknowledged authority in this comparatively recent science, need no description of the present work. It is based upon the Manual, but is of smaller proportions, the description of non-pathogenic bacteria and the bibliography contained in the larger work being here omitted in the endeavor to bring the book within the compass of one suited to the needs of the general practitioner and the student. But to one who has not seen the Manual this description is most inadequate. In the first place a comparison of the two works shows that the later one is far from being a simple condensation or a reprint of certain portions of the former one. The science of bacteriology is constantly progressing, but the author has kept abreast of it and has embodied all the advances of the past three years in the "Text-Book," which in this respect might be regarded as supplementary to the "Manual."

The first part deals with classification, morphology, and general bacteriological technology; in the second the general biological characters of bacteria are considered; the third section, occupying about half of the work, is devoted to a description of the pathogenic bacteria; and in the fourth part the saprophytes are briefly described. The book is well written in the author's lucid and pleasing style, and the illustrations leave nothing to be desired in point of execution and of fulfilment of their object. Altogether the work is one which cannot fail to become the standard text-book for students of bacteriology, as well as an authoritative work of reference for the practitioner.

ATLAS OF THE DISEASES OF THE SKIN. By H. RADCLIFFE CROCKER, M.D., F.R.C.P., Physician to the Department for Diseases of the Skin, University College Hospital, Formerly Physician to the East London Hospital for Children, Examiner in Medicine at Apothecaries' Hall, London. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

FASCICULUS XV. of this series of plates, to which we have on several occasions already referred, opens with a consideration of that so prevalent, so interesting, and still so little understood condition—eczema. Four figures are given in the first plate. Two are of eczema seborrhoicum; neither is remarkably typical; one looking like lupus erythematosus, the other like lupus vulgaris. Eczema verrucosum of the leg is more characteristic, but not just the picture one sees in life as these cases present themselves for treatment.

At first glance one would diagnose pityriasis rubra or dermatitis exfoliativa from the picture to which the name eczema squamosum is affixed. It is probably more instructive to include such a picture than one more commonplace, in order to demonstrate how much care must be exercised in distinguishing these conditions.

Hydroa is the next subject, to which four figures are likewise given, but Fig. 3 might have been omitted, as it is but a slightly enlarged counterpart of the ear of Fig. 2, which shows the sun effects in hydroa aestivale. The next plate is one devoted to lupus vulgaris, showing the several forms, scrofulosus, verrucosus, and papillomatosus, in a clear and instructive manner. The hair and dress in Fig. 1 are painted

in so truly inartistic a manner that it would be preferable to show the parts affected alone, as in Fig. 2.

Lupus erythematosus of the hands and nape of neck is illustrated by some striking and rare examples. One instance is familiar to American readers of the Dermatological Association's Transactions, it having been described by the author upon a recent visit to this country and before the meeting of the Association. Figs. 3 and 4 bear a striking resemblance to lichen planus. Chromidrosis, or seborrhea nigricans, a very rare condition, is indicated by a drawing which shows a deposit of pigmented sebum, or sweat, or both, upon the orbital and cheek regions.

Acne rosacea and rhinophyma form the subject of the last plate, the latter being the better of the two figures. Here again Fig. 3, a side view of Fig. 2, seems superfluous, and the space might have been utilized for illustrating some other condition. The letter-press is instructive, giving valuable hints as to treatment in addition to a clear and concise description of the cases themselves.

THE PRACTICE OF MEDICINE. By WILLIAM C. GOODNO, M.D., Professor of Practice of Medicine in the Hahnemann Medical College of Philadelphia, Physician to the Hahnemann Hospital, etc. With Sections on Diseases of the Nervous System, by CLARENCE BARTLETT, M.D., Lecturer on Nervous and Mental Diseases in the Hahnemann Medical College of Philadelphia, Senior Neurologist to the Hahnemann Hospital, etc. Vol. II. Philadelphia: Hahnemann Press. 1895.

A YEAR ago almost it was that we called attention to the first volume of Dr. Goodno's work, pointing out the rather broad manner in which, for a homœopathic production, the various subjects were treated. In Volume II., which treats of diseases of the circulatory, respiratory, urinary, and digestive systems, diseases of the blood, and constitutional and parasitic diseases, the same conservative manner of writing and the same breadth of thought is noted which caused one to feel, in reading the first volume, that the border line which separates the schools was being grazed. The therapeutical side indicates that true homœopathy is not considered the only guide to the administration of remedies. Much attention is paid to hygienic rules, diet, bathing, and the use of many of the newer drugs, especially in full dose. In reading this work the old-school physician will not find much of that which he is so apt to condemn in homœopathic works, and still the new-school man can scarcely find fault with any of its teachings, since the indication for the remedies recommended is usually set forth with distinctness. The value of modern methods of research, the benefits arising from bacteriological investigations, the worth of laboratory experimentation are all duly appreciated by the writers and have added their influence to the making of a modern exposé of the homœopathic practice of the day. The work seems in every way creditable and commendable.

A TEXT-BOOK OF THE PATHOGENIC BACTERIA, FOR STUDENTS OF MEDICINE AND PHYSICIANS. By JOSEPH MCFARLAND, M.D. Philadelphia: W. B. Saunders. 1896.

DIVIDING his subject into several chapters, the author gives a clear understanding of what a bacteriological workshop is—how to work and what to find.

Part II. deals with specific diseases and their bacteria, and these again are subdivided into, *a*, The Phlogistic Diseases, *b*, The Toxic Diseases. A very good elucidation of how to cultivate any given specific organism, as, for example, that of tuberculosis, leprosy, or glanders, or again the toxic disease germs like those of tetanus, diphtheria, cholera, pneumonia, etc., is carefully given.

OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By L. CH. BOISLINIÈRE, A.M., M.D., LL.D., late Emeritus Professor, St. Louis Medical College. Philadelphia: W. B. Saunders. 1896.

THIS is a well-arranged work and treats of the usual and unusual physical complications and accidents of the puerperal state. It is essentially a little treatise on emergencies, and can be consulted and studied with great profit by young and old. The accidents of parturition are particularly well presented and will appeal to every physician who is caught with a perplexing case.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 15, 1896.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

Volvulus Ten Days after Operation for Appendicitis.—DR. CHARLES MCBURNEY presented a boy eleven years of age, who had come under his care in the hospital on the last day of February of this year, with symptoms of appendicitis for forty-eight hours. The pain and tenderness had been marked, but the temperature was only 99° F. and the pulse 100. Still, the tenderness extended over a wide area, and the general look of the boy was that of one suffering from a grave illness. The operation was done the same day, and he found extensive lesion of the appendix, which was perforated at two points and partly gangrenous. Two concretions were found lying still in it. Pus and general peritonitis were found in every part of the abdominal cavity except the extreme left hypochondrium. At least, the sponge thrust over to that side did not bring out fluid. The whole cavity was washed out very generously with normal salt solution; it was dried out, and a large glass tube was put down into the pelvis, draining from that point and packing above. Everything went along very satisfactorily, indeed, until ten days after the operation, when the boy began to complain of occasional and scattering pain in the abdomen. This complaint was made with rather increasing frequency for a week, when the symptoms became alarming. There were continuous severe pain, vomiting, and impending collapse. On the surface of the abdomen dilatation of some coils of intestine could plainly be made out, making it sure that there was bowel obstruction from some cause.

Dr. McBurney opened the abdomen a little to the right of the median line, the seat of greatest pain, on March 16th. The intestines were free from adhesions or signs of inflammation, and it was only after considerable search that he found the cause of the obstruction and local distention, consisting of a coil of small intestine held in a position half twisted upon itself by adhesion of the omentum. It was very easy to pull out the intestine, give it half a twist back, and then on closing the wound the boy made a prompt and complete recovery.

The speaker thought that one of the most singular features of these cases of general septic peritonitis with lymph scattered over the entire abdomen, was the fact that when they got well they did not have adhesions, as one might expect, for when occasion arose to open the abdomen again the adhesions were likely to have all disappeared. To have an omental band form of the kind found in this case was unusual.

Appendicitis; Secondary Operation for Extensive Adhesions.—DR. MCBURNEY presented a second patient, a boy, aged six years, who had entered the hospital apparently with an attack of appendicitis of three days' duration, on February 11th. He was a very sick boy, and was operated upon on the day of admission, the incision being made in the usual place. The only peculiar feature found was that the tip of the appendix was the portion which had suppurated, and it lay way over, even to the left of the median line, and was very difficult to find without making a hideously large incision. There was no general peritonitis, simply a localized though rather wide inflammatory process. For two or three days after the operation the boy seemed quite well, except that he occasionally complained of sudden pain. Dr. McBurney watched him with some

anxiety, but after ten days thought it was a temporary affair. On March 10th the boy had continuous pain and began to vomit. There was general tympanites. An incision was made a little farther in than the old one, and most extensive adhesions of the intestines were found. These were finally all separated, and, while he regarded the case as a most hazardous one, the boy from that time had had no trouble.

Tuberculous Leprosy.—DR. F. P. KINNICUTT presented photographs of a case of tuberculous leprosy in a man who had never been outside the United States. He was born in New Orleans, came to New York twenty-five years ago, and had not been more than fifty miles away since. His occupation was that of cook, and he had been employed in various restaurants in the city; nevertheless, his disease had not been recognized until he presented himself at the hospital, supposing he had some throat and rather unpleasant skin trouble. On entering the ward his appearance was so characteristic of leprosy that he was soon turned over to the board of health and was sent to North Brother Island. There was no peripheral neuritis and there were no anæsthetic areas, which Dr. Kinnicutt thought was rather unusual for a case of as long duration as this one would seem to be, judging by the lesions, although the man claimed that the symptoms dated back only a year or eighteen months. There were large ulcers on the tongue, ulcers of the pharynx, of the epiglottis, of the larynx, tuberculous nodules at many points on the upper extremities, particularly the hands and certain parts of the arms, and on the feet. There had been loss of toenails and necrotic spots of the skin covering the toes. He was a lamentable sight.

DR. BIGGS asked where the man had received his infection.

DR. KINNICUTT said that was a most interesting point. He believed authorities were agreed that the usual source of infection was sexual connection with a leper. The colony in Canada, the oldest one in this country (forty or fifty years), was in charge of Sisters of Mercy, none of whom had ever contracted leprosy.

Electrode for Severing Ligatures in Vaginal Hysterectomy.—DR. CLEMENT CLEVELAND showed some small electrodes which he was in the habit of placing in the loop of the ligature on the uterine and other arteries in the operation of vaginal hysterectomy. One electrode was placed on each ligature, and after the lapse of the required number of hours, when there was no longer danger from hemorrhage, the current was passed and the ligature severed. He always ligated the arteries instead of using clamps, and had given up catgut as unreliable, employing Chinese braided silk. It was to meet the objection to silk, that it did not come away soon enough, that he had devised and used the electrodes. The portion of the electrode tied into the ligature loop was fine platinum. Two weeks ago he had removed as many as eight of these electrodes, after severing the ligatures at the end of thirty-six hours, in a single case of vaginal hysterectomy for a fibroid of rather large size. There was less likely to be sloughing of the stump than where the ligatures were allowed to remain. The electrodes were easily sterilized. Their use had never been attended by hemorrhage. An objection to forceps instead of ligatures was that they caused the patient a great deal of distress by their weight.

Chronic Strychnine Poisoning.—DR. CHARLES L. DANA reported a case of chronic strychnine poisoning produced by a proprietary compound containing among other ingredients tincture of *nux vomica*. The patient was a woman who had begun taking the compound about a year before for nervousness following an attack of melancholia. The symptoms which he sup-

posed might be attributed to chronic strychnine poisoning were stiffening of the legs and curling under of the toes while walking, nervousness, and exaggerated reflexes. There were no objective symptoms whatever. There was so great flexion of the toes that at times she walked on the back of them. Dr. Dana had thought that the symptoms might not be dependent upon the medicine, but learned that when this was left off the symptoms disappeared, although she did not feel so well.

DR. PEABODY remarked that some persons were very sensitive to strychnine. Some years ago a doctor had related to him a case of strychnine poisoning from taking homœopathic granules of *nux vomica*.

DR. KINNICUTT remarked that, on the other hand, some patients bore large doses without apparent effects. He had known house physicians in our hospitals to rapidly increase the amount in weak heart of pneumonia, etc., to one-fifth and one-fourth of a grain in twenty-four hours.

DR. C. S. BULL had a patient who was taking half a grain of strychnine a day, but she had begun with doses of one-one-hundredth of a grain.

DR. DANA said that at the meeting of the Association of American Physicians last week he had described a treatment of *tic douloureux*, which included giving hypodermic injections of strychnine, running the dose up within about eight days to one-fifth, sometimes one-fourth, of a grain. There had been no untoward results.

DR. BULL mentioned the case of a man with atrophy of the optic nerve who when he went away from the hospital was to take tablets of strychnine three times a day. He improved so rapidly that he decided on his own responsibility to increase the dosage, expecting to improve that much faster. One afternoon he was led into the infirmary by two men, with every muscle in his body in a quiver, including the muscles of the face, of the extremities, and of the abdomen. It was learned that he had been taking nearly one-third of a grain of strychnine three times a day for nearly a week. It was three to five days before his symptoms subsided.

DR. KINNICUTT said it had been his experience that the physiological symptoms of strychnine subsided quickly, say in twenty-four or forty-eight hours. But he had not seen it given to the extent of producing such marked toxic effects. He asked Dr. Dana what effect one-fifth of a grain had on *tic*.

DR. DANA replied that the treatment had given the best results of any which he had ever employed. Sometimes it had stopped the *tic* for a year and a half, sometimes for only six or ten months, when the course of treatment had to be repeated. In these doses, one-fifth of a grain hypodermically once a day, the strychnine had an anodyne effect, the patient going off into a sort of stupor.

MEDICAL SOCIETY OF DELAWARE.

One Hundred and Seventh Annual Meeting, Held in Newark, Tuesday, June 9, 1896.

THE President, DR. JAMES T. MASSEY, occupied the chair, and there were about fifty members present.

DR. H. G. M. KELLOCK made the address of welcome and called the attention of those present to the many important discoveries of medical interest during the past year. He referred especially to the Roentgen rays, and stated he hoped this would be but the beginning of a practical system which would enable us to view all the organs of the body.

Contagious Diseases of the Lower Animals and Their Relation to the Human Family.—DR. A. T. NEALE read a paper with this title. He referred to the

fact that under the revised code of the Delaware laws the governor has the power to proclaim an epidemic of disease among cattle, to kill live stock, and to take every precaution to protect the lives and property of the public, without doing anything to recompense the individual loser. Continuing, Dr. Neale said, severe as this legislation appears to be, it is in fact almost inoperative, for the live-stock owner, recognizing that the majority will pay no heed to the individual loser and that quarantine will add materially to his loss, quietly removes his dead from sight, and before he or his neighbors are awake to the fact, sometimes has a fully-established epidemic upon his own and upon the adjoining farms. There should be amendment of the present laws, giving permission to the governor to employ State funds in the purchase and use of protective vaccines, whether they be those of anthrax, of rabies, or of any similar disease—permission to use funds in the interests of the individual, just as he is now empowered to use them in the employment of the sheriff.

DR. BLACK said he entirely agreed with Dr. Neale as to what should be done in this matter. In his opinion about twenty per cent. of milk cows are tuberculous, and he believed that many of the summer complaints of children were due to this cause. He advocated the sterilization of milk and stated it should always be brought to the boiling-point a second time.

Discussion on Malaria.—DR. JAMES H. WILSON read a paper on "The Source and Cause of the Irregular Form of Malaria." He thought that the term malaria is synonymous with swamp or ague poison, and that the intermittent and remittent forms of the disease are due to the same cause, the difference in type being generally supposed to be only a difference in degree. Thayer and Hueston, in the course of their studies, reached the conclusion that the tertian type of fever depends on the presence in the blood of a parasite that passes through its cycle of existence in about forty-eight hours, and the segmentation of this organism at intervals of about forty-eight hours is always associated with a febrile paroxysm. In regard to the æstivo-autumnal fever, the same authors conclude that it is due to the organism described by Marchiafava and Celli, but that the cycle of existence of this parasite has not yet been followed out in an entirely satisfactory manner. The main seats of infection are the spleen, bone marrow, and internal organs. In the opinion of Dr. Wilson the mode of infection of irregular forms of malaria is doubtless identical with that of the regular forms; that is to say, the method of admission into the system is similar.

The typho-malaria referred to by Dr. Woodward during the late rebellion was typhoid fever with malarial complications and the clinical thermometer has placed this affection where it properly belongs.

DR. JUDSON DALAND stated that while it was doubtless true that many cases of malaria were acquired through the drinking-water, yet unquestionably many cases were acquired through the atmosphere. Out of sixty or seventy cases studied by the speaker, eighty per cent. were of the tertian variety and, therefore, the few irregular cases could be easily explained. The remittent form is unquestionably due to the same cause as the intermittent.

In the opinion of the speaker many cases of malaria were instances of double infection; that is to say, at the time the malarial intoxication was acquired another parasite, the *amœba coli*, was also taken.

DR. WILLIAM C. PIERCE, of Wilmington, read another paper on malaria. He spoke of the geographical distribution of malaria in the United States and Europe. He referred to the effects of the soil in producing malaria and stated that several species of the plasmodium may coexist and produce the most varying types of the disease. He then referred at some

length to two cases of malaria which recurred many years after they were supposed to have been cured, and one case was especially interesting from the fact that it recurred five days after the termination of labor, the woman having had no symptoms of malaria for some years previous.

DR. C. M. ELLIS referred to one fact which in his opinion has been almost entirely overlooked by the profession, and that is that the malarial poison passes through cycles the same as many other diseases. He gave a practical demonstration of this by mentioning localities and periods of time of the recurrence of malaria. He stated he had never seen a case of true remittent malaria as described in the books during fifteen years of practice.

DR. JUDSON DALAND, in discussing this paper, referred to the comparatively few cases seen in Pennsylvania as compared with the number seen in Maryland and the surrounding country. Concerning the question of malarial cycles, Dr. Alfred Stille, of Philadelphia, used to say that a similar condition existed along the banks of the Schuylkill River years ago.

DR. JOHN B. BUTLER, of Newark, asked how one would make a diagnosis between continued fever and typhoid fever.

DR. VALLANDIGHAM gave the details of an interesting case of malaria which had come under his notice some time since and which continued to recur immediately the administration of quinine was stopped. The patient was a man about fifty years of age, a paper hanger, and presented the appearance of a case of typhoid. The malaria was finally cured by the continued administration of large doses of quinine.

DR. R. G. ELLEGOOD stated that many years ago remittent fever was quite prevalent and he had seen as many as eight or ten persons suffering from this affection at the same time out of a family of fifteen. None of these cases would present any typhoid symptoms whatever, but would be typical cases of remittent malaria.

DR. R. B. HOPKINS read a paper on the "Treatment of Malaria."

The author mentioned various remedies which he found efficacious in the treatment of different forms of malaria, and stated that in his opinion the reasons that this disease is not so prevalent as it used to be are to be found in atmospheric changes, improved condition of the soil, better drainage, and better water supply.

Referring to the diagnosis of malaria, DR. DALAND stated that the one pathognomonic sign of this disease was the presence of the malarial parasite. In forty-eight hours this parasite completely changes its appearance, during which time it will enter a red blood cell, feed upon the contents of the cell, and increase in size at the expense of the stroma of the red blood cell. Nothing resembles this appearance in health or disease, and the diagnosis of malaria is complete as soon as this parasite is discovered.

The speaker then passed around a number of photographs illustrating the process described and referred to the theory which has been advanced that the rupture and disintegration of the mature malarial body is coincident with the occurrence of the chill.

Pernicious Anæmia.—DR. MARSHALL reported a case of pernicious anæmia in which the diagnosis was difficult to determine between leukæmia, Addison's disease, and pernicious anæmia. The patient was a bank teller, thirty-three years of age, who had a pulse of 12 and a temperature of 102° F. when Dr. Marshall was called to see him. The blood count at this time showed 1 white to 235 red, the red then numbering about 1,300,000. The diagnosis of pernicious anæmia being thus confirmed, the patient was placed upon red bone marrow and arsenic and in a few weeks the red blood corpuscles numbered 2,500,000. Two weeks

later the count showed 3,500,000 and in another two weeks 3,800,000. Three months thereafter the count showed 4,400,000. The patient continued to improve and was able to return to his duties.

Obstetrical Complications.—DR. C. M. ELLIS read a paper with this title.

The author especially emphasized the great danger of the convulsions of pregnancy before term and the urgent necessity for artificial delivery when they occur. His own experience included eight cases occurring in the seventh, eighth, and ninth months of pregnancy, and showed clearly that when a convulsion occurs before term, unless it is of systemic origin, the rule for immediate delivery should be imperative, and without regard to the presence or absence of uterine contractions or the condition of the os as to dilatation. The earlier the convulsion begins, the greater the need of emptying the uterus by the most expeditious methods, all palliative medicinal treatment being secondary to this one great object. This procedure is necessary because of the great fatality of eclampsia before term, which is fully fifty per cent. of all cases. This high death rate is greatly exceeded when the delivery is not accomplished or if it is delayed until several convulsions have occurred or until uterine contraction and dilatations have supervened.

Dr. Ellis stated that he had never seen a death occur before delivery after the operation had been initiated and in his opinion there should be no delay in evacuating the uterus after the first convulsion. The earlier albumin appears in the urine the more imminent is the danger of eclampsia, and if this accident threatens it may be incumbent on the attendant to hasten delivery without waiting for the actual convulsive seizure. In concluding his remarks the speaker denounced the indiscriminate use of morphine hypodermically in these cases.

Dr. Ellis stated that in bleeding his patients he always took into consideration as of primary importance the patient's physical condition.

DR. GEORGE M. BOYD, of Philadelphia, entirely agreed with Dr. Ellis and advised in addition, as medicinal treatment, chloral by the rectum. In his opinion the mortality depends to a great degree on the extent of the kidney lesion, as in many cases of interstitial nephritis existing before pregnancy eclampsia develops during labor.

DR. P. W. TOMLINSON, of Wilmington, mentioned a case in point, in which twenty-four ounces of blood were drawn and decided improvement followed. The patient was delivered of an eight months' child twenty-four hours after the operation and entirely recovered.

Cardiac Diseases as Encountered in Central Delaware.—DR. E. S. DWIGHT read the paper. He referred to the curious circumstance that frequently commencing heart lesions were evidently due to the absorption of some morbid product through the abraded surface of the bladder. He believed that ulcerative endocarditis had been the cause of death in one of his cases of eclampsia, in which the patient's debility would not permit of bleeding. When ulcerative endocarditis can be recognized before embolisms have occurred, it is of paramount importance that the patient should be kept in a recumbent position and all movements avoided as much as possible.

A Pin in the Appendix.—DR. H. J. STUBBS, of Wilmington, read a paper entitled "Three Cases of Appendicitis, One of Unusual and Fatal Complication." He related the details of the three cases and the remarkable fact about one was the presence of a pin within the appendix. He strongly urged the importance of early diagnosis and prompt medical and surgical treatment of all cases of appendicitis.

Officers.—DR. WILLIAM P. ORR, of Lewes, Del., was elected *President*; Dr. Willard Springer, of Wilming-

ton, *Vice-President*; Dr. P. W. Tomlinson, of Wilmington, *Secretary*, and Dr. William C. Pierce, of Wilmington, *Treasurer* for the ensuing year.

The society adjourned to meet in Rehoboth in June, 1897.

Clinical Department.

A CASE OF HERMAPHRODISM (?).

By CARL BECK, M.D.,

PROFESSOR OF SURGERY, NEW YORK SCHOOL OF CLINICAL MEDICINE; VISITING SURGEON TO ST. MARK'S HOSPITAL, GERMAN POLIKLINIK, WEST SIDE GERMAN DISPENSARY; CONSULTING SURGEON H. S. G. S. ORPHAN ASYLUM, ETC.

TRUE hermaphroditism (*Ἑρμῆς* = Hermes = Mercury, and *Ἀφροδίτη* = Aphrodite = Venus), that is, the presence of both sexes in one individual, is still doubted, though many apparent cases are reported. Undoubtedly there are varying degrees of hypospadias, while rudimentary analogous organs of the other sex coexist.

In view of the similarity of the male and female sexual organs during the first two months of embryonic life, it is readily comprehensible how a slight intra-uterine disturbance may prevent union of the halves of the uro-genital sinus, or how further development of the tubular prolongation anteriorly may be interfered with by the change of the external organs.

In some cases the sex can be differentiated only with difficulty. A hypospadiac showing cleft scrotum, a miniature penis, and retained testicles, resembles a female so much that it may be baptized as a female, and years later, to the great terror of the parents, its male character manifests itself by the descensus testiculorum as well as by the development of masculine inclinations.

Two weeks ago, through the kindness of Drs. Ferd. C. Valentine and William S. Gottheil, a case of this type was referred to me.

L. M——, twenty-one years of age, born in the State of New York, admitted to the surgical department of St. Mark's Hospital, June 9th, 1896, gave the following history: He was baptized as a girl, but a few years later he was again baptized as a boy.

He had children's diseases, but never suffered from

right side swelled to considerable size. They were extirpated in a hospital of this city, where antispecific treatment was also given. A few weeks ago he lost his appetite, had chills, and gradually became weaker. At the same time he noticed a hard mass below his umbilicus, which at first was not painful, but troubled him later.

When I first saw him this very poorly nourished individual had a pulse of 124 and a temperature of 101.8° F. He was apparently a man, had a beardless face, and a feminine voice and form. Height, five feet eight inches. Weight, eighty-six pounds. Mammæ slightly enlarged. The penis, two and one-third inches long, was perfect so far as the glans and corpora cavernosa were concerned, but the urethra was represented by a mere depression. In the centre of this groove two prominences, consisting of skin tissue, were present,

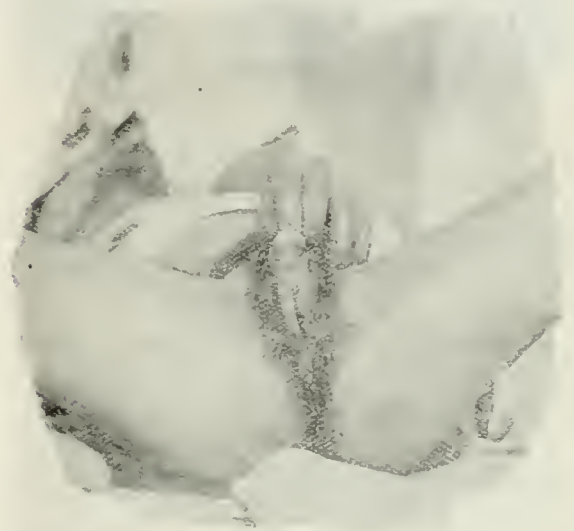


FIG. 2.

one about one inch distant from the glandular end of the penis and the other one an inch farther downward.

They indicated where the penis was formerly attached to the infundibulum below, whence it was dissected one year ago (Figs. 1 and 2).

Instead of the scrotum there were two well-developed labia majora of equal size. They contained no testes and were not sensitive to the touch.

Beneath the arch of the pubis was a red-lined infundibulum, which resembled an introitus vaginae most markedly and which showed four orifices.

The largest orifice was at the lower end of the infundibulum and permitted only of the introduction of a metal sound (22 F.). On pressing my little finger against this meatus, a thin semilunar membrane (rudimentary hymen [?]) yielded. Now I could introduce my middle finger easily into a canal, four inches in length (undoubtedly the vagina), at the end of which a well developed uterus could be felt. The rupture of the membrane was followed by a slight hemorrhage.

On the upper edge of the infundibulum the orifice of the urethra was plainly visible. On each margin of the infundibulum, about one-half inch above its lower end, was a small orifice, admitting only a very thin probe for a distance of one-third inch. The patient claimed that ejaculation of sperma took place through these orifices. He maintained that since he was fifteen years old he had connection with women at least three times a week. He also claimed that he had erections, his penis enlarging to double size then. Only three or four drops, as he stated, were ejaculated at a time. There was never any trace of menstruation.

The inguinal glands were slightly enlarged. The abdomen showed nothing abnormal, except a slight bulging above the symphysis. Upon palpation a

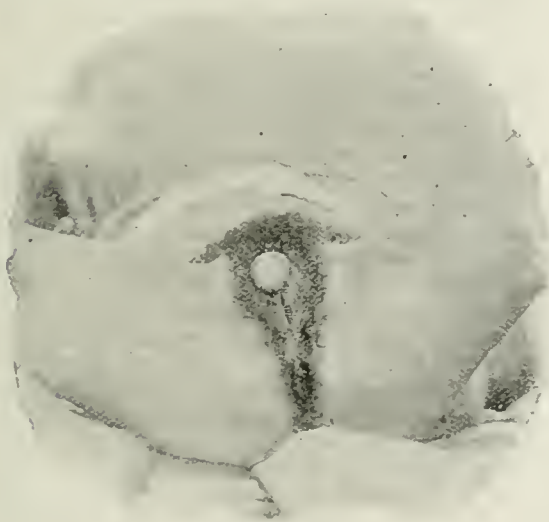


FIG. 1.

any serious sickness until eighteen months ago, when he acquired an ulcer on his rudimentary penis, which he termed a hard chancre, and which healed under the use of an antiseptic. He also claimed that several weeks thereafter an eruption over the whole body followed. One year ago the submaxillary glands on his

mass, filling up the space between the right iliac fossa and the umbilicus, was detected. This mass could not be displaced, was painful on touch, and of an irregular, nodular shape. At some points slight fluctuation could be elicited. Aspiration of the tumor yielded blood. Harpooning of the tumor tissue revealed round cells under the microscope.

On June 13th I performed laparotomy at St. Mark's Hospital. After the incision in the linea alba was made, about one pint of a thin, serous, colorless fluid escaped from the abdominal cavity. The tumor was found tightly adherent to the peritoneum. On two portions the peritoneal tissue had disappeared entirely,

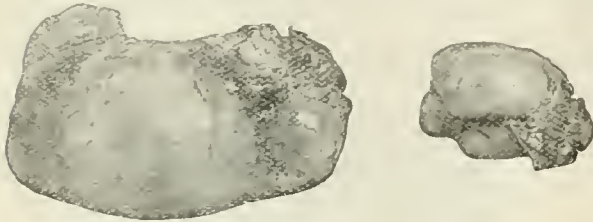


FIG. 3.

and instead of it a mass of the same structure as that of the tumor, being of the size of a dove's egg, was noticed on either portion. They were extirpated. After the many adhesions to the intestine and to the parietal peritoneum were separated the tumor could be drawn outside of the abdominal cavity, and was recognized as the right testicle, hanging to a thick pedicle, which was found to be the cord. This, however, resembled a tube much more closely in shape, and was attached to the parietal peritoneum about one and one-half inches laterally from the symphysis and about one-half inch below the upper margin of the os pubis.

After the pedicle was tied and the tumor dissected from it, another tumor of the same consistence and of much smaller size was detected on the left side far down in the pelvis. It was of the same renal-like shape as its fellow, and was attached to the peritoneum in the same manner, the pedicle being much smaller. Its removal was undertaken in the same manner. No adhesions were found (Figs. 3 and 4).



FIG. 4.

Further inspection of the abdominal organs revealed nothing abnormal, except the presence of a considerable number of small, hard nodules, ranging from the size of a head of a pin to that of a pea, in the serosa of that portion of the small intestine which had been adherent to the right testicle.

There was considerable shock at the end of the operation, which fortunately could be done rapidly, but by severing the adhesions considerable loss of blood occurred. Nevertheless, the patient made a good recovery.

The larger one of the tumors weighs three pounds, the smaller one eight ounces. The fibrous structure of the larger tumor is interspersed with small cysts, which contain a light yellowish fluid of a gelatinous consistence. Microscopical examination showed it to be a soft, round-celled sarcoma.

As soon as the patient's condition permits I shall perform a plastic operation for the formation of a penile urethra, according to Thiersch's method.

The patient was examined by Drs. H. J. Garrigues, L. B. Bangs, J. G. Wallach, Irwin, Sprague, Dowling, Johnston, Little, Schoeneberger, Cavanagh, and others.

TWO CASES OF DELIVERY AT FULL TERM FOLLOWING CUL-DE-SAC OPERATIONS.

BY BENJAMIN TORRENS, M.D.,

NEW YORK.

IN view of the important field opened up by the cul-de-sac as an avenue for operative procedures in the treatment of pelvic lesions, a report of the following cases may be of interest, for they are, as far as I can ascertain, the first two cases of pregnancy following cul-de-sac operations for the treatment of adherent retroposed uteri reported in this country.

These two patients, whom I attended during their pregnancy and confinement, were operated on by Dr. W. R. Pryor for adherent retroverted uteri by a new method, described by him in the *MEDICAL RECORD*, July 20, 1895. Their histories are briefly as follows:

CASE I.—Mrs. K—, aged twenty-two, married three years. Pelvic and general condition at the time of marriage was normal. One month later she became pregnant. At the eighth month she was delivered of a fourteen-pound child. The woman was attended by a midwife. Labor was difficult, lasting twenty hours; the perineum was lacerated; the child was still-born. Infection evidently occurred, as the woman had an attack of pelvic peritonitis, accompanied by fever, pelvic pain, and severe hemorrhages, which continued for a month, followed by profuse leucorrhœa, abdominal pain, and backache.

Eight months later she again became pregnant, carried the child three months, and miscarried. She had another attack of pelvic peritonitis, and up to the time of operation, two months later, suffered from continuous flooding and constant pelvic pain.

The cul-de-sac was opened and the adhesions between the uterus and pelvic floor were broken up. Both tubes being occluded, their simbrated extremities were dilated, the ovaries and tubes were set free from their adhesions and replaced, the uterus was curetted and replaced; after which there was a cessation of all the previous symptoms. The uterus remained in perfect position, and pregnancy took place four months later. For the first six weeks of pregnancy there was some slight gastric disturbance, after which time it ceased. Throughout the remainder of her pregnancy the digestive functions were normal, and there was at no time the slightest attempt at abortion. The woman came to full term and had a perfectly normal labor.

On May 21, 1896, at 8 P.M., true labor pains began. On examination the cervix was small and soft. The internal os admitted two fingers. Position of child, vertex L. O. A. Uterine contractions were regular and of good force. Duration of first stage, two hours and forty minutes.

At 10:40 P.M. the cervix was fully dilated; the membranes were ruptured, the patient had several strong pains, the head descended rapidly and presented at the vulva. Flexion of the head was maintained by pressure through the rectum against the nasal eminence of the frontal bone, and the head was

delivered during an interval between the pains. The shoulders were rotated and delivered in the same way. Duration of second stage, twenty minutes.

The third stage lasted fifteen minutes. The placenta and membranes came away intact. The uterus contracted firmly and hemorrhage was very slight. Duration of labor, three hours and fifteen minutes.

The puerperium was normal, the uterus remained firmly contracted, there were no after pains, the lochia ceased on the sixth day. The only complication was a slightly caked breast, which was easily overcome by hot stupes and massage. Lactation was normal and the woman nursed her child. A rapid and perfect involution took place, and the uterus when last examined was in normal position.

CASE II.—Mrs. G—, aged twenty-seven, married six years. Became pregnant one month after marriage, went to full term, and was delivered of a healthy child. After labor she had an attack of pelvic peritonitis, accompanied by fever, flooding, pelvic pain, and tympanites. Two years later she was again pregnant and aborted at the seventh month. One year later she became pregnant and again aborted at the seventh month.

On April 21, 1895, the patient was operated on. In addition to the same pelvic conditions as were found in the previous case, namely, adherent retroverted uterus and occlusion of both tubes, there was also found a large cyst of the left ovary, which was punctured, and the same method of treatment was adopted for the other conditions. The operation was followed by a complete relief of pelvic symptoms. The uterus remained in perfect position and pregnancy occurred about September 15, 1895, five months after the operation. During pregnancy there was absolutely no gastric disturbance nor any attempt at abortion: the woman, in fact, going somewhat beyond full term.

Labor pains began July 1, 1896, at 4 P.M. On examination, the cervix, which had been large and hypertrophied, was found somewhat softened; the internal os admitted one finger. Position of the vertex, R. O. A. The pains were of good force and regular, but dilatation of cervix was slow, on account of its hypertrophied condition. Duration of first stage, twelve hours.

After complete dilatation of the cervix was established, the membranes were ruptured artificially, and the second stage was completed in thirty minutes.

After waiting the customary fifteen minutes to allow the uterus to contract, the placenta was expelled by Credé's method. Duration of labor, twelve hours and forty-five minutes.

The puerperium was normal and uncomplicated. The uterus remained well contracted. The lochia ceased on the seventh day. Involution is progressing rapidly, but it is as yet too early to speak of the ultimate position of the uterus after involution is complete.

The special point of interest in the above cases was the entire absence of any attempt at abortion in uteri which had previously miscarried twice consecutively. Though there was a perineal laceration in each case, no plastic work had been done. In neither case did the scar in the cul-de-sac give rise to any trouble, the scar tissue having so completely disappeared as to be undetected.

435 PLEASANT AVENUE.

Thyroid in Lupus.—Malcolm Morris cites (*British Journal of Dermatology*) a case of lupus of long standing with extensive destruction of nose, cheeks, and neck. By the use of thyroid, one to five tabloids daily, the ulcers healed and the disease progressed satisfactorily.

TREATMENT OF LARYNGEAL CROUP.

By A. LLEWELLYN HALL, M.D.,

FAIR HAVEN, N. Y.

In my experience I have found no remedy so thoroughly effectual for the relief of simple laryngeal croup as quininæ sulphas. As a prophylactic for laryngeal spasm it has no therapeutic rival and in this respect it is a blessing to every croup-afflicted household. I have repeatedly tested the efficacy of the agent during the past fifteen years without noting a single failure. I am aware that such sweeping statements tend to incite disbelief rather than to inspire faith; but if the drug be given with due regard to appropriate dosage and timely administration the success attending its use will, I believe, amply demonstrate its value.

The following method of administration gives excellent results: For a child from two to five years of age the dose is from one-half to one grain given at intervals of two to four hours. Usually the first three or four doses should be administered at the shorter interval mentioned and then uninterruptedly continued at the longer interval for two or three days, or until the disease is at an end. Frequently the first two or three doses are rejected on account of the bitterness of the remedy, but tolerance is quickly established and a croupy child under gentle discipline readily learns to take quinine without special repugnance.

CHILDBIRTH WITH UNRUPTURED MEMBRANES.

By J. W. KALES, M.D.,

FRANKLINVILLE, N. Y.

If unruptured membranes at birth are of such rare occurrence as the medical journals say they are, perhaps the following is worthy of record.

Twelve years ago I was called to see Miss W—, a strong, robust girl aged about sixteen. She was in active labor and had been for some hours. Full nine months had elapsed since the date of conception.

Vaginal examination showed that the whole vagina was filled with protruding membranes, which appeared stronger and thicker than usual. As labor seemed to progress favorably and no indications for interference with nature's process were apparent, I concluded to await results. The natural labor pains continued about one-half hour, when the fœtus, completely enveloped in the unruptured membranes, was expelled. Absolutely no assistance had been rendered. The labor at full term was in all respects normal. I carefully examined the membranes while intact. They presented an ovoid about twelve inches long and eight inches in diameter. The child could be plainly seen through the translucent membranes. It was in a state of complete repose, chin flexed upon the chest, arms crossed upon the chest, legs flexed upon the thighs, and thighs flexed upon the abdomen. Not the slightest motion or sign of life was visible through the membranes in the dim lamplight. The child seemed to be of the same specific gravity as the amniotic fluid, for it floated in the centre of the fluid and was retained by the funis, which resembled a slack cable attached to a buoy. Several blood-vessels were seen ramifying over the membranes. The least touch caused the mass to fluctuate like a closed bladder nearly filled with water. Having completed the examination, I ruptured the membranes. As soon as the air struck the child it gasped once or twice and then screamed. Further examination revealed a healthy male child weighing about eight pounds. I have in my possession a specimen of a fœtus enveloped in its membranes which was expelled without external agency during the third month. These are not uncommon.

Therapeutic Hints.

Method of von Troeltsch.—Take a portion—say a tablespoonful—of the gargle in the mouth, hold it in the back of the throat with the head thrown back; then, closing the nose with the finger and thumb to prevent entrance of air, open the mouth and make the movements of swallowing without letting the liquid go down the throat.

Summer Diarrhœa of Children.—Astringents which were formerly so extensively used have very properly been relegated to the waste dump as useless. 1. Summer diarrhœa is caused largely by improper and unclean feeding, and is usually preventable. 2. Bacteria play a very important part in its development. 3. Hot weather has to do only in an indirect manner, as it promotes the growth and development of bacteria in the food supply. 4. Treatment consists, first, in eliminating all decomposing food from the bowels by cathartics, lavage, and colonic irrigation. 5. Drugs judiciously administered are of great value, but are secondary in importance to prevention and management.—DR. KARDIN (*Cincinnati Lancet-Clinic*).

Excoriations in Children.—Dr. Pritchard prescribes the following:

R Acid. salicyl.....	gr. viij.
Bismuth. subnit.....	ij.
Amyli.....	iss.
Ung. aq. rose.....	℥i.

Treatment of Phagedenic Soft Chancres.—Bathe the affected parts for ten minutes several times daily with water at a temperature of 105° F. The pus loses its virulence at that temperature. The phagedæna subsides and the general health improves.—*Therapeutic Gazette*, December, 1895.

Gall Stones.—

R Ol. terebinthinæ.....	℥v.
Syrupi acaciæ.....	℥ss.
Sodii sulpho-carbolat.....	gr. xx.
Spirit. ætheris comp.....	℥xv.
Aquæ menthæ piperitæ.....	q.s. ℥i.

M. S. To be taken twice or thrice daily.

Hot poultices should also be applied to the hepatic area.—*Therapeutic Gazette*, January 16, 1896.

New Treatment for Tapeworm.—Dr. Newington (*Medical Times and Hospital Gazette*, December 21, 1895) gave the following for another disorder and found that the patient passed a dead tapeworm eleven feet long, of whose presence he, as well as the physician, was ignorant:

R Potass. hydriodidat.....	gr. xxxvi.
Iodi.....	gr. xij.
Aquæ.....	℥i.

Ten drops in water three times daily.

The same combination was then tried in three cases in which the parasite was known to be present and in each case it acted equally well. In still another case, which had resisted all previous attempts, the patient passed a mass of dead tapeworm and for a year had no return.

Ergot.—Dr. Franklin H. Martin (*Journal of the American Medical Association*, March 21, 1896) says the physiological action of ergot is accounted for by its effect upon unstripped muscular fibre. It contracts blood-vessels and hence increases blood tension. It acts upon the uterus in four ways: 1. It decreases the bulk of the organ by producing a steady tonic contraction of all its muscular fibres. 2. It decreases the whole bulk of the organ by decreasing the amount of blood in its walls. 3. By decreasing the amount of

blood in the uterus it modifies materially its nutrition and decreases the amount of the menstrual flow of blood. 4. Given in large doses it produces tonic contractions of the muscular fibres, and by instituting clonic contraction of its fibres causes expulsion of bodies from its walls and cavity.

Iodoformed Vaseline in Bubo.—Rullier (*Arch. Med. Mil.*) writes that the idea of treating buboes in this manner was inspired by the recommendation of Laub to incise the swelling and inject nitrate of silver. He employs a ten-per-cent. solution of iodoform in vaseline melted by heat, which he injects after making a small opening and evacuating the pus. Failure happens only when the skin is lacking in sufficient vitality.

Thyroid Gland in Severe Syphilis.—The patient, twenty-five years of age, had lost the alæ nasi and the upper portion of one ear by ulceration, and the general condition was very bad. The beginning dose was two grams, increased to fourteen after a time, of the fresh gland chopped up and eaten with bread, butter, and salt. Every second day the treatment was interrupted for twenty-four hours. After five days there was marked improvement and a cure in five months.—GOULADSE (*Méd. Mod.*, October 5, 1895.)

Psoriasis.—Iodide of potassium in gradually increasing and large doses, or oleoresin copaiba, five minims three times a day.

Digitalis Poultices for suppression of urine.

Endocarditis.—As soon as the heart sounds in acute articular rheumatism begin to grow muffled or a bruit is detected, give, in addition to the salicylate, iodide of potassium, 0.60 centigrams three times daily. Also flying blisters over the apex and along the course of the fourth, fifth, and sixth intercostal nerves.—*Canton Clin. Med.*

Constipation.—Many affected with constipation do not drink enough water, whether hot or cold. There is not enough fluid in the body for the normal secretions and eliminative fluids, a condition which should be remedied.—CUTTER.

Polymyositis Acuta.—Dr. Herrick (*American Journal Med. Sciences*) concludes as follows: 1. There is a definite disease primarily affecting many muscles of the human body and described as polymyositis acuta, pseudo-trichinosis, or dermato-myositis. 2. Inflammatory swelling of muscles, exanthema, splenic tumor, extension to the muscles of deglutition and of respiration, death, characterize the most typical cases. 3. Atypical and milder cases indicate that either the disease may run a benign course or that in the absence of definite means of differential diagnosis forms etiologically differing are confused. 4. Trichinosis and polyneuritis must always be excluded. 5. Syphilis may attack many muscles and, resembling acute polymyositis, must be excluded. 6. The etiology is still unknown. 7. Three hypotheses can be advanced as to its cause: (a) That it is due to a specific micro-organism (vegetable parasite). (b) That it is due to a chemical poison (toxin). (c) That it is due to an animal parasite (gregarina). 8. In doubtful cases the excised piece of muscle should be examined not alone for trichinæ and bacteria, but, as well, by special methods for protozoa. 9. Failure to find trichinæ in all areas showing inflammatory reaction, or even in the majority of such areas, does not exclude trichinosis as the primary cause of the myositis. Only repeated failure to find trichinæ after thorough examination enables one positively to assert that the case is not one of trichinosis. (Compare examination of spu-

tum or tissue for tubercle bacilli.) 10. Syphilitic myositis occurs in three forms—the gummous, the diffuse, the combined. 11. The diffuse syphilitic myositis is usually a late manifestation of syphilis; appears without definite exciting cause; affects no particular muscle by preference; often involves more than one muscle; may resemble acute polymyositis.

Gastralgia.—

R Fl. ext. cocæ..... 3 i.
Syr. aurant. flor..... 3 v.
Aque..... 3 ij.
M. S. A teaspoonful every hour until relieved.

—*D'Ardemie's Dominion Monthly.*

Vaginitis.—

R Pulv. aluminis,
Zinci sulphatis,
Sodii biboratis,
Acidi carbolic..... āā 3 i.
Aq..... 3 vi.
M. S. A tablespoonful to a quart of lukewarm water as a vaginal injection twice daily.

—*Vanderbilt Clinic.*

Bronchitis.—

(Acute.)

R Syr. terebinthinæ,
Syr. tolu..... āā 100 (oz. 3 1/2)
Sodii benzoat.,
Aque lauro-cerasi..... āā S (dr. 2)
M. S. Tablespoonful every four hours.

(Chronic.)

R Ext. eucalypt..... 25 (dr. 6 1/4)
Ammon. muriat.,
Ext. glycyrrh..... āā 10 (dr. 2 1/2)
Syr. tolu..... 100 (oz. 3 1/2)
M. S. One teaspoonful every two hours.

Medical World, March, 1896.

Hyperidrosis.—

R Balsam peru..... 1 gm.
Formic acid..... 5 gms.
Chloral hydrate..... 5 gms.
Alcohol..... 100 gms.

—*L. HEUSNER (American Medico-Surgical Bulletin).*

Chronic Bronchitis with Asthmatical Condition.—

R Ammonium chloride..... 3 iij.
Fluid extract grindelia,
Fluid extract quebracho,
Fluid extract lobelia..... āā 3 ss.
Comp licorice mixture..... 3 iss.
M. S. The mixture is to be well shaken and a teaspoonful administered every three hours.

—*DR. ESHNER (Philadelphia Polyclinic).*

Hay Fever.—

R Zinci valerianat..... gr. i.
Pil. asafoetidæ co..... gr. ij.
Make pills No. 1. S. Two or three times a day.

—*MCKENZIE.*

Dysmenorrhœa.—

R Cupri arseniat..... gr. 1/5
Tinct. pulsatillæ..... ℥ xv.
Tinct. nucis vom..... ℥ viij.
Aq. dest..... 3 iiii.
M. S. One teaspoonful every hour, or half-hour, until the pain is relieved.

—*Lancet.*

Artificial Feeding of Infants.—

R Milk,
Cream..... āā 3 i.
Water,
Lime water..... āā 3 ij.
Malt sugar..... 3 ss.

—*HIRST.*

Syphilitic Affections of the Eye.—Galezowski considers all severe syphilitic affections of the eye as tertiary. Iodide of potassium is of little value; inunctions of mercury should be used.

Psoriasis.—

R Ichthyoli..... 3 i.
Acidi salicylici..... 3 i.
Zinci oxid..... 3 ij.
Amyli..... 3 iv.
Petrolati..... 3 i.
M. S. Apply locally twice a day.

—*SCHMITZ (Medico-Surg. Bulletin).*

Seasickness.—Dr. M. Charteris (*Practitioner*) thinks that as a rule passengers commence their voyages under conditions unfavorable to exemption from seasickness. They eat heartily, and when the steamer gets under way their stomachs rebel. The irritated gastric state is communicated to the vomiting-centre in the cerebellum, and when vomiting has ceased retching begins. In a long voyage the diet for the first two days should be spare and dry. A full meal should not be eaten. Soups and pastries should be avoided. The same injunction applies to short voyages. Diet, though a very important prophylactic, will not guarantee exemption from seasickness. The following means have been found successful: (1) A clearing out of the primæ viæ, not by saline, but by a liver-acting aperient, as calomel or blue pill, taken on the night before embarkation. It should be followed in the morning by a saline purgative, as citrate of magnesium. (2) When on board the steamer, if the passage be by night, a full dose of the solution of chloral-amide and bromide of potassium (chlorobrom) should be taken and the passenger should retire. If the passage be by day a minimum dose should be taken and the passenger should remain on deck. Only in rare instances is a second dose necessary.

Supraorbital neuralgia and asthenopia are frequently due to nasal irritation.

Chilblains.—In the intense form of chilblains without ulceration the parts should be enveloped in aseptic compresses wet with a decoction of walnut leaves, using from one and a half drachms to one-half an ounce of leaves to one quart of water. The whole should be covered with an impermeable dressing. After the irritation has somewhat subsided apply the ointment or powder:

R Boric acid..... gr. xv.
Tannic acid..... gr. v.
Vaseline..... 3 iiss.
M.
R Starch,
Lycopodium..... āā 3 iiss.
Tannic acid..... gr. v.

The decoction of walnut leaves may be applied morning and night and during the day the ointment or powder may be used, gloves being worn. When ulceration exists the wound should be washed with a solution of mercuric chloride, 1 to 1,000, and the compresses wet with a solution of 1 to 2,000. The ulcerated part may be touched with tincture of iodine or camphorated naphthol, and then covered with aseptic gauze impregnated with borated vaseline or glycerole of starch. If granulations have formed, the stick of silver nitrate may be applied. If these measures fail, ointment of zinc oxide may be used. Cod-liver oil or iron iodide may be administered if required. As a prophylactic those susceptible to chilblains should keep active when exposed to cold and should avoid long exposure and violent changes of temperature. A pill constituted as follows may be taken internally from two to four times daily:

R Quinine sulphate,
Ergot..... āā gr. 3/4
Powdered digitalis leaves..... gr. 1/2
Extract of belladonna..... gr. 1/8

—*La Presse Médicale*, 1895, No. 70.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE WELSH UNIVERSITY—PRINCE OF WALES INSTALLED AS CHANCELLOR—MIDDLESEX HOSPITAL CONVALESCENT HOME—THE "QUEEN'S NURSES" RECEPTION AT WINDSOR—LADY DUFFERIN'S MEDICAL FUND—PRIZES AT THE UNIVERSITY COLLEGE—CIVIL RIGHTS AND THE MEDICAL COUNCIL—THE BOWMAN LECTURE—PROFESSOR CURNOW—THE LATE DR. CHOLMELEY.

LONDON, July 3, 1896.

THIS day a week the Prince and Princess of Wales went to Aberystwyth, where they were received with the utmost enthusiasm by all classes of society. Mr. and Mrs. Gladstone also went and their reception was almost if not quite as enthusiastic. The event which drew them to the principality was the installation of the Prince as chancellor of the University of Wales, an institution which promises to be of great value to science as well as other academic faculties. The inauguration was celebrated with all the pomp and circumstance of the new seat of learning. As soon as the Prince was installed and received the degree of D.C.L., he proceeded to confer the honorary degrees, the first recipient being the Princess, who was duly made a doctor of music amidst what is described as the wildest enthusiasm. The next recipient was Mr. Gladstone, who was made LL.D., as also were Lords Spenser and Herschell, the chancellors of the universities of Victoria and London. After the ceremony a visit to the college was made and after that there was a luncheon. Three toasts only were given—the Queen, the Prince and Princess, and the university and its colleges. The chancellor was proposed by Mr. Gladstone in one of those felicitous speeches in which the aged statesman so much excels. And the reply of the Prince was equally happy in thanking the proposer for coming to Aberystwyth at his advanced age, and giving him the flattering opportunity of conferring an academic distinction upon one who had attained the highest position of a statesman as well as a great reputation in literature and scholarship.

On Wednesday their Royal Highnesses the Duke and Duchess of York opened a grand fête in aid of the new convalescent home which has been established in connection with the Middlesex Hospital at Clacton-on-Sea. The Middlesex is one of the oldest of the London hospitals, and, though now situated in a densely crowded part of the metropolis, was built in Marylebone Fields nearly one hundred and fifty years ago.

Yesterday was a grand day for the "Queen's nurses." About four hundred went to Windsor and were received at the castle by Her Majesty. The "Queen's nurses" have all been trained and are in connection with the Jubilee Institute which was founded by the Queen and endowed with some £70,000, the amount raised as the "women's offering" on the completion of the fiftieth year of Her Majesty's reign. Besides an array of royalties in attendance, the council of the institute was present, including Sir James Paget, who is a trustee of the fund. The nurses were drawn up in a square open on one side and received their sovereign with a low courtesy in unison. The Queen then addressed them, saying: "I am very much pleased to see my nurses here to-day and to hear of the good work that they are doing, and I am sure they will continue to do it." The nurses then sang a verse of the national anthem and filed before the royal carriage in pairs. Luncheon was provided

on arrival and tea later in the afternoon. The nurses visited St. George's Chapel and the State apartments, and returned to town to be further entertained in the evening by the Duke of Westminster.

Another event yesterday was the opening of a garden fête by the Marchioness of Dufferin on behalf of the fund associated with her name for supplying medical aid to the women of India. The treasurer said that during the ten years that have passed since Lady Dufferin began the work £400,000 has been given by native princes, seventy hospitals have been established, and three millions of women medically treated. In a grateful little speech Lady Dufferin said the fund dealt with a whole system of hospitals, dispensaries, medical education, and nurse training, and was destined to bring medical aid within the reach of all women in the Indian Empire. It has already enlisted the support of all the creeds and all the races in that vast empire.

Yet another function of yesterday may be named. Sir J. Erichsen distributed the prizes in the faculties of arts, science, and law at University College. Sir John urged the claims of culture and science on this somewhat "huckstering" age.

The Civil Rights Defence Committee is making a good fight respecting the case of Dr. Anderson. They appealed to the Medical Council to receive a deputation, but the executive committee did not offer facilities. The president, Sir R. Quain, has, therefore, been addressed by the chairman, Mr. Timothy Holmes, in a letter which sets out the case with great clearness and shows why the council should take some part in defending the rights of a registered practitioner. The Apothecaries' Society has also been approached, and it is hoped will assist in defending one of its licentiates and perhaps obtain the co-operation of other city guilds in the protection of chartered rights.

The Bowman lecture established by the Ophthalmological Society in memory of the late Sir William Bowman was this year delivered by Professor Snelling, of Utrecht. After an eloquent tribute to Bowman's memory and a reference to the demands made by the state on the ophthalmic surgeons of the present day, the learned professor described the results of some of his own investigations on vision and retinal perception. He pointed out that the act of vision is not confined to the perception of stationary retinal images, as the movements of the eye bring every part of the image over the centre of the fovea. He had investigated the dependence of acuteness of vision on the amount of illumination. When this reaches a certain degree of intensity the unprotected eye is not conscious of a further increase of luminosity. The acuteness of binocular vision is higher than monocular with every degree of illumination, but not to the extent some have stated, as equalling double the light. In the new hospital at Utrecht special arrangements have been made for lighting the operating-room. As visual power is heightened by adaptation of the eye for a weaker light than that on the observed object, the walls, ceiling, and floor have been painted black, light being admitted only through a window directly on the patient, so that the operator may employ the maximum of his vision. This plan excludes also troublesome reflexions from the cornea and the patient's gaze can be fixed in any direction by the flame of a candle, which can be well seen against the dark walls. The adaptation of the eye to light was the next point. The sensibility of the retina changes under the influences of light and darkness, the time required for this corresponding with that of the formation and disappearance of the visual purple. Observations with a small screen and electric spark showed that the moment the spark flashed out there appeared on the screen a bright light rapidly increasing in in-

tensity and then fading away in about the same time. While increasing the light had the same color as the screen, but while decreasing the opposite color. A third phase followed, of much longer duration, when the light was reddish-brown, and while this lasted there was anaesthesia for objective light, such as that given off by luminous paint. This third phase corresponds with the after-images which arise by long-continued looking at a bright object and its projection on a white surface. This succession of light and dark in after-images is also seen on looking at a feeble light in a darkened room when the light slowly fades and disappears, but with the slightest movement of the eye it reappears as the light then falls on a fresh part of the retina; but if all movement of the eye be avoided the light after disappearing returns slowly to its former brightness, then again fades, so that a continual slow succession of light and darkness can be observed. This is regarded as due to a reciprocal effect of adjoining parts of the retina on each other, through a modification of the visual substance which undergoes an alternate assimilation and dissimilation.

Several candidates have already declared themselves for the vacancies in the Medical Council. Dr. Glover will again come forward and will doubtless be re-elected, so that two new members have to be chosen.

Professor Curnow, on retiring from the office of dean of the Medical Faculty after thirteen years' service, has been presented by his old pupils with a handsome testimonial.

Dr. William Cholmeley died on the 18th ult., aged seventy-three. He was editor of the extinct *Medical Times and Gazette* from 1873 to 1883, but his chief work was at the Great Northern Central Hospital, of which he was one of the founders and one of its most ardent supporters for the last thirty-eight years, during which time he enjoyed the respect and esteem of all his colleagues. Last year the Ladies' Association of the hospital endowed a bed, "In loving appreciation of many years' devoted and unselfish labor rendered by Dr. Cholmeley to the sick and suffering, both as physician to the hospital, of which he was one of the founders, and as honorary treasurer to the Ladies' Association."

METHODS OF ESTIMATING THE HEIGHT FROM PARTS OF THE SKELETON—A CORRECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A paper with the above title which I had previously read before the Association of Anatomists was printed in the *MEDICAL RECORD* of September 8, 1894. In looking it over to-day for a special purpose I found a serious blunder that I feel it my duty to correct at once, though it is sufficiently evident to the careful reader. In treating of cases in which certain parts may be wanting, as for instance the pelvis, I gave a method of estimating the height of the promontory from the top of the great trochanter. I had previously stated that from my observations the height of the promontory above the symphysis is about 9.5 cm. in man and 10.5 cm. in woman. I then continued: "I find from measurements before dissection from one hundred and eighteen male and thirty-seven female white bodies, that in the males the trochanter is on the average 1.1 cm. higher than the symphysis, and 3 mm. in females. Having in view the greater height of the promontory above the symphysis in women, we may without serious error reckon that the promontory is 10.5 cm. above the trochanter in either sex." It is perfectly plain that if the symphysis and the promontory are nearer in man, and if also the trochanter is higher in relation to the pubes, the distance from the

trochanter to the promontory must be less in man than in woman, the difference being on the average nearly 2 cm.

It is needless probably to add that such methods are to be used with great discretion.

THOMAS DWIGHT, M.D.

HARVARD MEDICAL SCHOOL, July 10, 1896.

New Instruments.

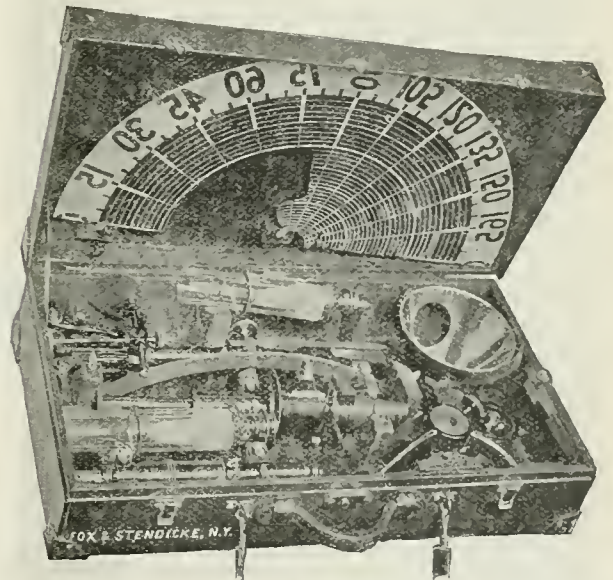
A FOLDING OPHTHALMOMETER.

BY J. EDWARD GILES, M.D.,

NEW YORK.

A DEFECT in the ophthalmometer of Javal is that in its present form it is not portable and therefore cannot easily be used away from the office. To remedy this defect certain modifications of the Javal instrument were designed by Dr. E. A. Chapman and myself, and the mechanical execution of the work was carried out by Messrs. Fox & Stendicke, of New York, some of whose ideas are also embodied.

The instrument when set up appears like the Javal instrument in all points, except that the disc is cut out below the telescope sufficiently to allow it to be raised and lifted off by loosening a screw. The disc is cut vertically and hinged so that it can be folded and placed in the cover of the case, as shown in the engraving. The arc with the wires is removed by loosening a thumbscrew; the telescope is removed from the standard by unscrewing, and the standard and



headrest are each removed from the base by thumbscrews. After being taken apart the whole, with the arc and burners and reflectors, packs in a case the size of a large dress-suit case.

This instrument is provided with a gas burner, with the idea that it may have to be used where electric lights are unavailable. The Welsbach burner may be used, as this gives a light almost as good as the electric light.

The instrument is somewhat heavy, but the weight could be reduced by dispensing with the heavy disc and substituting a black cloth upon a wire frame as a background for the mires, and using a wooden base in place of the heavy brass and iron base. This modification of the instrument will be appreciated by those who for any reason have to examine patients away from the office, even though the occasion for such use may not frequently occur.

105 EAST TWENTY-SECOND STREET.

NEW SNARES FOR POST-NASAL AND INTRA-NASAL SURGICAL OPERATIONS.

By J. E. SCHADLE, M.D.,

ST. PAUL, MINN.

FIG. 1 is a snare designed for post-nasal operations, and represents a modification of the Dr. Jonathan Wright snare. The ratchet mechanism is practically the same as in the Wright snare, but has much stronger

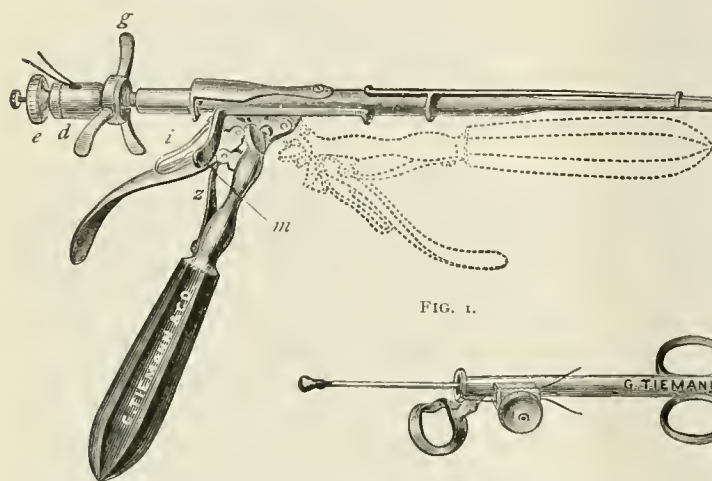


FIG. 1.

cappings (*i* and *z*) to work the ratchet. In fact, the whole instrument is much stronger and heavier, and for this reason is adapted to snaring fibroids of the naso-pharynx, for which purpose it has been devised.

Either No. 5 or No. 7 piano wire can be used with this instrument. The wire fastener (*d*) consists of a screw cap (*e*, the articulating surface of which is traversed by deep longitudinal grooves which fit into counter grooves in the end of the shaft when the cap is screwed down, the ends of the wire to be fastened passing between and at right angles to these grooves.

The instrument is also armed with a tempered steel lance (*j*) with a curved end. This runs through bands on top of the wire carrier, for the purpose of transfixing the growth if so desired, and is shot into place by means of a thumb lever (*m*), worked by the same hand that is holding the snare. It has also a windlass arrangement (*g*) just in front of the wire fastener, which is adapted to help out the ratchet and facilitate either a fast or a slow snaring. After repeated trials and alterations the post-nasal curve, as seen in the figure, was perfected.

This modification is also particularly adapted to the removal of adenoid vegetations. There can be but little doubt, in spite of what has been written, that the snare is much more satisfactory in these cases than the curette or post-nasal cutting forceps, when the lymphoid mass is of any size.

Fig. 2 represents a snare constructed for intranasal work. The wire carrier is made a double cannula that will carry the transfixing dart or wire in either chamber, so that a right- or left-handed snaring can be done with the same instrument. The wire carrier is of a size that can be passed with ease, being but little larger in calibre than an ordinary Eustachian catheter. The wire fastener works on the same principle as the one described above, only it is at the side rather than the end of the tube. By means of the movable cannula at the proximal end to which the wire is fastened, and of the windlass, this snare adapts itself to slow or rapid snaring.

Through the courtesy and skilful workmanship of George Tiemann & Co., New York City, it was made possible to bring the construction of these instruments to the present degree of perfection.

A NEW STONE SEARCHER.

By LUCIEN LOFTON, M.D.

ATLANTA, GA.

In presenting to the medical profession an instrument which I consider to fill a long-felt want in genito-urinary work, I would most respectfully ask a careful trial in order to determine its practicability, its simplicity, and its usefulness. As shown by the cut, which has been kindly furnished by Messrs. Tiemann & Co., of New York, the searcher can readily be attached to any of the newer forms of stethoscopes. The searcher consists of a hollow sound, having two eyes or openings in the curve and an outlet with plug near the handle, a hollow corrugated metal handle terminating in a solid screw receiving the hard-rubber metal-lined connecting piece, to the two



FIG. 2.

branches of which the soft-rubber tubes of the stethoscope are attached.

Foreign bodies introduced into the bladder are liable to take on dead epithelium, mucus, and other debris, and in consequence thereby become enveloped in a coat of material which is next to impossible to recognize from the mucosa by the old method of sounding. This searcher is simple in its construction and is sensitive to any impression made upon it, be it in direct contact with or sliding over a foreign body. The slightest metallic vibration, whether shielded or not, will be transmitted with unwavering evidence through the instrument. The searcher will not transmit the blow made by striking the lining membrane of the bladder during manipulation.

Should a foreign body be encountered in any portion of the urethral tract, the motion made in sliding the sound back and forth will give a distinct metallic, scraping noise. It is therefore advised that the searcher should be adjusted to the ears prior to passing it into the urethra. It matters not how small stones may be, or whether they lie in the urethral



Lofton's New Stone Searcher.

tract or in the bladder, contact with this searcher will reveal at once their presence.

Strictures of a sufficient calibre to allow the sound to pass will give a soft grating noise. It is a peculiar vibration and will not be mistaken for the noise caused by contact with any true foreign substance.

Two sizes of the searcher are made—one for adults, and one for infants and children, the same ear attachment, however, answering for both.

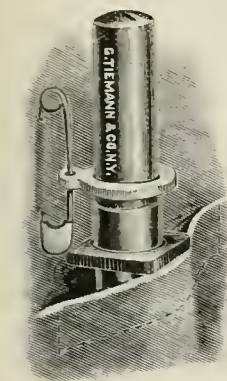
Upon the same principle, with œsophageal bougies penetrated by a steel wire with a metallic bulb at the distal end and the ear attachment at the other fastened with a screw head, the stomach may be searched for foreign bodies. The bullet probe may be utilized in a similar manner, the distinction being, as a rule, easily made between bone and bullet.

SAFETY ATTACHMENT FOR THERMOMETERS.

BY ORRIN C. ANDRE,

WAVERLY, O.

THERE is perhaps nothing more calculated to cause the average physician to utter exclamations that would be hardly proper under certain surroundings than to have his clinical thermometer drop from his pocket with the usual result. To obviate this difficulty I would call your attention to a little device which has proven both convenient and efficient. As shown in the accompanying cut, it consists of a piece of soft rubber of good quality, with an opening of the proper size to admit the usual hard-rubber thermometer case; attached to one side is a small eyelet, by which it may be either sewed or fastened with a small safety pin, just at the upper and inner corner of the vest pocket.



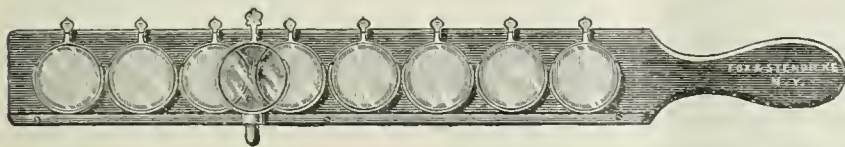
After placing the thermometer in the pocket it requires but a second to pull the loop over the top, where it is secure until again needed. These "thermometer safety attachments" are made by Messrs. George Tiemann & Co., New York.

'SKIASCOPIC RACK.

BY FRANK D. SKEEL, M.D.,

NEW YORK.

THE rack here shown was designed to take the place of a more expensive apparatus. It is so constructed that any lenses from the trial case may be inserted in the clips, and a sliding clip is provided to carry an additional lens for combinations. In use it is held



by the patient in front of the eye, the examiner directing the patient to move it upward or downward as the case may require. In this manner a very rapid retinoscopic examination can be made.

This instrument was made for me by Messrs. Fox & Stendicke, New York City.

14 EAST TWENTY-THIRD STREET.

Abscess of the Breast.—It is now known that abscess of the breast is the result of an infection, generally through a fissure or abrasion of the nipple or areola. The staphylococcus, especially the staphylococcus aureus, is the most common agent. The vascularity of the breast during lactation and the presence of an animal fluid afford favorable conditions, and any breach of the surface about the nipples gives the microbe ready access. The infection is through the lymphatic channels. Dr. Shields (*Lancet*) alludes to the possibility of organisms entering along the milk ducts themselves. Organisms may enter the sebaceous glands of the skin and produce boils or pustules, and as the breast is only a highly developed sebaceous gland there is no reason why infection might not occur through the nipple and milk ducts. — *Boston Medical and Surgical Journal*, June 11, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 18, 1896:

	Cases.	Deaths.
Tuberculosis.....	176	106
Typhoid fever.....	20	4
Scarlet fever.....	38	6
Cerebro-spinal meningitis.....	3	4
Measles.....	145	19
Diphtheria.....	214	23
Small-pox.....	0	0

The Physiology and Function of Hair.—At a late meeting of the Medical Society of Vienna, writes the correspondent of the *Medical Press*, Professor Exner gave a lengthy review of the different opinions entertained by historic authors on the growth of hair. Many volumes had, he said, been written on this momentous subject, yet the function of this integumentary structure is not to be found in one single text-book. Schein, of this city, has advanced the idea of hair being the outcome of stunted growth of the tissues and that where activity abounds hair always disappears on the surface. Within the last twenty years the subject has been much discussed in connection with the presumed transformation of man from monkey. Climate and sunshine have been deduced by Darwin. Even taste by selection has not been without its devotees in ascribing the cause of depilation to the human race, while Maurer has more recently assigned hair to be the outcome of more sentient structures, as testified to in fish and reptiles, in which hairs connected with sensitive papillæ of nerve structure are found. In animals higher in the scale we find the rudiments of these appendages, which have become obsolete through disuse. The hair appears yet on the head of the human fœtus, which would show that the time was too

short for denuding the body, or that it yet serves some useful end. Exner is in favor of a sensory function, which Mises has undertaken to demonstrate histologically by the nerve apparatus of the cilia, which

sensory connection Jaubert, of Paris, has confirmed as a protection for the eye. The hair of the eyebrows, as well as the fine hair over the whole body, acts in a similar manner. The hair of the armpits and genitals is evidently to prevent chafing as described by the Grecian writers. The thick coat on animals of hair or wool has an electrical property beside the covering it provides for inclement weather, the hair being positive, while the fine wool is negative. Both are bad conductors of heat, and thus moderate the heat of the body by retaining the physiological product of combustion, at the same time moderating the transmission of cold or hot rays from the existing climate. The ornamental function of Darwin was no unimportant feature, as the beard of man and the long hair of woman have still an adorning influence.

Sexual Hygiene.—From an article on this subject by Dr. Thompson, published in the *Medical Century*, June 1, 1896, we take the following: "The tendency of our time, particularly the prevalent contempt for religion, makes chastity more difficult for every one, and the invert suffers far more from this than others. Instead of debasing the honorable invert by making him run after prostitutes and subsequently become the unfortunate husband of a less fortunate wife, and the

father of children who suffer as much as he or more, the attempt should be made to occupy and interest him, to show him the horizons he can attain by dint of will. If chastity were a virtue in better favor, I should recommend it to physicians as a more effective remedy than to send the invert to 'puella' to prepare him for marriage and paternity. It would be better not to increase the number of husbands and fathers who are inverts or pervers. As for the invert who wishes to marry in order to have children his desire is almost criminal. If he marries for social convenience, to reinstate himself or to please his family, he should marry a woman older than himself, a woman of the world, who understands everything and accepts the situation. Those familiar with the confessions of inverts, and a marvellous lot are correlated in the works of Krafft-Ebing, will see that in the same ratio as their sexual feelings are distorted so is their conception of themselves, their surroundings, and everything else in the world. The superior invert has no right to think he is born out of his epoch or his country. Even the orient to-day (where pederasty is practised without difficulty) would not offer him the intellectual pleasures to which he is accustomed, music, the theatre, etc. He would see with a smile that most of the new Greeks would have been considered too sickly or too generally malformed to be reared by the Spartans. He will see with more or less courage that the satisfaction of the sexual appetite is not, and cannot be, the *sine qua non* of existence to a modern man. Too long has the general practitioner given this subject over into the hands of a few specialists who see almost entirely the extreme cases, so that there is a great dearth of literature relative to its development and prophylaxis. To quote Nordau, specialists have failed to understand their duty. It is time for them to come to the front; it is no doubt meritorious to indurate sections of the spinal cord in chronic acid, and tint them in neutrophylic solution, but this should not exhaust them. Neither is it sufficient that they should give a few lectures to jurists, and publish observations in technical journals. Let them speak to the masses of cultured persons who are neither physicians nor learned in law. Let them enlighten them in general publications and accessible conferences, concerning the leading facts in mental therapeutics. If civic authorities deem it necessary to consult us with reference to bodily hygiene and sanitation, should we not have some jurisdiction over that more important and far-reaching field, the sanitation of the mind? Then the baleful influences of the Ibsens, Zolas, and Rousseaus might be curtailed. 'Then 'Heavenly Twins,' 'Jude the Obscure,' 'Trilby,' and the 'Woman Who Did' will cease to be the centre of a gushing, hysterical, psychoneuropathic circle and its followers, the faddists who follow because they have not the ability for independent thought."

Light Cures.—Some one in one of the lower provinces of Austria has evolved the idea that light is the great health-giving and life-preserving agent, and that all that is necessary to cure most diseases is to expose the body to its action. He has accordingly founded an establishment where this remedy can be applied without contravening the rules of society. The institute is open during the summer months. There are two large enclosures, divided by a high wall, so as to separate the sexes. The method involves the exposure of the absolutely naked body to sunlight and air, irrespective of atmospheric vicissitudes. The patients are enjoined to pass the greater part of the day in a state of nudity, and little by little they are expected to develop such a measure of resistance as will enable them to withstand all changes of temperature and humidity. When the sun is high the patients lie

around on the dry turf or on planks exposed to the full force of the summer sun for periods varying from fifteen minutes to an hour. One effect of the exposure is to provoke profuse perspiration, but in newcomers more or less superficial inflammation of the skin not infrequently follows. It is not only the sunlight that is employed, for the treatment involves exposure to rain and wind as well.

Observations on the Exhalation of Carbonic Acid.—

Prof. Ugolino Mosso, of Turin, has tested the breathing of soldiers during an expedition up Monte Rosa, and found that the quantity of carbonic acid exhaled by a man at a height of twenty thousand feet or so differs very slightly from what it is at the sea level or near it. The professor has also subjected himself to a rarefied atmosphere in the Physiological Institution at Turin, and found that when the pressure in the air was still thirty-four centimetres (about seven inches) of mercury, he felt no inconvenience, but when it was reduced to thirty centimetres (about six inches) he felt a great want of breath, and became unfit to make observations.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

ELEMENTARY ANATOMY AND SURGERY FOR NURSES. By W. McAdam Eccles. 12mo, 158 pages. Illustrated. The Scientific Press, London, England. Price, 2s. 6d.

HEMORRHOIDS AND OTHER NON-MALIGNANT RECTAL DISEASES. By W. P. Agnew, M.D. Third edition. 8vo, 214 pages. Illustrated. Pacific Press Publishing Company, San Francisco, Cal.

QUAIN'S ELEMENTS OF ANATOMY. Appendix. 8vo, 76 pages. Illustrated. Longmans, Green & Co., New York. Price, \$2.00.

HOW TO FEED CHILDREN: A MANUAL FOR MOTHERS, NURSES, AND PHYSICIANS. By Louise E. Hogan. 12mo, 236 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

A MANUAL OF ANATOMY. By Irving S. Haynes, M.D. 8vo, 680 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, \$2.50.

PHYSICS FOR STUDENTS OF MEDICINE. By Alfred Daniell. 12mo, 469 pages. Illustrated. Macmillan & Co., New York. Price, \$1.25.

THE THREE ETHICAL CODES. 12mo, 54 pages. The Illustrated Medical Journal Company, Detroit, Mich. Price, 50 cents.

THE NATIONAL FORMULARY OF UNOFFICIAL PREPARATIONS. Revised Edition. 8vo, 195 pages. American Pharmaceutical Association.

TRANSACTIONS OF THE CHICAGO PATHOLOGICAL SOCIETY. From October, 1894, to November, 1895. Vol. I. 12mo, 280 pages.

THE FUNDUS OCULI, WITH AN OPHTHALMOSCOPIC ATLAS. 4to, 228 pages. Illustrated. Macmillan & Co., New York.

A TEXT-BOOK OF BACTERIOLOGY. By George M. Sternberg, M.D. 8vo, 693 pages. Illustrated. Wm. Wood & Co., New York. Price, muslin, \$5.50; leather, \$6.50.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM. By William Allingham and Herbert W. Allingham. Sixth edition. 8vo, 485 pages. Illustrated. Wm. Wood & Co. Price, \$4.00.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. VIII. Eighth session, 1875. 8vo, 303 pages.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION. Fifty-first annual meeting. 1895. 8vo, 258 pages.

BLIND LEADERS OF THE BLIND. The Romance of a Blind Lawyer. By Dr. James R. Cocke. 487 pages. Lee & Shepard, Boston, Mass.

THE STUDENT'S MEDICAL DICTIONARY. By George M. Gould, M.D. Tenth edition. 8vo, 701 pages. P. Blakiston, Son & Co., Philadelphia, Pa. Price, \$3.25.

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Original Articles.

USES OF THE STOMACH.¹

By GEORGE D. BLEYTHING, M.D.,

NEW YORK.

THE influence of the stomach upon the history of the world is incalculable. What military heroes and explorers have accomplished must have been left undone if their fiery zeal and deeds of high emprise had been quenched by dyspepsia.

Perhaps one person out of each five thousand human beings has an intelligent idea of the fact of a stomach and also puts it to its proper use.

Healthy mind in a healthy body must mean primarily a stomach performing its functions of transformation and supply to the body—of sustenance—and this excludes gastrectasis, auto-intoxication, changed mucosa, diminished secretion of gastric juice, atrophied or hypertrophied muscular coat—all of which are inimical to sustentation of body.

Unintelligent parents of high and low degree, sometimes of their own and sometimes by their medical man's culpability, take the option of destroying the health and comfort and maiming the powers of the future man or woman; while in other cases the man and woman with a stomach well used in early life take the onus of destruction upon themselves.

The mother who will not suckle her infant has the first opportunity of deciding if that individual stomach shall be put to its normal use or if it shall be condemned to a series of experiments with concoctions. The experimental uses are various, as our profession has a habit of insistence upon its successive schemes, each being as it is reached the ultimate, and no favor is shown to the unfortunate who has not the last fashion.

The seriousness with which we all take up contradictions and agree to them suggests the successive mimicries of children—as if we had said "Let's play school," or, "Let's play bears," and at once we are hypnotized into the belief in our transformations.

The fashion rages for milk uncooked, milk cooked, milk sterilized, milk pasteurized, milk modified, and we don't laugh while we play the games, nor yet when all are set aside for the manufacturing chemists' products, which it were a weariness to the flesh to enumerate.

Still through it all go on the unwearied laborers who with patience have brought us to many verities, which will be passed only as stepping stones in our advance.

In 1875 Ewald's flexible tube, in 1883 (I think) Oser's lavage and experimental meal were definite and good—and, while permitting new discussions of the diagnostic value of lactic and hydrochloric acids, furnished improved implements for exploration. In the use of the stomach we may consider what may be done in our present state of knowledge to save the gastric sinner from judgment to come. No doubt many a life is signed away, as already intimated, by the misuse of

the stomach in infancy. The child that should be suckled is given as a substitute for the natural fountain a bottle with a rubber nipple, and as much of assorted bacteria as environment furnishes, together with such chemicals as he can get by suction from the nipple and more or less of a supply of the products of milk degeneration not washed from the rubber nipple and bottle after use. Then of the nutritive fluid itself: we know that while many children exist through their probation and seem indeed to thrive, many succumb or are insured an after-life of indigestion, malnutrition, and, as sequelæ, anæmia, neuræmia, neurasthenia, arthritis, or tuberculosis.

The viscus under discussion when in possession of childhood advanced beyond dentition has, in addition to mistakes of treatment by parents and nurses, the abuse that its own carnal desires can confer. Among children of the so-called working classes with few exceptions the choice is rarely of any diet but that which the children elect. The mentor has no judgment to exercise. In a large number of families who would resent being classed with persons lacking judgment, and who are of the plutocratic if not the aristocratic circle, no more competent authority than a child's appetite is recognized in choice of food.

Many a deserving doctor's revenue would be curtailed by a reform. I recollect the late Dr. Agnew asking me to sit down at his side at his Manhattan Infirmary eye class years ago, and listen to the answers given by the mothers of the children with different forms of eye disorder—ulcers of the cornea, tarsal and kindred disturbances of nutrition—when interrogated as to "what do you feed the child?" The answer was invariably: "Oh, whatever is on the table." We all have had the range of disorders of malnutrition to treat of which perverted abuse of the stomach was the ultimate cause. I remember an only son of a rich family who had a most obstinate eczema, which I found to yield readily to treatment when the nine-year-old patient gave up coffee and his claret for dinner. When a certain class of parents aims to be logical in a child's feeding, they reason that the food fit for a laboring man or the sumptuous fare of a gourmand is what the child needs to give him the muscle of the one or the fat of the other.

When the child reaches the stage of bolting meals, green apples, etc., he usually takes so much exercise and gets such an amount of fresh air, that his condition is ameliorated up to the time when cigarettes and cocktails come into the field.

In these days a boy of sixteen not fully conscious of his ability to direct his affairs better than his parents could advise him to do is a milksop and out of the count, and so there is taken up the abuse of the stomach, as a settled plan of action. A hastily bolted breakfast with coffee, a cigarette or two on the way to school, pie or sandwich and beer for midday meal, and anything bad that the fertile ingenuity of a French, Irish, or African cook can produce for a seven o'clock dinner, are the rule with the boy and very likely the girl varies her menu only by taking her cigarette in her bedroom.

We must agree that adults do not apply their matured wisdom to produce for themselves a better use of stom-

¹ Read before the Lenox Medical Society.

ach. If any meal is fit for physiological uses in our day, it is breakfast, at which we are more or less penitential and prepared by last night's dinner for a simple meal.

Fruits, a cereal, an egg or fish, and bread constitute perhaps a typical American breakfast and should be digested and discharged from the stomach in two and a half hours, and a man or woman not exhausted by a dinner that was almost a debauch eats it; but how many patients say to us: "I never take anything at breakfast but a cup of coffee"? Especially is this true of women and young girls. I always order for such, corset loosened and forced feeding—an egg beaten in a glass of milk for breakfast until the victim will take a chop in place of it.

The only purpose in reviewing all this is to present as strongly as possible that as a rule we are engaged one and all in ignoring the physiological uses of the stomach and making it a receptacle for whatever tickles the palate on the way. Hot, cold, sweet, acid, peppery, oily, in varied succession shock the poor organ into a state which the newly discovered Roentgen rays may some time picture for us. Think of a man in training for a contest in which physical well-being is important, eating almost any of those pathological preparations which a proper dinner menu holds forth. Think of pickles, salads, sauces, pasties and pastries, *pâté de foie gras* and ices, with a lot of wines and liquor poured over, in a viscus lined with most delicate secreting membrane and the illogical expectation of health, strength, and long life ensuing. The athlete in training who indulged in our usual diet would be mobbed by the men who had backed him for a match of strength and endurance.

We have to do professionally with the state of stomach that this misuse brings about, but of course we have likewise to do with its prevention. Prophylactics is equally with therapeutics our province.

In the normal use of the stomach we have to observe albumin and starch from ingestion to dismissal thus: Mastication breaks up the albuminous body for the action of digestive ferment, pepsin. The more important varieties are egg, plant albumin, fibrin, casein, and these become propeptone and peptone. Intermediate are the albumoses, of which syntonin is conspicuous as the product of neutralization.

If gastric juice containing pepsin and hydrochloric acid be allowed to act on albumin these modifications of albumin result—the more or less perfect result indicating the intensity of the digestive processes. When removed and tested by heat the stomach contents coagulate if albumin or syntonin be present, or both. If not shown to be present by coagulation, we may find peptone.

Boas says propeptone is absent in the digestion of meat, and we do not know if it be a necessary preliminary to peptone, only it is a very frequent transformation product in digestion of albumin by pepsin and hydrochloric acid.

The amount present in the digestion of a mixed diet bears a relation to the energy of digestion. The striking feature of the pepsin and acid digestion of solid albumin is the rapidity of liquefaction.

Starch digestion is accomplished rapidly in the mouth largely by the salivary ferment ptyalin, and is then continued in the stomach. This is checked in acid fluids of course, the starch going through intermediate forms, dextrose and maltose, but is continued in the intestines.

Some portion of these prepared substances are absorbed by the stomach. That the organ has absorptive powers Ewald shows by iodide-of-potassium test, iodine showing in the saliva in ten or fifteen minutes if the digestion and absorption are normal. Still the function of the stomach is not absorption, this being inci-

dental, and upon the muscular power of the stomach to discharge its contents depends the continuance of healthful digestion and of a normal stomach. Accumulation of food promotes fermentation, putrefaction, and distention of the stomach. In turn a distended stomach becomes a hypertrophied stomach, or its walls lose motility and the contents still further accumulate and breed ptomains.

Bouchard names among poisons generated by decomposition of food butyric, acetic, and lactic acids, leucin, tyrosin, phenol, indol, skatol, etc., and Emile Boix has written a work on the acid poisons in liver dyspepsia. These poisons are not to be confounded with the ptomains and bacteria necessary to digestion. Pasteur advanced the hypothesis that vitality depends upon bacteria for its continuance, but did not refer to the organic acids of fermentation.

Boix places the liver in charge of these poisonous substances and considers the action of the liver cells in their destruction as parallel to the action of white blood corpuscles as phagocytes.

Hepatic congestion is caused by too large an influx of the products of indigestion, alcohol being also named among these chief—and Bouchard associates tumefaction of the liver with gastrectasis or dilated stomach.

Now it is stated by Bouchard and others that a marked cause of hypertrophy and hardness of the liver is the presence of these acids of fermentation. Likewise Bouchard and Boix give arthritism as a hereditary precursor of sclerogenous liver. Of five of his reported cases four had a history of arthritic heredity.

Hares fed with bran saturated with food-fermentation acids developed hepatic cirrhosis. A hare fed for two months with butyric acid died emaciated, and post-mortem examination shewed cirrhosis. Acetic acid gave still more marked results.

Likewise Boix's experiments with cultures of colon bacillus and toxins resulted in sclerosis of portal spaces.

Dr. Alexander Haig has made the most exhaustive study of the excretion of uric acid and of its relation to urea, and whether it establishes his theory of rheumatism and its uric-acid origin or not, the great number of facts with their logical presentation is a work to distinguish a scientist even in these days of brilliant developments.

The gentlemen of the Lenox may have espoused Dr. Haig's uric-acid theory or the at present highly popular bacterial theory. I desire to be in harmony with all parties, and believe the acid may in some way be proven a ptomain or result of bacterial toxin. We have Fraenkel as authority that some of the substances recognized as bacterial products are chemical bodies well known and exactly defined as to composition. I confess to having no logic to present with my hypothesis, but let it stand under that name. Haig proves that uric acid bears always a definite relation to urea, 1-35, and when in excess of this proportion arterial tension is increased and the discharge of urine diminished. In his experience sodium salicylate assists in reducing that excess, and this accounts for its efficacy in treatment of rheumatism. This has its bearing upon stomach digestion, as acid urine bears a relation to stomach disturbances and there is a connection between the acid of the gastric juice and that of the urine. The proportion should be lower after taking food. Lavage or whatever reduces acid of stomach reduces acid of urine. Ingestion of milk raises acid of urine, by reason of lactic acid.

Haig has studied the variations of pulse tension under different drugs, at different hours and different pathological conditions, with sphygmograph and stethoscope, has recorded the curves of uric-acid excretion

under administration of salicylates and other drugs and has run a parallel between the excretion of uric acid and the exacerbations or remissions of rheumatism; indeed his work in this direction has been so thorough that nothing but admiration and gratitude can be felt for his reports. He says: "If uric acid really influences the circulation to the extent which I have been led to believe it does, it follows that uric acid really dominates the function of nutrition and structure of the human body to an extent which has not been dreamed of in our philosophy, and may direct the development and life history of every tissue." This sounds very extravagant, and will much more than cover the claim of Bouchard and Boix of an arthritic diathesis, associated with a cirrhotic liver and a stomach with impaired muscular motility, as a chain of consecutive links.

Alcohol produces, according to the demonstrations of Frerichs and others, the effect upon the liver that the fermentation acids do. Haig declares the ingestion of meat to more than predispose by its digestive products to a uric-acid diathesis and recommends for safety a vegetable diet to all.

In my own practice it is my habit with dyspeptics and also with victims of more serious stomach disorders and habitually constipated subjects, to insist upon the taking of two quarts of water free from putrefactive matters daily, whether hot or cold depends upon circumstances.

I have felt satisfied with the result of this regimen in migraine of long standing and I rely upon pure water as the chief remedy for dysentery. It seems to me logical that a people who employ their stomachs as catch-alls of substances capable of putrefaction, till the stomach is distended, in a state of atony, and almost never empty because of loss of motility, must need a flushing of the stomach and intestinal track and a removal from the bowels as well of the breeding-matter of bacilli and toxins, and this can be more certainly effected in a semi-liquid state. Likewise, if the cause of migraine, epilepsy, and arthritis is, as Haig believes, uric acid, or if other products of fermentation, lactic and acetic acid, cause irritation of the stomach and liver, and a cirrhosis as readily as does alcohol, it is better that the acids be well diluted with water, as in this condition they are better fitted for excretion.

The examination of the abdomen by percussion gives no outlines of the normal stomach, as all is covered by the border of the ribs. Distended with water or gas, the splash and clapote are inferior to percussion in locating the organ, but tell if the viscus is empty.

The value of the experiments is in measuring the motility of the organ, which is usually diminished in ratio to its dilatation.

This function of motility is to the last degree essential to comfort and benefit to indigestion. The work done in the stomach not being final, when this stage is accomplished the power of propulsion should be equal to sending the chyme through the pylorus to complete metabolism and to give the stomach rest.

Dr. Van Pelt, of Boston, has reported some cases followed out upon the line of Haig, making the same analysis tests for urea, uric acid, and acidity, together with observation of arterial tension.

As not all of these cases were frankly rheumatism, it is to be supposed that Dr. Van Pelt agreed with Haig upon the universality of effect of uric acid and its consequent arterial disturbance, and followed the cases with treatment to establish alkalinity of the blood and thereby the solution and excretion of uric acid.

The first reported case was of curious attacks in the early part of the day, which began by a sense of pressure at the top of the head, drowsiness, and a semi-conscious

state lasting three or four hours. Upon recovery the eyelids were swollen, the face was ashen. Since the attacks memory had failed, there was mental and physical depression, nervousness, and insomnia. She was troubled with acne. She had had malaria as a child, but examination for plasmodium had no result. Examination of urine showed:

Amount in cubic centimetres.....	1,000
Specific gravity.....	1.015
Acidity, in grains of hydrochloric acid.....	1.70
Urea, in grains.....	10
Uric acid, in grains.....	.90
Relation between two latter, 1-21.	

Sodium salicylate, twenty grains every four hours, resulted in magical relief.

She had before slept only with large doses of trional. After twenty-four hours' treatment she slept without a hypnotic and the urinalysis showed in that time a drop in the relation of uric acid and urea to 1-16.

Although pinning my faith to the uric-acid theory, I have but two cases to report in which I can vindicate my belief.

The first is a case of neurasthenia which I have had for twelve years under surveillance. When I first saw the lady she came as a patient and her history was of neurotic inheritance. Her grandfather was a distinguished architect, her father a literary man of overstrung, emotional nature.

The daughter was of slender physique, poetical temperament, and a writer by vocation. At this time she was quite broken down with overwork. She suffered always with headache and at irregular intervals with exacerbations of blinding intensity, for a day with sick stomach and then with a day of prostration. I made an effort at the outset to put the patient in a better state of stomach, but she was so sensitive to criticism that a prohibitory diet resulted in her eating nothing. In those days I was alarmed by this and let her eat what she would, and though the quantity eaten was not large, with restrictions removed it was of most substantial diet, including meat three times a day. I next had the eyes examined by an oculist, who found astigmatism and that the focus of two eyes differed in distance. This was remedied by glasses and some improvement of headache ensued, but I was compelled to change habits, occupation, prescribe travel, etc., and also ran the round of the whole pharmacopœia, trying finally, with other things, Taylor's passive-movement cure.

In the course of six years of attendance I had sympathy and patience sorely tried. I had decided that independently of the eye strain her general malaise of neurasthenia often was called headache and that the paroxysms of intense pain had ceased.

Overfatigue, however, brought on severe nervous disturbance, sometimes upsetting the stomach. This made it impossible for me to induce the patient to try exercise, except in a martyr spirit of obediently walking to the stake, which insured a failure. Massage she refused because it was repugnant, and the first escape from this difficulty was by Taylor's mechanical movement, to which she always went with streaming eyes. In spite of this repugnance, however, the patient could sleep without hypnotics for the first time with this treatment, and, having paved the way and gradually led up during years of attendance, I arrived at the subject of meat eating without causing shock and accomplished a diminution to one meat meal daily. I found by being called when later the crisis of headaches and malaise recurred that, though she was a person of the daintiest tastes and personal habits, there was at this time an explosion, so to speak, of bad-smelling sweat, with nervous hypersensitiveness, headache, and often vomiting. Of course in

ten years' attendance I had informed myself upon the state of the kidneys and had found no organic disorder. The urine was at some times loaded with urates, sometimes with phosphates, but never showed albumin and casts.

I came two years ago to the conclusion that some gradual accumulation blew off at these crises and that uric acid might be the offense. Various alkalies failed of anything but upsetting the stomach, when I stumbled upon salicylate of sodium, with the idea of there being a rheumatic element in the headache. To my amazement, after two days the symptoms were alleviated in every regard, so that the patient spoke of feeling so light without the headache. General improvement continued and the patient, while not of course robust, can now do all that a woman of her physique usually can, and we are discussing the propriety of her appearance on a wheel.

I regret that my case makes so bad a showing beside the others noticed in which scientific data are given. I reached my conclusion in a stumbling manner, and my cure was empirical; but I am in possession of the knowledge that it brought me and it verifies to me more concrete work and theories and gives encouragement for the future. Only a doctor with a neurotic patient who sticks to him for twelve years knows what the mental state is that follows such denouement.

I have had cases of migraine which have not been so complicated but have been troublesome, and they have been improved or else the patients have got tired of me and have gone to some one else, or settled down to endurance. I have one patient, a business man of thirty-five, who, though a stoutly-built muscular man, has from childhood suffered periodical attacks of migraine. I gave him two years ago the benefit of my aqueous-solution treatment and reduced his meat eating.

He has since had the attacks at longer intervals and in a modified form. I did not see him for a number of months, until about three months ago, when he returned from abroad. I found he so far believed in the relief of the water drinking that he usually kept up to near his two quarts, and I then ordered ten grains of salicylate of sodium. Curiously, it gave him a headache. Following Haig's advice for rheumatism, I gave him iodide of potassium for a week and then returned to a double dose of the salicylate of sodium (gr. xx., t. i. d.), and so far he has had no migraine.

We come back to the stomach as the source of difficulty: its misuse and its retaliation. Indeed, no old case of dilatation, atony, and retention of putrefactive substances for hours in an almost never empty stomach can be lived with at peace.

1008 MADISON AVENUE, May, 1896.

Management of Cases Immediately Following Operations.—Sir Thornley Stoper (*British Medical Journal*) writes as follows: "If I may reduce to formulae the matters I have referred to, I would put them thus: (1) That the tendency to prolong operations must be carefully guarded against, as it is a grave cause of danger. (2) That in the treatment of shock and vomiting following operation we get no help from the stomach, and must rely on the rectum as its substitute. (3) That heat, alcohol, and opiates are our best remedies; and that the latter are well borne, and must be intelligently used to their full effect. (4) That drugs of the class ordinarily used to check vomiting are of little or no use in the cases under consideration. (5) That ice does not relieve thirst, and does harm by introducing water into the stomach and so provoking vomiting."

THE CLINICAL HISTORY AND POST-MORTEM APPEARANCE OF A CASE OF CORTICAL EMBOLUS (RED SOFTENING).

By H. A. TOMLINSON, M.D., SUPERINTENDENT,

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THE following case is of especial interest because in our experience among the insane this is the first opportunity that has presented itself for the careful study of the clinical features and post-mortem appearance of a case of embolus with resulting thrombosis, in which death has occurred sufficiently early to prevent the obscuration of the distinctive degenerative changes in the cortical cell by the products of general disintegration.

We also think it worthy of note that the changes shown verify Berkeley's statement that degeneration is the same, no matter what the cause of it may be; besides, this being a natural instead of an artificially produced change, adds that much to the value of the case as illustrating cell degeneration. Another and perhaps the most important point illustrated by this case is the apparent proof furnished that degeneration in the cell really results from failure of nutrition, and that the so-called causes are practically only antecedents, having a common effect.

M. B.—, widow, native of Sweden, aged sixty-five years, was admitted to this hospital, July 31, 1895, with the following history: Two weeks before she became much depressed and complained of having a headache continually. She said she could get nothing to eat and was starving, and that she had committed a great crime and had something on her mind that she wished to tell. She always refused any food offered her, and did not succeed in telling what she apparently wished to.

She had a history of having been insane about twenty years ago, and of always having had a violent temper. No family history could be obtained. When admitted her temperature was 100.2° F.; pulse, 90, of fair volume and regular; respiration, 18 a minute. She was well nourished and appeared to be strong. Examination of the heart and lungs showed nothing abnormal. Her urine had a specific gravity of 1.039, was acid, of a dark yellow color, and contained two per cent. of sugar and some granular casts. There was slight asymmetry of the face; the pupils were equal in size, four millimetres, and reacted readily to light but not to accommodation. There was no evidence of paresis in the limbs. The knee jerk was equal on the two sides and about normal. Clonus was absent. There was marked coarse tremor of the tongue, her speech was slow and indistinct, and she appeared to have considerable difficulty in speaking. During the first week she was very restless and at times noisy, making various inarticulate sounds. She slept poorly and generally was restless at night. A marked intention tremor developed in the right upper and lower extremity. This was more marked in the upper extremity.

Second week: She is very stupid and is filthy in her habits. She does not attempt to feed herself, but eats fairly well when fed by the nurse. She is restless and often attempts to get up. She at times tries to bite the nurses. The right arm and leg are in a partially spastic condition, and she has but little control over them. When up she tries to walk by holding on to chairs, etc., but often falls.

Third week: The spastic condition of the right side continues and there is marked involvement of the left side, as shown by choreiform movements when motion is attempted. The pupils are unequal in size, the left being the larger. Both pupils react slightly to light.

Fourth week: She makes no effort to swallow when fed by the nurse, and when fed by means of stomach or nasal tube vomits immediately after the feeding. She lies in a semi-stupor condition, eyes closed, mouth open, tongue dry, pulse regular, 80 beats per minute. She perspires profusely. The extremities are spastic. Convulsive movements occur. Sometimes they are general, and then again they are confined to one limb or to one group of muscles. The pupils are equal in size, three millimetres, and do not react to light.

During the last three days of life the convulsive movements gradually disappeared, respiration became more labored, and the pulse weaker. The temperature did not rise above 102.6° F., and the highest pulse rate was 117.

Necropsy, made three hours after death: The skin was uncolored except in dependent parts, and there was no post-mortem staining. The head was well covered with light hair, not yet gray. The eyes were blue, the pupils moderately dilated and equal. The eyeballs were sunken and the lids fully closed over them. The superior central incisor teeth were exposed and protruded beyond the lips. The mammary glands were not atrophied, the lineæ albicantiæ numerous, and there was a brown pigmentation of the skin of the lower abdomen and of the iliac regions. Rigor mortis was present.

The general nutrition of the body was good, with large deposits of fat in the mammary region and in the abdominal walls. Muscular development was fair and the deposit of fat was not so pronounced in the limbs. There was atrophy of the dorsal interosseous muscles in both hands. There were areas of redness over each buttock and an area of extravasation over the upper and anterior portion of the right thigh, irregularly circular and about five centimetres in diameter; also extravasation showing finger marks on both arms.

The scalp externally was free from scars; internally it was adherent, especially at the vertex, and there was considerable deposit of fat.

The skull externally was free from scars, but there was a shallow depression corresponding to the sagittal suture. Internally the groove for the longitudinal sinus was shallow and sigmoid in shape, but the grooves for the vessels, even the most minute, were quite deeply excavated. The external table was thickened and there was a marked development of the diploe, especially in the frontal and occipital regions. There were numerous small Pacchionian depressions on either side of the median groove in the frontal and parietal bones. The dura was roughened anteriorly and adherent to the bone, shredding on removal, but its internal surface was smooth. The thickness of the membrane was increased, and its sinuses and vessels were partially filled with fluid blood.

There were one hundred and twenty cubic centimetres of cerebro-spinal fluid.

The pia-arachnoid was not adherent, its vessels were moderately injected, and, although there was no opacity, the membrane was gelatinous in appearance on its external surface, and there was deep staining in the sulci, especially in the frontal and motor region.

The brain weighed twelve hundred and twenty-one grams. At the base the blood-vessels were not thickened or hardened, but there was a small aneurismal distention at the bifurcation of the basilar artery. The cranial nerves were shrunken and tough. The island of Reil was shrunken in both hemispheres, and the convolutions surrounding it were retracted so that the insular and gray matter in the bottom of the fissure of Sylvius were exposed.

The corpus callosum was very short, and along its superior surface, in the median line, ran a fibrous cord, two millimetres in diameter, and apparently con-

tinuous with the pial covering of the corpus callosum. Over the convexity the convolutions were shrunken and the sulci gaped. The convolutions were simple in character over the whole convexity, the simplicity being most marked in the frontal and motor regions. On the right side the pre- and post-central as well as the Rolandic fissures were straight and well defined, but the Rolandic did not reach to the median fissure. On the left side the Rolandic fissure extended to the median fissure, but the pre-central was not so well defined, so that the ascending frontal and second frontal convolutions were confluent. The cortex over the motor region, in the fissure of Sylvius, and in the anterior portion of the parietal region on both sides was pinkish-red in color, quite in contrast to the rest of the brain. The substance of the centrum ovale was pale and slightly shrunken, but the puncta were well marked and dark blood oozed from them on section. The corpus callosum was shrunken from before backward, as was the fornix, and their substance was tough. The fifth ventricle was almost obliterated.

The lateral ventricles were reduced in size, and through the iter there was a membranous raphe, apparently continuous with the ependyma of the third ventricle, one millimetre in height and the same in thickness. There was no thickening or roughening of the ependyma in any part of the ventricles aside from this.

The gray substance of the cerebellum was pale and softened. The dentate bodies were well defined, and the white substance was not so shrunken as in the cerebrum.

The anterior mediastinum contained fat in layers in its lower portion; posteriorly the mediastinum was normal. There was no fluid in the pleural cavities, nor were there any adhesions.

The left lung weighed four hundred and thirty-nine grams, and there were slight adhesions between its lobes at their roots. There was a small area of hypostatic congestion in the external and superior portion of the lower lobe, and a small nodule, partially calcareous and measuring two millimetres, in the same region. Otherwise the lung was crepitant throughout.

The right lung weighed five hundred and eighty grams, and there were adhesions between its lobes, most resistant between the middle and upper lobes. In the superior portion of the lower lobe posteriorly there was an old fibrous scar, three centimetres wide, nine centimetres long. In this fibrous mass the outline of the lobules was partially retained. There was a considerable area of congestion in the apex, with free exudation of fluid on section of the smaller bronchi. The rest of the lung was crepitant.

The heart weighed three hundred and ninety-six grams, and its surface was thickly covered with fat, especially over the right side. There were calcareous crescents at the bases of two leaflets of the aortic valve, and a nodule of similar material in the other leaflet. The heart muscle was flabby, its cavities empty; the valves were competent.

The omentum was normal in length and position, but contained considerable fat, especially in its lower portion. The stomach showed no sign of disease, nor did the intestines, except that the colon contained scybala throughout its length.

The spleen weighed one hundred and thirteen grams. Its capsule was free, and the pulp was soft and friable.

The liver weighed thirteen hundred and eighty-five grams. Its capsule was adherent except over the left lobe, and there was adhesion of the right lobe to the peritoneum, posteriorly and superiorly, over a space eight centimetres in diameter. The lower border of the liver reached only to the margin of the seventh rib anteriorly. The substance of the right lobe was soft and friable, this condition starting from the point of

adhesion and spreading throughout almost the entire lobe. The gall bladder was full, contained two stones, each as large as a filbert, and its duct was patulous.

The right kidney weighed one hundred and forty-two grams, and its capsule was free. The pyramids were distorted; the substance of the kidney was soft and hyperplastic. The left kidney weighed one hundred and twenty-seven grams, and its physical characteristics were the same as those of the right.

The uterus was enlarged and contained numerous fibroid growths, both extra- and intra-mural, and they varied in consistence from ordinary fibrous material to calcareous formation. The uterus and adnexa weighed one hundred and fifty-six grams. There was a small hæmatoma on the surface of the left ovary, but the right presented the ordinary appearance of senility. There was no pelvic adhesion.

The bladder was small, partially relaxed, and contained a small quantity of urine.

Microscopical examination of the brain, sections stained by the Golgi method, shows the dendrons to be tortuous in a majority of instances and the seat of moniliform enlargement, but not interrupted; the dendrites show the same condition, and the gemmules have disappeared. The bodies of the cells are partially

mentence of the degenerative process is well shown in a fine horizontal dendrite.

Fig. 2 shows a neuron, the apex of whose dendron has been lost through degeneration, and some of the



FIG. 2.—Seams of Liquefaction in Corpus of a Pyramidal Cell. $\times 200$. Photomicrograph by Dr. W. C. Borden, U. S. Army.



FIG. 1.—Section of Cerebral Cortex Showing Moniliform Degeneration of Dendra. $\times 250$. Photomicrograph by Dr. W. C. Borden, U. S. Army

disintegrated and vacuolated; especially is this the case with the pyramidal cells.

Sections stained by Nissl's method show a granular degeneration of many cells, and the nuclei have a tendency to color as well as the bodies of the cells, the nucleoli being pale, enlarged, and irregular in outline, or else entirely absent. A thrombotic condition of the arteries and veins of the cortex existed throughout, the blood-vessels appearing straightened and stiffened, and obliterating the lymph sacs in some places. There was no effusion in the lymph sacs. Many nerve cells were vacuolated, the cell degeneration in some cases consisting in a sort of sacculation of the nucleus, which projected in the form of half a dozen expansions, reaching nearly as far as the outer border of the cells.

Cultures from the brain cortex and from the cerebrospinal fluid gave Fränkel's pneumococcus.

Description of Microscopic Sections.—In Fig. 1 two neurodendra are shown on slightly different levels, so that the second is less well defined than the first; they show several large moniliform swellings. Not only the gemmule but half of the dendrites have disappeared; and on the right of the picture the com-

moniliform swellings of two of the dendrites is all that is left of them; but the afferent nerve fibres in the vicinity are left almost intact. The corpus of the cell shows two seams of liquefaction running almost vertically through it, while the neuraxon is not markedly affected.

In Fig. 3 the cell in Fig. 2 is reproduced on a slightly different plane, and the tangential afferent fibres near the top show head-like swellings which exist in health, though possibly somewhat enlarged in this case. On the left of the picture is shown a cell corpus in which the degeneration took the form of



FIG. 3.—Granular Degeneration of Corpus of a Pyramidal Cell on the Left, and Part of Fig. 2 on the Right. $\times 200$. Photomicrograph by Dr. W. C. Borden, U. S. Army

granular masses, only about one-third of this cell taking the impregnation normally. The dendron is denuded and there is slight moniliform degeneration of the processes at the base.

A faint but distinct view of the blood-vessels and of the glia cells is given in the original photographs, which were taken by Dr. W. C. Borden, U. S. A., from gold-stained sections (Golgi-Obregia) made in the St. Peter State Hospital pathological laboratory, from the cortex of the motor area on the left side.

DISEASES OF THE TRACHEA, BRONCHI, AND LUNGS, TREATED BY INTRATRACHEAL INJECTION.

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STANDARD authorities upon diseases of the nose and throat make almost no allusion to the trachea, nor to the frequency with which cough and changes in the voice, for which the laryngologist is so often consulted, originate in this organ.

The consensus of opinion seems to be that diseases of the trachea should be classed with diseases of the chest.

A study of the subject has, however, convinced me that the diseases of the trachea present so many analogies and are so closely related to those of the larynx, that the separation of tracheal from laryngeal diseases is not altogether practicable.

On the other hand, the intimate connection between the trachea and bronchi and the pulmonary parenchyma renders it difficult to separate them wholly from diseases of the lungs. We are therefore forced to the conclusion that the laryngologist should also be a pneumologist and be an expert in diseases of the whole respiratory tract.

The special physiology of the trachea was elaborately studied by Mr. Nicaise in 1889, and a *résumé* of his work presented to the Paris Academy of Sciences. He showed that "in the state of normal calm respiration the trachea remains slightly contracted and does not change its volume appreciably. The posterior extremities of the annular cartilages are almost in contact and the membranous portion lies in a linear fold. During strong respiration, in crying, groaning, singing, etc., the trachea is dilated and lengthened while the larynx rises; in inspiration the trachea shortens and contracts again."

There occurs therefore a rhythmical change in the calibre of this tube, the exact degree of which can be measured. The dilatation is in proportion to the force of the expiration, and is greatest in the upper part. The dilated trachea acts as an elastic tube, compressing the contained air. By virtue of this property it serves an important use in the production of the voice, modifications of which may be caused by pathological changes in this organ.

The tracheal nerves are derived from the great sympathetic and from the pneumogastric and its recurrent branches, filaments of which extend into the mucous membrane of both the trachea and the bronchi.

Experimental, physiological investigation seems to have definitely decided that cough may be produced by direct irritation of either of these nerves or of their branches, or of the mucus membrane supplied by them. Clinical experience proves that the converse is also true, viz.: That cough may be alleviated if not entirely prevented by appropriate medication applied directly to the irritated mucous surface.

To the late Dr. Horace Green, of this city, must be awarded the honor of being the first to advocate intratracheal medication.

In 1838 he succeeded in passing a small sponge saturated with a solution of nitrate of silver through the glottis into the trachea. In 1840 he brought the subject before the New York Medical and Surgical Society, and reported fifteen cases of severe laryngeal and bronchial diseases which had been cured by this means. In October, 1854, he adopted the plan of passing an elastic tube through the larynx into the bronchi in a patient suffering with phthisis, and of injecting from one and a half to two drachms of strong nitrate-of-silver solution into the lungs. "This process he repeated seven times in fifteen days, with the result that the patient's cough and expectoration were greatly diminished, she grew stronger, breathed with more freedom, and increased in weight."

In February, 1855, he read a paper on the subject before the New York Academy of Medicine. His statements were received with incredulity and by many he was branded a charlatan and his practice a humbug. The paper was referred to a special committee of seven, who were to investigate Dr. Green's method and report their conclusions to the academy. This committee took six months to consider the subject and then sent in a majority report unfavorable to Dr. Green and a minority report fully sustaining him. Through it all Dr. Green never lost his faith, but reiterated his belief that this practice was but the initiatory step to a plan of treatment that would ultimately result in positive good to suffering humanity. From October, 1854, to February, 1856, he had treated one hundred and six cases. Of these seventy-one were classed as cases of tuberculosis. Of these tuberculosis cases thirty-two were considered as cases of advanced tuberculosis and thirty-nine as cases of early tuberculosis. Of the cases of advanced tuberculosis twenty-five were more or less improved, their lives being apparently prolonged by this means of medication. Seven only were not improved by the injections.

Of the thirty-nine cases of incipient tuberculosis twelve had apparently recovered at the time the report was written and five more were nearly well. Of the remaining twenty-two cases seventeen were greatly improved, three were moderately benefited, and three failed to receive any benefit whatever. Of the twenty-eight cases of bronchitis sixteen were cured and all of the others greatly benefited. In six cases of asthma treated by this means, in all except one the disease was entirely removed by the use of intrabronchial injection.

December 22, 1859, four years after the reading of his first paper upon this subject before the Academy of Medicine, Dr. Green read a paper "On the Difficulties and Advantages of Catheterism of the Air Passages" before the Medico-Chirurgical College, in which he pointed out some of the errors of his early practice and advised that for intrabronchial injection milder solutions should be used. He further adds: "Such has been the amount of success which has continued to attend this plan of treatment, that I am now ready to affirm, after an experience of many years in a field of observation unusually large, that, if I were required to relinquish all other known therapeutic measures or topical medication, in the treatment of thoracic diseases, I should choose the latter with hygienic means alone, in preference to the entire class of remedies ordinarily employed in the treatment of these diseases. During the three or four years since my report of one hundred and six cases, I have treated large numbers of patients afflicted with chronic laryngeal and bronchial diseases, with asthma, and with tuberculosis, and the success which continues to attend this practice has served to increase greatly my confidence in this measure as a therapeutic agent."

In addition to the testimony of Dr. Green, eminent

medical authorities¹ in France, Germany, and Great Britain agreed that as a therapeutic means intrabronchial injection merited more serious attention.

Dr. Green asserted that the patient should be properly prepared before intratracheal or intrabronchial medication should be attempted, and with this end in view he painted the pharynx, epiglottis, and larynx with a strong solution of nitrate of silver for several successive days or weeks, in order to numb the sensibility of the mucous membrane before attempting to introduce either the sponge or the tube.

There is little wonder that this method seemed too heroic, or that many eminent physicians looked upon it with disfavor, or that with the introduction of powerful spray apparatus it fell into disuse. It must be conceded that the use of the spray, the nebulizer, and the pulmonary inspirator, is productive under certain conditions of good results, but it is impossible by their use to project into either the trachea, bronchi, or lungs a sufficient quantity of the medication to materially alleviate the cough, to soften the secretions, or to protect the irritated mucous membrane.

A revival of intratracheal and of intrabronchial injection in a modified form is therefore exceedingly desirable, and this has been rendered possible by laryngoscopy and the discovery of cocaine, facilitating as they do the easy insertion into the trachea of the endolaryngeal tube, while the great advances made in materia medica and therapeutics during the last forty years have placed in our hands a large number of remedies well suited to the purpose.

Recent scientific research has fully confirmed the observations of Dr. Green, and proved beyond a doubt that substances injected into the trachea are not only borne but are rapidly absorbed.

In the *MEDICAL RECORD* of December 1, 1883, it is stated: "At a recent session of the French Association for the Advancement of Sciences held in Rouen, Dr. Bergeron presented a memoir on the subject of the injection of medicated substances into the trachea, in which he asserted that the injection of medicated liquids into the respiratory passages below the larynx was very well borne by cows, horses, and dogs."²

In the *MEDICAL RECORD* of October 10, 1885, it is stated that "some experiments made by Dr. Pernice show that liquids injected to the trachea run down the posterior surface and are thence evenly distributed through all the bronchial twigs. They are absorbed by the pulmonary veins or by the lymphatic vessels and thus exert both a local and a systemic action. When the animal was placed in the supine position, with the head elevated a little, no cough was excited by the operation."

Dr. Pernice used in his experiments distilled water, milk, and defibrinated blood. Absorption was complete and no respiratory trouble of any sort resulted. He also used solutions of tannin, borax, benzoate of sodium, quinine, morphine, nux vomica, and lime water.³

Kirke's "Physiology," page 380, ed. 1892, states: "It is a remarkable fact that not only is the epithelium of the pulmonary mucous membrane able to allow the passage through it of gases and volatile substances, but that under certain conditions fluids such as water may also be absorbed, and besides this the presence of carbon particles in the bronchial glands and alveoli in connection with the lungs must point to the pulmonary epithelium as the only possible channel of absorption."

Again quoting from the *MEDICAL RECORD* of Feb-

ruary 8, 1896, Dr. C. G. Coakley, in a series of experiments conducted at the Loomis Laboratory, made a solution of India ink, filtered it, and then injected ten cubic centimetres of the filtered solution into the trachea of rabbits, and the animals were killed in from fifteen minutes to two hours. It was found in every case (whether fifteen minutes or two hours had elapsed) that not a trace of the pigment could be found in the trachea, bronchi, or alveoli, but all had been absorbed. Except where a few lymph cells had ruptured there was no free pigment in the lymph channels, but was all contained within the lymph cells or phagocytes, which were scattered through the lymph channels of the lung, underneath the pleura, and in bronchial glands.

Dr. Joseph Muir, of this city, who has perhaps had the largest experience in recent years of any American physician in this method of treatment, in a paper read before the Medico-Surgical Society, January 6, 1896, and since published in pamphlet form, claims that "A process analogous to that of pneumo-koniosis is induced. Substances are taken up by the lymphatics, transported downward and inward to be deposited in tissues more or less remote, even sometimes as far as the thicker connective tissues of the lungs."

It follows therefore that if absorption of injected liquids by the lymphatics of the tracheal, bronchial, and pulmonary mucous membrane has been fully demonstrated by competent observers who have also added their testimony to the ease with which such injections are borne, we are justified in resorting to intratracheal and intrabronchial medication both as a palliative and as a curative measure.

The technique is simple. A syringe with an endolaryngeal tube, devised by Dr. Muir and manufactured by Ermold, holding four drachms answers the purpose perfectly. The larynx having been sprayed with a two-per-cent. solution of cocaine, the patient is instructed to grasp the tongue with the right hand, to draw it forward, at the same time throwing back the head and opening the mouth as widely as possible. The operator, with the laryngeal mirror in one hand and the syringe in the other, then proceeds as though he were about to make a laryngeal application. As soon as the tube enters the cavity of the larynx the epiglottis is pulled slightly forward, the patient is instructed to breathe, the cords separate, the tube enters the trachea, and the syringe is emptied of its contents. By pointing the instrument to either side the bulk of the medication may be made to enter either the left or the right bronchus.

If care is taken when inserting the tube to avoid touching the glosso-epiglottic or the aryteno-epiglottic folds or the inter-arytenoid space, each one of which seems to act as a cough centre, the irritation caused by this procedure will be found to be surprisingly slight. It is in fact so non-irritating that after a little preliminary training the cocaine spray may be discontinued.

The remedies employed should be soothing and the vehicle non-irritating. For this purpose olive oil, cod-liver oil, glycerin, mucilage, or any one of the petroleum oils may be used. Of the latter the one sold under the name of benzoinol is probably the best. It is tasteless, non-irritating, and is said to contain an ounce of benzoin to the pint of oil. Solutions containing benzoinol, euophen, and menthol, or benzoinol, guaiacol, and menthol, have proved very efficacious in my hands.

From one per cent. to two and one-half per cent. of euophen and from one per cent. to fifteen per cent. of menthol, or two per cent. of guaiacol in place of the euophen, will be found to be quite strong enough.

The strength may, however, be increased or diminished to suit each individual case, or other remedies,

¹ Bennett, of Edinburgh; Watson, of Glasgow; Callon, Hastings, Alison, and Mackness, of London; Trouseau, of Paris, and the French Academy of Medicine; Rokitsansky, of Vienna. B. P., 125; B. P., vol. 52.

² Lyon Médical, October 7, 1883.

³ Il Movimento, No. 12, 1885.

such as ichthyol, may be substituted. From one-half a drachm to one drachm may be injected at each insertion of the tube. And this may be repeated at one sitting until from two to four drachms have been used.

This method of medication has many advantages, viz.:

1. The remedy is applied directly to the irritated mucous surface.

2. It immediately alleviates the most distressing symptoms, adding at once to the comfort of the patient.

3. In a certain number of cases the antiseptic effect of the medicine is very pronounced, as shown by the longer interval between the febrile attacks and by their lessened intensity when they do occur.

4. The tracheal and bronchial mucous membrane rapidly absorbs the medication, so that we may expect a general as well as a local effect.

5. We avoid disturbing the patient's stomach with nauseating doses and the shattering of his nervous system with opiates.

6. This method of alleviating the most distressing and annoying symptoms does not interfere in the slightest degree with any other line of general treatment which may be deemed advisable.

7. In cases characterized by an atrophic condition of the tracheal mucous membrane or of pulmonary disease with cavitation leading to retention and decomposition of the secretions, intrabronchial injection will remove the disgusting fetor of the breath consequent upon this condition.

I have treated during the past winter twenty-five cases by intratracheal injection, including cases of severe laryngo-tracheitis, bronchitis, and tuberculosis, and one case of asthma.

The cases of laryngo-tracheitis and of bronchitis were rapidly restored to health; the case of asthma was greatly improved, while every case of tuberculosis has been markedly benefited.

Report of Ten Cases.—Fred. W——, aged thirty-five, cabinet-maker. Ill since November, 1895. Began to cough about December 15, 1895. Had lost twenty-five pounds in weight. He presented himself at my clinic at Bellevue Hospital, Out-door Poor Department, January 31, 1896. Marked anæmia of larynx, with great irritability of pharynx. Severe cough. Expectoration profuse. Examination of chest showed well-marked pulmonary disease. Gave intratracheal injection of benzoinol, euophen, and menthol. The alleviation of the cough was almost immediate. The injections were repeated upon February 7th, 10th, 14th, and 19th, when the patient reported that his most distressing symptoms had been relieved, and that he could eat and sleep and enjoy himself. And like many another clinical patient he ceased his visits.

Charles J. M——, aged forty-two, waiter. General health good. Laryngo-tracheitis with bronchitis lasting four weeks. Had been under treatment for the cough, which was severe, for nearly one month with no relief. January 15, 1896, I began to treat him by intratracheal injection, using benzoinol, euophen, and one-half per cent., and menthol, seven and one-half per cent. These were repeated five times in seven days, when the patient reported that his cough was entirely well.

George M——, baker, aged twenty-five. General health good. Had had attacks of asthma every winter. I saw this patient first February 19th. He was suffering from an asthmatic attack of very great severity. I gave him an intratracheal injection of benzoinol, euophen, and menthol. The relief afforded was marked. Within ten minutes he could breathe freely and felt perfectly comfortable. This patient was under treatment for about ten days and was greatly improved.

February 16th, Mrs. R——, aged forty-five. Had la grippe about one year ago. Had not been well since. She stated that she had night sweats, had lost flesh, coughed a great deal, and expectorated freely. An examination of the sputum showed the presence of tubercle bacilli. This patient has been treated by intratracheal injections, receiving them three times a week; her appetite has improved, the night sweats have ceased, the severity of the cough has been relieved, and she has gained ten pounds in weight. She is still under treatment.

George S——, policeman, aged forty-five. Laryngo-tracheitis with cough lasting four months. During all of this time he was treated by sprays, inhalers, and expectorant mixtures, with slight relief. February 15th I began to treat him by intratracheal injection. He began to improve at once; the injections were repeated from three to four times a week for about three weeks, with the result that the patient's health is fully restored.

Thomas K——, aged thirty-seven, janitor. Had la grippe one year ago. Severe cough since July, 1895. Had lost flesh. Expectoration profuse and tinged with blood. Evening temperature 102° F., with copious perspiration at night. Physical examination revealed extensive pulmonary disease upon the right side, while the microscope showed the presence of tubercle bacilli. Notwithstanding the fact that this patient had been constantly under treatment for months, and had been three weeks in the hospital, his cough was without exception of the most distressing and persistent character. February 22d I began to treat him by intratracheal injection: benzoinol, euophen, and menthol were used. The relief was immediate. The cough became soft and less persistent, expectoration easy. The fetor of the breath disappeared. The appetite improved. The night sweats have ceased, and the temperature in the evening is normal. This patient is still under treatment.

February 21st, Miss Mary W——, aged twenty-one, domestic. Atrophic rhinitis, with severe cough and huskiness of the voice, lasting for weeks and resisting the ordinary methods of treatment. Diagnosis, laryngo-tracheitis. February 21st I treated her by intratracheal injection. The relief was immediate, the good effect of the first injection lasting for two days. Three injections removed the symptoms of which this patient complained.

Mrs. W——, aged fifty-five. Subacute tracheitis with feeling of tightness across the upper part of chest. Voice hoarse and cough persistent. March 14th she received an intratracheal injection. The relief in this case was simply magical. Within ten minutes the hoarseness in her voice had disappeared. The sense of constriction across the upper part of chest had vanished, and the desire to cough was gone. The injections were continued for one week and then three times a week until the present time. Result, the patient is practically well.

John W——, aged twenty-eight. Has coughed for one year. Has night sweats. Recently he has lost in weight, at the rate of two pounds weekly. Cough very persistent and severe. February 17th he received an intratracheal injection and that night for the first time in months he slept well. There has been a rapid alleviation of all the most distressing symptoms in this case. The patient is still under treatment.

John S——, aged thirty-five, laborer. Bronchitis with occasional attacks of asthma. Had taken expectorant mixtures and cod-liver oil without benefit. March 1st he received his first intratracheal injection. This treatment was continued several times a week for three weeks, when the patient reported that he felt like a new man, all of the symptoms of which he complained having disappeared.

THE KNIFE FOR COCCYODYNIA A FAILURE.

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As a deterrent example of meddlesome and noxious surgery, I will briefly cite this case: A woman about forty years of age slips on the pavement and lands with no very great violence on the buttocks. Barring a nervous and excitable temperament, she has up to the time of the accident enjoyed uninterrupted good health, has healthy children, and is of a cheerful disposition. Immediately following the accident a painful sensation manifests itself at the end of the spine, a coccygodynia has suddenly developed, which persists to the present day, over three years after the accident.

These three years have been a continued martyrdom with the following phases, which may be said to be typical of cases of this kind. In due course of time, after having exhausted all kinds of local applications, the pain becoming more severe as time wears on, she consults a surgeon of repute, a professor in one of the leading colleges of the country, who tells her that the coccyx must be removed and that such an operation, which is a comparatively simple one, cures the affection nine times out of ten. The operation is performed by a local surgeon, with the result that the pain becomes more intense than ever. In addition to a sore and a sensitive coccyx there now exists an irritable and painful scar. A second operation is advised: for it is claimed the first one has not been thorough enough. Before submitting to this she resolves to try electricity, which is recommended to her as being very effectual in relieving such conditions. The faradic current of medium strength is used, one electrode being placed in the rectum, the other over the sacrum. The result of this single application is a cramping of the rectum, which is added to the already existing pain and which has not left her up to the present day. Stretching of the sphincter ani, which is now resorted to by her physician, instead of affording relief, increases the painful contractions. She becomes unfit for the discharge of her domestic and social duties until her physician prescribes morphine to be given by the rectum. From this day on she knows that, to lead an existence which can at least be tolerated, she has to resort to morphine. Half a grain suffices to render her condition tolerable. It enables her to follow without serious inconvenience her customary pursuits. But her family look upon her as a morphine fiend and she herself smarts under the stigma and self-reproach on account of the habit which, she is told, is worse than the liquor addiction. This constitutes another factor in rendering her existence miserable.

Consequently at the solicitations of her family and friends she makes up her mind to enter a sanatorium to cure her of the morphine habit. For three months the withdrawal of the drug is tried systematically. She becomes sleepless, loses weight and strength to such an alarming degree that the attempt of weaning her from the drug has to be abandoned. Neither massage, hydrotherapy, electricity, nor the other devices in vogue at sanatoriums have had the slightest effect upon her. It takes another three months to regain the strength she had on entering the institution. Since then she has tried all sorts of doctors and methods, has travelled extensively, sojourning at a variety of health resorts and watering-places, all to no purpose. In order to relieve an otherwise unbearable existence she has to resort to the morphine in doses of from one-quarter to one-half a grain a day.

On presenting herself to me for examination and consultation, this patient has the appearance of a

healthy, well-preserved matron, whose looks do not betray the slightest trace of the Iliad of woes which she relates in a graphic manner. Knowing by experience with other cases that coccygodynia is almost always one of the symptoms of hysteria, sometimes apparently monosymptomatic, all the other manifestations of the disease being overshadowed or rendered dormant or insignificant by the overtowering dominance of one—the excruciating pain, I make the preliminary diagnosis of hysteria.

Of course I look for hysterical stigmata, but there are none: above all, there is an absence of anæsthesia of any kind anywhere, nor is there the slightest indication of a history pointing to hysterical attacks. This woman has been exceptionally healthy all her life. But on close examination I find that travelling and change of scenery lessen the pain, that at times she is slightly aphasic, that there is a tendency to a pulling back of the head, and that often she has "a lump in the throat." I add to this that she is of a gay temperament, and that in spite of the overwhelming pain she has at all times, but which is particularly aggravating in the sitting posture, she does not present the aspect of a sufferer after having sat in my office for a number of hours, and I come to the conclusion that in the present case the coccygodynia is of an hysterical nature.

The text-books on medicine, and those on neurology in particular, describe the affection spoken of as being neuralgic or rheumatic in character. Probably there exist such cases, although among the dozen that during the last twenty-five years have come under my observation not a single one was of such nature. They were all symptomatic of hysteria, some of them apparently but not in reality monosymptomatic. For it is a striking fact that most women thus afflicted positively declare that there is nothing else the matter with them, though closer inquiry brings out the fact that a number of minor complaints exist or have existed, which, however, are ignored or have been forgotten. Hysteria is noted for the tendency to oblivion of ills that have passed.

In all cases of coccygodynia that I have seen, a history could be elicited, if not of hysteria proper or some allied neurosis in the ascendants, at all events of the existence of the hysterical temperament. In all of them an immediate or provoking cause, a provoking agent (*agent provocateur* of Charcot-Guignon) could be demonstrated. A trauma, severe and prolonged emotional and intellectual strain, infectious diseases, convalescence, parturition and lactation, chronic intoxication (alcoholism, saturnism, etc.) can generally be shown to have existed before or at the time of the cropping out of the trouble. The case briefly reported above is one of traumatic (monosymptomatic) hysteria. The several therapeutic procedures (insignificant in the healthy) acted like so many distinct shocks and provoking agents. The administration of the anæsthetic (in some predisposed individuals this alone suffices to bring about hysteria, transient or lasting) in conjunction with the wound, and later on the irritation set up by the introduction of the electrode into the rectum, sufficed to aggravate a condition which, if left to itself, would probably have remained within the bounds of toleration.

But it is just at this point where a fatal idiosyncrasy of hysterical patients plays such a baleful part. If it is true that there is such a thing as the *furor operandi* among surgeons, it is equally true that there is a class of women who actually itch for an operation, the bloodier the better. This is one phase of hysteria. The desperate monotony of an excessively painful and annoying affection engenders a craving for something phenomenal. They look upon their suffering as unique in atrociousness and unexampled in

medicine, and nothing short of an extraordinary measure will, in their opinion, be of any avail. As a rule, nothing short of an operation will satisfy them, and generally they do not meet with any difficulty in finding a surgeon who is willing to operate. It is needless to add that he is convinced of the appropriateness of surgical interference in cases of this kind, only he is mistaken as to indication and disappointed as to outcome.

The following case will furnish additional proof of this proposition and help to elucidate the subject more fully.

A woman of about thirty-five, whose mother is still living and is suffering from hysterical hemiplegia, and whose father died of apoplexy at the age of thirty-five, presents herself with this history: Up to about two years ago she has been healthy. She always has been of a hopeful, mercurial disposition. For a number of years she has nursed an invalid husband who died with consumption. After his death she has taught school and worked very hard. While thus engaged in work with which she never has been familiar, a pain constantly increasing in severity gradually develops at the sacrum and in the coccygeal region. In due course of time she is operated upon. The coccyx, which the surgeon says points inward to an unusual degree, is excised. Then the trouble gets worse. To the deep-seated pain a hypersensitive cicatrix is added. A specialist for rectal diseases now examines her to see whether any rectal trouble exists that may account for the pain. Nothing is found; but from the time of the examination an additional painful spastic condition of the rectum develops. There is also a drawing and gnawing sensation in the skin over the hips. She is in a deplorable condition, not only physically but mentally. The exacerbation of the pain affects in an indescribable manner her mind, so she claims.

In this case there are also a tendency to retraction of the head and an alleged impairment of memory, which on closer examination proves to be partial aphasia. She craves sympathy and thinks nobody understands her case or has any idea of her sufferings. With any and everybody she discusses her strange malady, though she is a woman of tact and refinement. There are no positive hysterical stigmata; only one side of the body, the left, gets numb at times and is weaker than the other side.

In this case there is well-established heredity, which by grief, anxiety, and hard work is developed into hysterical coccygodynia of a grave form.

The symptoms on which the diagnosis hysteria is made in these cases may seem to some to be insufficient, but they are fully conclusive to the neurologist, when properly grouped and interpreted in the light of Charcot's teachings. What Charcot and his school have not mentioned in their classic delineations of the syndromes of hysteria are the spastic tendency of the retractors of the head and a trace more or less noticeable of aphasia. I consider them as stigmata of a subtle character, the anæsthesias being of a coarser kind. They are very common in hysterical females and sometimes the only obvious ones in a chaos of indistinct and undefinable malaise.

To use a knife on such patients is a grave mistake. To cut off a painful coccyx is as irrational as the removal of the ovaries in hysterical ovarialgia. The time will come when another generation of medical men will look upon such operations as one of the most remarkable aberrations of the science of medicine. The trouble is in the brain, but not at the periphery, neither bone nor skin. It is projected from the centre to the periphery, as an irritation of the ulnar nerve at the "crazy bone" is to the little and fourth fingers.

Some cases of hysterical coccygodynia get well by the most divergent and heterogeneous remedies, such as hydropathy, faith cure, hypnotism, etc. Others never recover under any treatment. In such cases there is only one course left to render life tolerable, that is the use of opium. The substitution of a lesser evil for a greater one is the last refuge for the unfortunate sufferer. Many will, through a physician's prescription or by their own doing, resort to this drug. If they do not take more than half a grain a day, preferably by the rectum, they may live in comparative comfort. But generally hysteric people have a morbid dread of opiates. The fear of becoming a morphine fiend and the unpleasant untoward effects of morphine in customary doses, say one-quarter of a grain, has a deterring effect which on the whole is very wholesome. But there are cases in which moderate morphinism is preferable to a life of constant agony, not only to the patient herself but also to her family.

That even severe cases of coccygodynia may get well I have witnessed in the instance of a woman of thirty-seven. The operation had been decided upon, when her husband, who was well-to-do, failed in business. The operation was postponed and never performed. The necessity of hard work brought about a cure. The change from an idle, fashionable existence to the cares and responsibilities of running a restaurant effected a gradual but permanent cure. She herself considers her husband's failure a wind-fall. I know of another case of medium severity which was cured by the bicycle.

Excision of the coccyx is also practised to some extent on hypochondriacs. Here the diagnosis generally reads: "The coccyx points strongly inward, is partially detached, and probably necrosed." What a revelation in pathology!

I do not mean to say that never and under no circumstances has the removal of the coccyx been successful in curing the pain. Perhaps there are cases in which the operation has been beneficial. Personally I do not know of any. Even in cases of success the question is legitimate: Would not other and simpler means have been equally effective? Generally speaking, the results of coccygodectomy are as hopeless as neurectomy in facial neuralgia.

Will there be any fewer operations performed for hysterical coccygodynia on the strength of the foregoing remarks? I do not believe it. Like osteopathy and faith cure, the knife will continue to have its sway in the treatment of hysterical ailments. An age that has given rise to that crowning glory of surgical fakes, orificial surgery, proudly termed by its advocates the American operation, will continue to hunt at the periphery for that which lies in the centre. But a protest is always in order. Besides, I know that conservative surgeons repudiate the reckless and uncalled-for use of the knife.

In spite of this, the indiscriminate extirpation of wombs and ovaries, the slitting and enlarging of orifices of the male urethra, the excision of imaginary strictures, the clipping of the eye muscles, the cutting out of pockets of the rectum, circumcision, and the removal of the coccyx will go on with unabated vigor—all of which is the outcome of an exaggeration and misinterpretation of the import and meaning of the law of the reflexes. In the name of the reflexes a multitude of surgical misdemeanors are constantly committed.

Tuberculous Glands in the neck can be removed without visible scar through an incision within the hair line extending from behind the ear downward and inward. The glands are pressed toward this opening and caught with a hook or long narrow forceps and enucleated.—DOLLINGER.

A CONTRIBUTION TO THE STUDY OF ACUTE DELIRIUM, WITH ESPECIAL REFERENCE TO ITS BACTERIOLOGY—REPORT OF A CASE.

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ACUTE delirium, according to our present conception of the disorder, is a peri-encephalitis which has a varied etiology. A review of the articles on the subject in the latest editions of our standard text-books reveals the fact that a total of forty-two alleged exciting and predisposing causes are responsible for this disease. It is a matter of much significance that such a diverse etiology should be ascribed to a condition which usually runs a definite, uniform course, ending in death in about three weeks. To the critical observer this contradiction of statements signifies that our knowledge of the exact nature of acute delirium is very meagre. Not only is the etiology an unknown quality, but its differentiation from allied conditions, such as hyperacute mania, toxic delirium, meningitis, and the delirium of the specific infectious fevers, resolves itself into a problem difficult of satisfactory solution. Particularly often is it confounded with hyperacute mania. This is illustrated by a study of the insane hospital reports for the past few years. Some hospitals and asylums are without a single case for months; others are never without one or more. The writer has prepared a table, showing the number of cases of acute delirium among the admissions of the last few years of about twenty insane hospitals in various parts of the country. The most surprising variation in the total number of cases of delirium to the total number of admissions is thus set forth. It ranges from thirteen cases of acute delirium out of a total of eighty-nine hundred and eighty admissions,¹ to seventy-one cases out of fifteen hundred and twenty-two admissions,² extending over a somewhat shorter period of time. As the two hospitals from which these statistics are taken are less than three hundred miles apart, climatic and other similar influences do not account for the variation. In the opinion of the writer it is wholly a matter of diagnosis, and cases of hyperacute mania were evidently included in the latter figures.

A valuable pathological contribution to the subject of acute delirium has recently been made by H. C. Wood,³ who makes the following divisions: "First, acute peri-encephalitis; second, an acute affection, primarily centred in the ganglionic cells, but without lesions that can be demonstrated by our present process." He then subdivides acute peri-encephalitis into septic and idiopathic peri-encephalitis, the former due to the action of septic organisms on the brain, the latter depending on emotional strain or functional excitement. He also states that if the observations of Rasori be correct, there must be a third peri-encephalitis, due to the presence of a special organism. Rasori found post-mortem in the cerebro-spinal fluid a small bacillus which he believed to be peculiar to the disease and which caused death to rabbits, with symptoms of acute septicæmia.

The studies of the writer in acute delirium have been confined to an effort to determine the alleged bacterial nature of the disease. Upon looking up the literature of this part of the subject, the array of evidence in favor of a germ origin for any form of the disease is very meagre, and, on first reflection, hope-

lessly conflicting. A number of germs have been found in the cerebro-spinal fluid of these cases post mortem, but no one germ can be said to be at all constant. The fluid from the case reported by Wood¹ was examined bacteriologically without finding germs of any kind. This case, however, does not offer any evidence against the bacterial nature of peri-encephalitis, as it evidently belongs to the idiopathic subdivision of the disease. The most important bacterial studies in addition to those of Rasori, mentioned above, are those of Potts and Berlet,² who cultured cerebro-spinal fluid obtained post mortem, and found the pneumococcus and the staphylococcus pyogenes aureus and albus. In another case, reported by Hunt (quoted by Wood), the bacillus pyocyaneus was obtained by culture from fluid found in the lateral ventricles. This case was found to have a nephritic abscess and the delirium apparently depended on a septic peri-encephalitis. Caruthers³ reports a similar case resulting from pelvic abscess, but unfortunately no bacteriological studies were made in this instance. Jackman⁴ reports finding the micrococcus pneumoniae crouposa in the cerebro-spinal fluid (post mortem) of a case of puerperal mania, which rapidly proved fatal. The clinical history of his case and its short duration (three weeks) leads to the belief that it was a true case of acute delirium following parturition. Of all germs found in the cerebro-spinal fluid of acute peri-encephalitis (post mortem) this germ occurs the most frequently. It has also been found in allied conditions of the membranes, such as simple and purulent meningitis, infectious cerebro-spinal meningitis, and acute cerebral abscesses following the infectious fevers. In a series of twenty-five cases of purulent meningitis examined by Netter (quoted by Sternberg) it was present in sixteen. In four of the sixteen the streptococcus pyogenes was also present. Monti⁵ and others have detected the germ in cerebro-spinal meningitis. It is, therefore, apparent that the micrococcus pneumoniae crouposa has a special predilection for the cerebro-spinal membranes, occurring in both primary and secondary affections of the meninges. Heretofore, the germ study of the cerebro-spinal fluid in acute delirium has been confined to fluid obtained post mortem. The bacterial investigations of the writer in this disease have been limited to the study of the cerebro-spinal fluid obtained during life.

The following case of acute peri-encephalitis was under my care throughout its entire course in the acute receiving-wards of the St. Lawrence State Hospital. On the twenty-ninth day lumbar puncture was performed for the relief of intracranial pressure symptoms, and the fluid was saved for clinical and bacteriological analysis. The micrococcus pneumoniae crouposa and the streptococcus pyogenes were found on examination. Death occurred on the forty-sixth day and an autopsy was fortunately procured, which is reported in full. The following clinical notes are abbreviated from the clinical records of the case, commenced on admission of patient:

CASE NO. 2,465.—Male, aged forty-six years, painter, native of New York. Admitted to St. Lawrence State Hospital, May 13, 1896. "On admission was rambling and incoherent in speech, confused, and subject to slight motor restlessness. Attention attracted with difficulty. Physical health fair." The history accompanying the patient states that "patient has no insane or neurotic relatives; uses alcohol and tobacco to excess, and had la grippe in March. First

¹ Op. cit.

² Medical News, June 20, 1894.

³ Report, Maryland Hospital for Insane, 1893.

⁴ Jackman: Journal of Nervous and Mental Disease, April, 1896.

⁵ Monti. Riforma Medica, 1889, Nos. 58 and 59.

¹ 1895 Report, Cleveland (Ohio) Hospital for Insane.

² 1895 Report, Clarinda (Iowa) Hospital for Insane.

³ Wood: "An Expiscation on Acute Delirium." American Journal of the Medical Sciences, vol. cix., 9, 361.

mental symptoms noted May 3d, when he became restless and talkative. During the past ten days he has slept scarcely any and his appetite has been poor. At times recently he has been so disturbed that it took four men to control him."

Examination twelve hours after admission: "Patient talks almost continuously in an incoherent, rambling jargon. Impossible to attract his attention or get him to answer questions. Hands and head in constant motion, as if gesticulating or emphasizing his remarks. Eyes injected, pupils contracted and do not react to light. Temperature, 99.6° F.; pulse, 80, high tension; patellar reflexes lost. Bowels sluggish, tongue dry and slightly coated. Urine limpid and pale, specific gravity 1.012, urea diminished, amorphous urates, no albumin or sugar, chlorides increased. Too disturbed to permit satisfactory examination of heart and lungs." Sulphonal, twenty grains, in hot milk, was given and patient slept seven hours. Delirium returned on awakening, but temperature fell to normal.

On the day following admission (twelfth day of delirium): "Above symptoms continue: temperature normal."

Fourteenth day: "Patient continues delirious and disturbed. Confusion of ideas great; special senses do not respond to any kind of objective stimuli; sleep obtained by means of sulphonal and bowels kept soluble with ox-gall enemata. Pulse, 84, high tension; temperature normal. Urine unchanged; takes nourishment readily; general condition comfortable."

Seventeenth day: "Delirium and motor restlessness continues unabated. Temperature, 99.4° F.; pulse, 96, irregular and weaker. Less influenced by sulphonal. Steadily losing weight and strength."

Twentieth day: "Little change in mental symptoms, except that motor restlessness has increased. Temperature, 98.8° F.; pulse, 88, weak. Heart's apex impaction feeble. Urine contains trace of albumin. Stimulants ordered."

Twenty-second day: "Delirium increased and now entirely oblivious of surroundings. Temperature, 100.2° F.; pulse, 100, low tension. Tongue dry, parched, and heavily coated; teeth covered with sordes and febrile symptoms prominent. Sulphonal fails to produce sleep; hyoscine substituted with good results. Takes liquid nourishment with slight resistance."

Twenty-sixth day: "No change in mental symptoms. Temperature ranges from 99.4° to 101.6° F.; pulse from 102 to 118. Strength declining. Stimulants increased. Urine contains increased amount of albumin."

Twenty-ninth day: "No subsidence of delirium. By means of moderate doses of hyoscine patient sleeps seven to ten hours daily. Resistive about taking nourishment. Febrile symptoms prominent and closely resembling typhoid fever. Head slightly retracted; pupils greatly contracted, and patient stupid and dull, although he still continues talkative and incoherent. Symptoms point to increased intracranial pressure, and operation of lumbar puncture was decided upon.¹ Morphine sulphate, one-fourth grain, and hyoscine hydrobromate, one-fiftieth grain, were given hypodermically, and patient fell asleep in a few minutes. Two or three drops of a four-per-cent. solution of cocaine were injected beneath skin of lumbar region and an aspirating needle inserted into subdural space without awakening patient. Needle was inserted one-half inch to the right of first lumbar spine and directed slightly upward and inward between first and second lumbar vertebræ. Flow of fluid was immediate and evinced a high degree of cerebral press-

ure, the rate of flow averaging at start forty-four drops per minute, whereas it has been determined by previous experiments with lumbar puncture that the normal rate of flow approximates six to ten drops per minute. The fluid drained away in drops for one hour, at the end of which time seventy-three cubic centimetres of clear exudate had been collected and entire amount reserved for examination. No shock followed operation and patient slept four hours."

On the following day the patient's condition was greatly improved. "Delirium partially subsided, attention could be attracted without much effort, and restlessness materially lessened. Temperature fell to normal, pulse tension lowered, and facial expression improved."

Thirty-second day: "Mild delirium continues. Incoherence well marked but attention can be attracted. Temperature normal, and pulse fair volume."

On the following day temperature rose to 99.6° F., and condition approached that which preceded puncture. Examination of urine revealed albumin and urea increased in amount and a few pus cells.

Thirty-sixth day: "Delirium gradually assuming a low, muttering form and patient's strength rapidly failing. Albumin, pus cells, and granular casts abundant in urine. Stimulants increased to one-half ounce of spiritus frumenti every two hours."

Forty-first day: "Very weak and greatly emaciated. Delirium muttering and low, like that of typhoid. Tongue dry, cracked, and brown; mouth very foul, and teeth covered with sordes. Temperature, 100° F.; pulse, 94, weak and irregular. Resistive about taking nourishment. Albuminous salt solution injected into buttocks and hypodermics of strychnine and digitalis given every four hours. After nutrient injection patient rallied and seemed much improved for twenty-four hours, at the end of which time he relapsed. Twelve hours after relapse nutrient injection repeated without further improvement."

Forty-sixth day: "Patient died at 2 P.M., after having been in a condition of coma for thirty-six hours. Eight minutes after death lumbar puncture was again performed and sixty-six cubic centimetres of turbid fluid quickly collected."

Autopsy (sixteen hours after death).—The following notes are abstracted from the autopsy record: "Body greatly emaciated. Brain found bulging and membranes tense, but only a moderate amount of fluid drained off. Tension due to the swollen condition of the cortex. Pia and arachnoid inflamed; frontal half of membranes cloudy and opaque, presenting evidence of extension of the inflammation from the frontal to the temporo-sphenoidal and thence to the occipital lobes, the inflamed area of the latter being apparently of very recent origin. The vessels of the pia were highly injected and the pia over the cerebellum was mildly inflamed. The entire cerebrum was soft and swollen, and the cortex was infiltrated with inflammatory products, thus presenting evidence of acute encephalitis. Minute punctate hemorrhages appeared on the surface of the convolutions from which the pia was stripped. The superficial layer of the cortex tore up in flakes on removal of the pia. The temporo-sphenoidal lobes were softened and the frontal lobes were adherent to each other for a short distance anterior to the corpus callosum. The olfactory bulbs were soft and atrophic; the choroid plexus was cystic; the ventricles were greatly dilated, and their walls were softened and infiltrated with serum. The meninges of the cord and nerve sheaths of both anterior and posterior roots were inflamed throughout.

The lungs were large, white, anæmic, and emphysematous; contained much frothy mucus. The lobules contained a cloudy, semi-fluid, gelatinous exudate, smears of which were saved for microscopical exam-

¹ For full description of this operation and its use in general paralysis, locomotor ataxia, and other cerebro-spinal diseases, see State Hospitals Bulletin, July, 1896, vol. i., No. 3.

ination. An ante-mortem clot was found in the pulmonary arteries, extending into the vessels of both lungs.

The heart was soft, flabby, and dilated. The left ventricle contained a small ante-mortem clot extending into the aorta. The valves were competent throughout. The right ventricle contained a large, fibrous clot, intimately blended with the muscular columns, extending through the tricuspid orifice into the right auricle. The pericardium, aorta, and heart wall were normal in appearance.

The liver was large, congested, and studded with friable, soft areas. It resembled the liver of acute alcoholism.

The spleen was congested and friable; normal in size. Blood smears were saved for microscopical examination.

The kidneys were both highly congested. The right contained a small abscess at the upper angle.

The intestines were normal. The Gasserian, semilunar, and Meckel's ganglia, retina, cochlea, and sections from all the organs were saved for microscopical examination.

Microscopical Examination.—Smears from the lungs showed broken-down epithelial cells, shreds of lung tissue, red blood corpuscles, and much granular matter. Blood smears from the spleen, stained by Gram's method, revealed the micrococci pneumoniae in great numbers. They occurred singly and in pairs, and were not accompanied by the streptococci which were found in such abundance in the cerebro-spinal fluid from the second puncture. The red cells were granular and in various conditions of transitional change. The leucocytes were normal in contour, increased in number, and some contained within themselves one or more cocci.

Microscopical examination of sections from the inflamed areas of the cortex revealed the usual appearance of acute inflammation. Nissl's stain showed that the perivascular and lymph spaces were crowded with white blood cells in various stages of degeneration. The vessel walls were swollen and the lumen of the arteries was crowded with corpuscles. Around some of the larger arterioles the lymphatic engorgement was very great; the cells were densely crowded together and evidences of granular degeneration were very apparent. The periganglionic spaces were occupied by a serous infiltration, which in some places gave way to an enormous crowding together of lymphocytes. The cortical cells in close proximity to the blood-vessels were swollen; the nucleus was distinct and the protoplasm was vacuolated in some instances. The condition of the nerve cells varied greatly in different fields examined.

Chemical Examination.—Briefly, the chemical analysis of the cerebro-spinal fluid resulted as follows: First puncture: amount, seventy-three cubic centimetres, clear; reaction, neutral; specific gravity, 1.010; albumin, 2.25 per cent.; chlorides, 4 per cent.; urea, 0.1 per cent.; sugar, negative; traces of phosphates, sulphates, and globulin. Protogon was also tested for and found. Second puncture: amount, sixty-six cubic centimetres, cloudy and opaque; reaction, neutral; specific gravity, 1.009; albumin, 3.5 per cent.; chlorides, 4.5 per cent.; urea, 0.1 per cent.; phosphates, 0.75 per cent.; sulphates, 0.25 per cent.; sugar, negative. White and red blood corpuscles, pus corpuscles, and hæmatin crystals were also present.

The large amount of albumin present suggests an intense inflammatory condition of the membranes, which evidently steadily progressed, as the albumin increased from 2.25 per cent. in the first specimen to 3.5 per cent. in the specimen of fluid obtained immediately after death. The chlorides and other salts,

traces only of which are present in normal fluid, were found to be greatly in excess, particularly in the specimen from the last puncture.

Bacteriological Examination.—Many precautions were taken in collecting the fluid during both lumbar punctures so as to exclude all possibility of contaminating it with extraneous germs. The needle, tube, and glass receptacle were previously sterilized by steam; the fluid was kept at the body temperature by means of hot moist packing about the tube and graduate, and the latter was kept covered with sterilized gauze. As soon as twelve cubic centimetres were collected, that amount was transferred to a sterilized precipitating tube and the latter was plugged with sterilized cotton. The liquid, after standing twelve hours, was placed in a centrifugal machine and its suspended solids were precipitated. After precipitation the supernatant fluid was drained off and the flocculent precipitate was stained by Gram's method and mounted in balsam. This method of precipitation and staining, with the exception of keeping the temperature of the fluid at 100° F., was carried out after the second puncture. On examination of the slides prepared from the fluid of the first puncture, large numbers of the micrococcus pneumoniae crouposa were found, together with an occasional streptococcus pyogenes. Slides from the fluid of the second puncture revealed an increased number of both germs, particularly the streptococcus. Pus cells were numerous in each field examined from the fluid of the second puncture.

As the writer had no facilities for making cultures of the germ, an attempt was made to demonstrate its specific nature by the inoculation of rabbits. Two were inoculated from fluid of the first puncture, as follows: The aseptic precautions described above were supplemented by the use of a sterilized hypodermic needle, and the fluid was kept at a temperature of 100° F. until injected subcutaneously into buttocks of rabbit. Two cubic centimetres were injected into each rabbit. At the end of twenty-four hours both had an elevation of temperature of little more than a degree, and manifested symptoms of a mild septicaemic infection. At the end of forty-eight hours their temperature was still elevated and they were eating poorly. Twenty-four hours later they seemed to have regained their usual condition.

Three rabbits were inoculated with fluid from the second puncture in the manner described above. At the end of twenty-four hours two of them gave evidence of an intense infection, while the third gave birth to eight young, evidently premature. Of the young two died, while the mother manifested no further evidence of infection. The two remaining rabbits were greatly prostrated; their temperature ranged from 103.8° to 105.2° F. (normal rabbit temperature, 103.1° F.); they refused to eat and lost weight rapidly. At the end of forty-eight hours one appeared to be dying, but both recovered after a few days. An examination of the blood of these rabbits revealed the same germ that was found in the spinal exudate, which here occurred both singly and in pairs.

The microscopical appearance of the germ found in the spinal fluid and the blood of the inoculated rabbits exactly corresponds to that of the micrococcus pneumoniae crouposa or micrococcus Pasteuri (Sternberg). Its virulence upon the rabbits, however, appeared much less than that of germs from pneumonic sputum, as the animals usually die when inoculated with the latter. It is assumed, therefore, that the germs injected had from some cause or other become attenuated. The subject needs further investigation by reinoculation and culture experiments with the fluid obtained by puncture before the identity of the germ can be established. The above notes are only

offered as an incentive to more thorough work in suspected cases of bacterial peri-encephalitis.

The features of particular interest presented in this case are:

First, the temporary relief of the cerebral symptoms and improvement in the patient's condition following lumbar puncture.

Second, the finding of a germ, probably the micrococcus pneumoniae crouposa in the cerebro-spinal fluid obtained during life.

Third, the protraction of the delirium and the unusual length of the disease (forty-six days).

RUPTURE OF THE UTERUS.¹

By JOHN C. MACVITT, M.D.,

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ONE of the most formidable, dangerous, and unexpected accidents to the parturient woman with which the obstetrician has to contend is rupture of the uterus. Without the slightest premonition the attendant is carried from a peaceful contemplation of a natural process to a most direful result. In the literature of the subject it is the exceptional author who outlines any premonitory symptoms, and they are so vague and difficult to appreciate that until time and experience designate more tangible evidence we will still rest in fancied security by the patient's bedside until in the presence of the disaster. The frequency of rupture of the uterus is hard to determine, owing not only to the failure of physicians to report their fatal cases, but to the fact that the greater majority of the cases are not recognized. Baudeloque in his thesis states that in his post-mortem examinations, after craniotomies, he usually found a ruptured or contused condition of the organ. Sudden deaths during labor reported as due to concealed hemorrhage, shock, embolism, heart failure, etc., are probably due to this cause. Statistics by foreign and American obstetricians of note, based upon personal and collected cases, range from one in four hundred to one in five thousand. This apparently great difference is undoubtedly due to the classification of the injury, some recognizing a tear of limited extent in the cervix or body, whereas others recognize only those whose grave symptoms indicate laceration into the peritoneal cavity. Tears in which the whole extent of the cervix is involved, according to the theory of Kaltenbach, are of a non-traumatic origin. To cure a diseased condition remove the cause, is an axiom in practice. In these cases, in most instances, the cause is unrecognizable until the harm is accomplished. Cases presenting a history of Cæsarean section, previous ruptures, or operation involving the uterus for carcinoma or fibroid neoplasm should put the attendant upon his guard to be in readiness to operate upon a moment's notice, or, better still, he should advise such a patient to seek treatment in some hospital where adequate skill and convenience for operating under proper precautions exist. A successful operation, one of the very few, in which both mother and child were saved after a rupture with protrusion of the child into the abdominal cavity, was performed by Dr. Tucker, of Bay City, Mich., he fortunately recognizing the rupture at the moment of its occurrence and performing without delay cœliotomy, his only instrument being a small penknife.

Many factors enter into the etiology of this accident. Eighty per cent. of these cases occurs in multiparæ, due to a thinning and weakening of the uterine muscular fibres in previous labors. It is asserted and disputed that a healthy uterus can rupture itself

through the force of its own muscular contractions. External violence, such as falls, blows, traumatism in which the uterine tissue is injured, oftentimes produces rupture. Freund relates a case in which labor appeared two days after the patient had fallen, striking the enlarged abdomen against a curbstone, and in which the uterus ruptured shortly after the onset of labor. Disproportion between the size of the child and the maternal soft parts, as exemplified by statistics, shows a great preponderance of male children in these cases. Hydrocephalus was an early recognized cause; also previous operation upon the womb, already referred to, laceration of the cervix, narrow pelvis and pelvis presenting abnormal bony prominences, the symphysis pubis and enlarged ileo-pectineal eminence being often at fault in this respect, and malpresentations presenting irregular surface to the contracting uterine muscles: but above all I believe the greater number of ruptures is produced by bad management and a failure to recognize imperative interference early enough. You can easily understand how the administration of ergot during the second stage of labor, so often indulged in by midwives and criminally incompetent practitioners, notwithstanding the well-known action of the drug, the untimely and unskilful use of the forceps, the condition of malpresentation after the liquor amnii has escaped, when the woman has been in labor for hours, without preparing her for the ordeal by the administration of an anæsthetic, will lead to this accident. The following two cases will serve to illustrate gross incompetency in management.

CASE I.—A poor, ill nourished Polish woman, the mother of two children, without any history of previous difficult labor, was taken with labor pains on the morning of January 6th. In the afternoon a midwife was sent for, and, according to her evidence before a coroner's jury, she found the woman suffering from pains every four or five minutes, with the os slightly dilated. Without waiting for complete dilatation she ruptured the membrane. This was about two o'clock in the afternoon. At eleven she left the woman with advice to the husband to send for a doctor. The doctor arrived at 3 A.M. The woman was in hard labor, head presenting at brim. Failing to deliver with forceps, the aid of a second physician was sought. A second application of the forceps was likewise futile. At 7 A.M. of the second day both these doctors took their departure, promising to return later. They failing to do this, a third practitioner was called in, who, not deeming the pains of the now exhausted woman strong enough, ordered regular doses of ergot and left the patient to nature and the drug. He returned at eleven o'clock that night to find the woman vomiting and in a state of collapse. He sent for a consultant, upon whose arrival the bladder was catheterized and bloody urine withdrawn. It was then decided to send for an ambulance to remove her to a hospital. The ambulance surgeon arrived at the house at about 5 A.M. the third day of the woman's labor. She then presented marked pallor of the face and lips, wrist pulse weak and rapid, with every evidence of complete exhaustion with entire absence of pains. On examination the surgeon found a prolapsed, pulseless cord, with head presenting at brim but not wedged in. Having been informed of the fruitless efforts of the four physicians who had preceded him to deliver with the forceps, he proceeded to do an internal podalic version, which he states he accomplished with comparative ease. He experienced but little difficulty in delivering the body and extremities, but the head remained fast. After vainly trying to deliver this he severed the body from the head and brought the woman to St. Mary's Hospital, where I was sent for to complete the attendance. As you can

¹ Read at the fourth annual meeting of the Association of Alumni of St. Mary's Hospital.

well imagine, the woman presented all the appearance of approaching dissolution from collapse. The abdomen was greatly distended, tense, and painful, showing the presence of general peritonitis, and in consequence of this condition nothing could be determined by abdominal palpation.

Upon the introduction of my hand into the uterine cavity I found it filled with intestines. The decapitated head I could feel between them, receding before my fingers into the peritoneal cavity. I found it somewhat difficult to gain possession of this, owing to its moist, rounded form, but finally, getting my index finger into the mouth, I gently worked it back through the widely torn rent into the uterine cavity and down to the pelvic brim. I retained my purchase and an assistant was able to grasp with a strong pair of forceps the remaining portion of the neck, which he held until I applied a pair of obstetrical forceps and delivered the head, the placenta following directly. I was desirous of doing a cœliotomy, cleaning out the abdominal cavity, and stitching the torn womb, but on consulting with the medical gentlemen present it was deemed unwise, owing to the patient's condition. I then endeavored to produce an inversion with the intention of amputating the womb, but my efforts, together with the stimulants the patient was constantly receiving, brought on contractions, which rendered my efforts of no avail. The uterus was then crowded down into the pelvis and held there by abdominal compresses and bandages. After douching out the cavity with a weak solution of carbolic acid, an iodoform drain was inserted into the rent, and the patient removed to the ward where she died five hours afterward. I will leave comment upon this case to the members of the association.

CASE II.—A strong, healthy German woman, mother of seven children, upon the appearance of labor pains sent for the doctor she had engaged to attend her. On his arrival he stated he was in a great hurry, made an examination, ruptured the membrane, applied the forceps, and delivered. One week afterward she was brought to St. Mary's Hospital. On an examination by Dr. John Byrne, the bladder, vagina, and uterus made but one cavity. Fortunately, in this case the uterine rupture did not extend into the peritoneal cavity. After waiting for proper involution, Dr. Byrne, at one sitting, made a thorough and successful restoration of the parts. A few days ago I learned from the doctor that the woman was again pregnant.

The position of the ruptures in these cases is not so much a matter of moment as their extent. Sometimes the cervical portion is torn from their body. The majority of the tears have their origin in the thin obstetrical neck and extend transversely and longitudinally. This portion of the uterus is passive during a pain, and, it being also the thinnest, you can understand how the force of the contracting fundus, pressing the fœtus against the bony brim, can destroy the integrity of the intervening wall. Rarely there may be an external rent in the walls of the uterus without injury to the peritoneum and conversely.

I believe it to be a difficult matter to detect any but a rupture of so grave a character that there can be no mistaking the objective symptoms. Some ruptures are progressive and cannot be recognized until completion of the disaster. But there can be no mistaking the following symptoms: During the acme of a pain the woman experiences a sensation of something tearing or giving away, followed by vomiting, faint, pallor, shallow respiration, coldness of the extremities, in fact all the symptoms of shock: cessation of the pains generally, but not always; for if the arch of the fundus is not destroyed contractions can continue. If the child has entered the peritoneal cavity it can be felt through the abdominal walls, and an examination per

vaginam will show a recession of the presenting parts. Palpation of the abdominal walls will not only show the presence of the child, but the uterus can be felt as a separate body as well. Hemorrhage from the vagina also often takes place. Emphysema at the level of the hypogastric region caused by air in the connective tissue is a symptom not always present. When found it indicates a fatal termination. In my reading on this subject I have not met with the mention of a single case in which a woman with a previously ruptured uterus was afterward delivered without a recurrence of the same, an item of considerable importance in the elective treatment of these patients. Preventive treatment resolves itself into a matter of individual judgment. Treatment after rupture depends entirely upon the position of the child. If the head presents apply forceps and deliver, having an assistant steady the uterus by pressure. Failing to deliver, craniotomy is advised, but morally and scientifically cœliotomy would be the better procedure, providing the child is still alive: in other than vertex presentations with a dead child embryotomy; in case of a living child podalic version may expedite delivery, but the greatest care is necessary in order not to enlarge the tear.

In a third class of cases, in which the child is partly within the peritoneal cavity, try and deliver through the vagina. But when the child is wholly within the cavity, cœliotomy is the only justifiable operation. The old treatment of passing the hand through the uterine tear and withdrawing the child will only jeopardize the woman's chance for recovery. The old-fashioned expectant plan is not to be thought of in this enlightened era. After the removal of the child and placenta through the abdominal opening, the rent in the uterus is to be sutured, the peritoneal cavity cleansed in accordance with the rules of aseptic surgery, and the wound closed. The uterus is then to be douched out with a weak solution of carbolic acid. In cases in which the child has been delivered through the natural passage and the mother afterward develops symptoms of septicemia, it would be proper to perform cœliotomy for the purpose of removing the septic material. In other than cœliotomy cases daily irrigations and drainage are requisite. It is a disputed question whether it would not be better in all cases of rupture in which the amniotic fluid and blood have entered the peritoneal cavity to remove it through abdominal section, as it is well-nigh impossible to secure proper aseptic conditions without: but statistics of reported cases up to the present time show a less mortality when drainage and irrigation have been given the preference over cœliotomy. In cases of cœliotomy, where the edges of a uterine rent are so irregular and injured that they cannot be properly brought together, amputation of the uterus is resorted to. The mortality resulting from this proceeding has been so great that drainage is preferable. The placenta should be removed manually and not expressed.

Phimosis.—Dr. Martin (*Medical News*) says this is a frequent agent in causing or aggravating diseases in children. The indirect disturbances by reflex are often puzzling and by no means infrequent: it affects digestion very seriously at times. Prolapsus ani accompanies preputial inflammation, which will also give rise to symptoms resembling those of stone in the bladder. Phimosis will aggravate the symptoms of any coexisting disease and be the cause of slow recovery in many cases. The reflex disturbances from it are of sufficiently frequent occurrence to justify a physician in making an examination of every male child for this condition.

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THE SIN OF SUBSTITUTION.

On several occasions previously we have condemned the practice of substituting one preparation for another in the compounding of prescriptions. The evil is a well-recognized one and, we have good reasons for believing, is more prevalent than would at first sight appear. To such as take the requisite pains to examine the question the damaging testimony against the unprincipled pharmacist is overwhelmingly evident. The difficulty of finding some efficient remedy for this gross abuse has always been great, and it is with a feeling of congratulation that we notice the action of a leading manufacturing firm of this city in placing the responsibility where it rightly belongs. The firm in question, whose products have gained for themselves a well-deserved reputation for uniformity of strength and surety of action, has directly attacked the evil in the very practical manner as set forth in the following circular to physicians throughout the country:

"DEAR SIR: We beg to call your attention to the following statement of facts, which we believe will be of great interest to you as a practising physician relying upon the pharmacist for dispensing the medicines which you prescribe:

"On a recent date a prescription of a ——— physician ordering ——— was sent to ——— drug store. The bottle dispensed upon this prescription was immediately sealed in the presence of a witness and expressed to us. A copy of the prescription was asked for and obtained, which proved to be an accurate transcript of the prescription, bearing date and number corresponding to those upon the label of the bottle dispensed. Upon examination the content of said bottle was found to be a fluid differing materially from ———, so as to be obviously recognizable as a plain violation of the physician's prescription.

"Another written order for ——— was sent to Druggist ———. Upon examination this proved likewise to have been filled with a different and inferior fluid.

"Subsequently, the same day, a messenger was sent to ——— and asked verbally for four ounces of ———. He received a wrapped vial, for which he paid fifty cents. This bottle was found without label, and the messenger returned and asked to have the bottle labelled. The druggist then simply labelled it with the name of the firm's preparation. Thereupon, the messenger requested the druggist to put 'all the name

on the bottle.' The druggist told the messenger that he 'would not dare to put the firm's name on the label, although it was all the same.' The druggist finally admitted to the messenger that he was 'out of' the particular article and then returned the fifty cents.

"There is one significant fact that should also be mentioned: the price charged in these cases (as in every instance coming to our knowledge) is the same as the patient would be charged by pharmacists who dispense the genuine medicine ordered. Comment is unnecessary.

"In defence of our own rights, and in order that you may take such means as you deem best to protect yourself and your patients, we advise you of these facts. We further respectfully request that in prescribing ——— you will kindly send the prescription to pharmacists, of whom there are many, who will faithfully respect their legal and professional obligations to physicians and to the public."

The *Pharmaceutical Era*, in commenting upon this miserable business, makes the following sensible remarks:

"We fail to comprehend what a druggist is thinking of when he permits such practices behind his prescription counter. Where is the profession of pharmacy drifting to if it has gotten to that point that a physician cannot depend upon a druggist filling his prescriptions with what is ordered? We should discredit these reports if they came from a less responsible source. Such practice if continued will work untold injury to the credit and standing of the entire pharmaceutical profession. Physicians are constantly claiming that one of the principal reasons why they handle their own medicines is that they are then sure of what they are administering. Any such wholesale accusation against the integrity of druggists is as unjust as it is untrue. There are thousands of conscientious, upright, honorable pharmacists, who would no more think of substituting in a prescription than they would of trying to pass a counterfeit bill. It is unfortunate that reflection must be cast upon these honest druggists by the acts of their unscrupulous brothers, but all of this hue and cry on the part of manufacturers about substituting cannot be ignored. Where there is so much smoke there must be some fire.

"Every honest druggist owes it to himself and his profession to speak plainly on this subject. He should adopt the most strict rules for his own establishment, improve every opportunity to condemn the practice of substituting, and see that resolutions to this effect are passed by his local, State, and national associations. Each druggist should make it a point to give his physicians and his customers to understand that when a prescription comes into his establishment it is filled with exactly what it calls for. There can be no middle ground, no compromise, no question on this point. Physicians who prescribe them and the manufacturers who make the goods must have no good cause for such complaints. The honor of the drug trade demands that this stigma be removed. It is not a question of dollars and cents alone, but professional honor is at stake, and we know that every honest pharmacist will join with us in the statement that the druggist who

substitutes in his prescriptions is a disgrace to his profession."

Aside from the question of fair dealing between man and man, of ordinary justice in trade, and common honor in protecting the consumer, this outrageous practice of substitution not only tends to distrust of the one in whom every confidence should be placed, but is a direct menace to the skill of the physician and the faith he may have in well-tried drugs. Further than this, the very life of the patient may hang upon the culpable waste of time that a substitution may entail or the substitution may eventually cheat the innocent sufferer of the only chance of ultimate recovery.

Thus the physician becomes more than interested in the exposure of such nefarious practices. Every respectable pharmacist in any community owes it to himself by word and deed to frown on the culprits and to lend his efforts in exposing their fraudulent proceedings. When the latter have been discovered no pains should be spared to make the facts known, either by disciplinary action on the part of boards of pharmacy or by suits at law. The advice to patronize only such as are known to be honest is perfectly sound. In the end we must narrow ourselves to this. There is nothing to prevent every physician who wishes to claim his rights in the premises from advising his patients to patronize such pharmacists as he has good reasons for believing are above the usual temptations of fraudulent dealings. There are plenty such and these only should be encouraged. When a substitutor is discovered he should be blacklisted once and for all. His very act, being deliberate, cold-blooded, and inexcusably dishonest, places him beyond the pale of possible repentance. He is the spotted leopard who cannot live without his skin.

FRAGILITAS OSSIUM IN THE INSANE.

A FAVORITE theme for the sensational newspaper writer is the abuse of the insane by asylum attendants. It is assumed as unnecessary of demonstration that the latter are brutal by nature and still further hardened through contact with lunatics and observation of the many wiles and treacheries of these poor sufferers. The specific charges of cruelty are often based upon the occurrence of fractures or of ecchymoses during the struggles of a patient to escape from his keepers for the purpose of committing some act of violence. It is assumed as matter of course that no such accidents can occur except as the result of unjustifiable violence. But the facts are the other way, for daily observation shows that it requires but a slight traumatism to produce ecchymoses in the insane, and a pressure on the skin no greater than that associated with the force necessary to prevent the escape of the patient may result in covering him with black and blue spots. From the same cause, the lowered nutrition in the insane, the bones may become exceedingly brittle and liable to fracture, as the result of almost inappreciable factors or even spontaneously.

At the meeting of the American Medico-Psychological Association, held last year in Denver, Dr. H. C.

Eyman, of Toledo, reported a case of this nature which barely escaped being made the subject of a newspaper scandal. The case was that of a strong man, about sixty years of age, who had been admitted to the hospital suffering from delusional melancholia. He slept in a dormitory with twenty other patients. One night he became restless and wandered about the ward, finally stopping by the bed of another patient. The latter awoke suddenly and was alarmed at seeing a man so near him. He put his foot against the patient's chest and pushed him away with some violence, but not with sufficient force to throw him down. The man went back to bed, whence he arose the following morning with the other patients and dressed himself quietly. During the day he became restless and suddenly attacked the attendant, a smaller man than himself, who was obliged to use some though no undue force in subduing him. While being conducted to the disturbed ward he broke away and ran a considerable distance before being overtaken, showing at that time no evidences of soreness or illness. A few hours after being placed in the ward, however, he complained of being ill, and examination showed several fractures of the ribs. He was at once removed to the hospital, where he sank rapidly and died in a few days. At the autopsy nineteen fractures of the ribs were found, and the bones were as brittle as pipe-stems. The coroner made a thorough examination of the case and exonerated the attendants from all blame. The man's son took the body home and then consulted some physicians who were not disposed to agree with the coroner. The case was taken to the newspapers, but although it was in the very middle of the silly summer season, they did not care to make a sensation of it and so it was dropped.

This case, had it not been for the searching investigations of the coroner and his exonerating verdict, might readily have been taken up by some scandal-mongering paper, and the physicians and hospital attendants would have been subjected to infinite worry and unpleasant notoriety.

THE PARASITES OF WHOOPING-COUGH.

THE recognized contagiousness of whooping-cough at once places this disease in the category of the infectious processes; but although a considerable number of studies have been made to determine the causative organisms, it cannot be said that this end has been satisfactorily attained. Of all those that have been isolated from the sputum the greatest significance has been attached to the bacillus described in 1887 by Afanasiew, but the pathogenicity of this also has been disputed. In a recent communication upon this subject, Kurloff (*Centralblatt für Bakteriologie*, vol. xix., Nos. 14 and 15) details the results of a study of the fresh, unstained sputum in a series of cases of whooping-cough. This observer found an amœba characterized by a finely granular protoplasm and great capability of movement, which he believes to be the infecting agent of the disease. As this organism grows it attains considerable size, large bright granular

spores appearing in its body, arranging themselves in concentric layers. Upon rupture of the cell the spores escape and proceed to increase in size, until finally, and partly within the body of the patient, through rupture of the capsule young amœbæ are set free. These are provided with cilia and are capable of active movement. Other ciliated amœboid bodies were also found, but their relation to those described was not perfectly clear. No specific significance was attached to the many bacteria present in the sputum, although the importance of these with regard to the secondary phenomena and complications of the disease must be conceded.

A SPECTACLE FOR THE SILLY SEASON.

MUCH astonishment as well as indignation has been aroused in medical circles over the curious actions of our new charity commissioners. They have had a ward set apart in Bellevue Hospital, in which they are testing a secret specific for inebriety. This is being done without the counsel or supervision of the medical board. The spectacle of the executive officers of a great and historic hospital grappling with the hard problems of experimental therapeutics ought to add much to the gaiety as it does to the silliness of the season.

News of the Week.

Obituary Notes.—**SURGEON C. S. D. FESSENDEN**, United States Marine Hospital service, died at Salem, Mass., July 23d, at the age of sixty-eight years. He was appointed to the Marine Hospital service in 1861. On November 22, 1895, he was placed on waiting orders on account of physical disability.—**DR. EDWARD GUTMANN** died in this city on July 21st. He had been ill for almost a year. He was born at Halle, Germany, in 1828. He studied medicine at the University of Berlin, and came to this country to begin the practice of his profession in 1854.—**DR. JOHN H. MCGIVERN** died at Plympton, N. S., on July 21st, after an illness of several months. He was thirty-nine years old, and was born in St. John, N. B. He received his degree from the medical school of the University of New York in 1883, and at once began to practise in Harlem.—**DR. SAMUEL SWIFT**, of Yonkers, died in this city on July 29th. He had an apoplectic attack while in a theatre on Saturday evening, and was taken to Flower Hospital. He was fifty-three years old. He was a graduate of the College of Physicians and Surgeons of this city in 1872.—**DR. M. M. WEIL**, a recent graduate of the College of Physicians and Surgeons of this city, died from poisoning by carbolic acid, taken with suicidal intent on Saturday last.

A Rejected Paper.—Mr. Lawson Tait, who is polemical, not to say belligerent, gave notice to the chairman of the section on ethics of the British Medical Association that he proposed to read a paper on "The Ethics of Advertising, Illustrated by the Manners and Customs of the Editor of the *British*

Medical Journal," but received word in reply that no attack on the editor of the *British Medical Journal* would be permitted. So now Mr. Tait proposes to publish the paper elsewhere, "where Mr. Hart may have his brittle nature less sedulously and unscrupulously protected."

The American Microscopical Society will hold its nineteenth annual meeting in the new Carnegie library building, Pittsburg, Pa., Tuesday, Wednesday, Thursday, and Friday, August 18, 19, 20, and 21, 1896.

The British Medical Association at its meeting in Carlisle this week was invited by the local profession to meet in 1898 in Portsmouth.

A New Board of Health Building.—A new three-story brick building, to be used as a stable and a laboratory by the board of health of New York, is to be erected by the city on the south side of Seventeenth Street, east of Avenue C.

The Canadian Medical Association will hold its annual meeting in Montreal on August 26th, 27th, and 28th, under the presidency of Dr. James Thorburn, of Toronto.

An Alleged Case of Cholera in London.—The cable reported a week ago that a physician had found a supposed case of cholera in Walworth Road, South London, and that the officials were examining into the case. As nothing further has been cabled, it is presumable that the disease was not Asiatic cholera.

Peace in Peekskill.—For a number of years there has been trouble in the Peekskill Hospital owing to the usual differences between the lay managers and the medical staff, and all efforts to reconcile these differences and woo back the physicians who had resigned from the staff proved futile. Recently, however, the rules of the hospital were so modified that the doctors felt they could accept the invitation to return, and they have accordingly done so.

The Third French Medical Congress will be held this year at Nancy, on August 6th–12th. There will be three set discussions: "The Application of Blood Serums to the Treatment of Diseases," "Intravascular Coagulation of Blood," and "The Prognosis of Albuminuria."

The New Jersey State Dental Society held its twenty-sixth annual meeting during the past week, at Asbury Park.

A Protest against the System of Appointments to the Public Hospitals.—A committee of five physicians from the County Medical Association called on the commissioners of charities a few days ago, to file a statement protesting against the present system of appointing physicians to the staffs of the various public hospitals and institutions in the city.

A Police Census of Physicians.—The police recently took a census of physicians and surgeons in this city, at the request of the County Medical Society, in order that there may be a complete and accurate list of the members of the profession, which is to be the basis of some investigation of the standing of certain supposed illegal practitioners.

Order of Military Surgeons of New Jersey.—At the annual session of the Order of Military Surgeons of New Jersey, held in connection with the annual encampment at Sea Girt, the following officers were elected: *President*, Maj. D. L. Wallace, First Regiment; *First Vice-President*, Maj. W. J. Parker, Fourth Regiment; *Second Vice-President*, Lieut. Leslie F. Ward, First Troop; *Secretary*, Maj. D. Strock, Sixth Regiment; *Treasurer*, H. C. H. Herald, retired. A resolution was adopted petitioning the governor to have the uniform of the medical department of the United States army adopted as the uniform for the medical department of the national guard of the State of New Jersey.

The American Public Health Association will hold its twenty-fourth annual meeting at Buffalo, September 15th to 18th. The following are the subjects proposed for discussion: the pollution of water supplies; the disposal of garbage and refuse; animal diseases and animal food; the nomenclature of diseases and forms of statistics; protective inoculations in infectious diseases; national health legislation; the cause and prevention of diphtheria; causes and prevention of infant mortality; car sanitation; the prevention of the spread of yellow fever; steamship and steamboat sanitation; the transportation and disposal of the dead; the use of alcoholic drinks from a sanitary standpoint; the centennial of vaccination; the relation of forestry to public health; transportation of diseased tissues by mail; river conservancy boards of supervision. This is a rather wide range of subjects to be disposed of in four days.

"Climate and Health," a publication of the weather bureau of the United States department of agriculture, has been discontinued, owing to the failure of Congress to make the necessary appropriations.

The Convalescent Dinner Society is a London association which undertakes the duty of granting in well-authenticated cases in which sickness has reduced the strength necessary to return to work, an order for fourteen daily dinners. Such orders have been granted to nearly one thousand convalescents during the last year.

The Perils of Militia Duty.—The Second and Seventh regiments of the Illinois militia made a trial march and bivouac last week with disastrous results. On going into camp at night the men pulled down vines from walls and trees to make beds of. These being of the *rhus venenata*, the night's sleep resulted in some three hundred active cases of ivy poisoning the next morning for the surgeons to attend. Moral: All green leaves are not laurels of war.—*Boston Medical and Surgical Journal*.

The Iowa Cigarette Law, which prohibited absolutely the manufacture or sale of cigarettes or cigarette paper within the State, or their importation into the State, has been declared unconstitutional by Judge Sanborn, of the United States Circuit Court. His decision followed that of the Supreme Court in the prohibition case some years ago, which was to the

effect that, the federal constitution having delegated to Congress the power to regulate commerce between the several States, the legislature has no power to prohibit the importation of liquors into the State or their sale in the original packages by the importer.

The Green Cross Society has been organized in Vienna, its object being to render medical aid to Alpine climbers and to instruct the guides in the principles of first aid.

A Memorial to Keats.—It is proposed to endow a bed at Guy's Hospital to bear the name of the poet Keats, who was for a short time a medical student there. Guy's is in great financial straits and the ingenuity now being displayed in devising means to replenish its exchequer is worthy of admiration.

A New Local Anæsthetic is called eucaine; it is a synthetic product. It is said to cause anæsthesia of the conjunctiva without affecting in any way the normal reflexes of the pupil.

To Prevent the Introduction of Small-Pox from Cuba.—In answer to an appeal from Governor Mitchell, of Florida, to the navy department, for help in protecting his State against the introduction of small-pox from Cuba, Secretary Herbert has telegraphed instructions to Captain Crowninshield, of the *Maine*, now at Key West, to aid the local health authorities in the work of boarding steamers and passing upon bills of health.

Health in Buffalo.—The mortality in Buffalo for the last six months has been at the wonderfully low rate of 11.67 per thousand. Among the causes which it is claimed have resulted in this reduction of the death rate are frequent examinations of all lodging and tenement houses, the maintenance of a bacteriological laboratory, the sanitary inspection of schools, and especially a strict supervision of the milk supply in order to prevent the sale of milk from tuberculous cows.

The Medical Society of Virginia will hold its twenty-seventh annual session at Rockbridge Alum Springs, on September 8th, 9th, and 10th.

Vital Statistics of Philadelphia.—For the week ending July 18th, there occurred in the city of Philadelphia 595 deaths, of which number more than one-half (315) were among children under five years of age. The most conspicuous causes of death were as follows: Cholera infantum, 121 (20.3 per cent.); pulmonary tuberculosis, 49 (8.2 per cent.); marasmus, 43 (7.2 per cent.); inflammation of stomach and bowels, 39 (6.5 per cent.); convulsions, 26 (4.4 per cent.); apoplexy, 21 (3.5 per cent.); pneumonia, 21 (3.5 per cent.); inflammation of the brain, 20 (3.3 per cent.) There were reported during the week 39 cases of diphtheria, 34 of typhoid fever, and 12 of scarlet fever; and 11, 5, and 2 deaths from the same diseases respectively.

Medical Students in Italy.—In all the universities of Italy, and their name is legion, there are about seven thousand medical students. At the beginning of the summer over two thousand received diplomas with the right to practise medicine.

Reviews and Notices

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In Photolithochromes from Models in the Museum of the Saint Louis Hospital, Paris, with Explanatory Woodcuts and Text. By ERNEST BESNIER, A. FOURNIER, TENNESON, HALLOPEAU, DE CASTEL, FEULARD, and JACQUET. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. London: The Rebman Publishing Co., Ltd. Philadelphia: W. B. Saunders. 1896.

WHEN completed this set of plates will be in twelve parts. The third part is now out. We have already given our readers the high opinion we hold of this production. The present fasciculus tends in nowise to diminish the views previously expressed. A good reproduction of the tongue, pathologically altered or otherwise, is beset with difficulties which few have wholly overcome. The frontispiece contains four figures of syphilitic tongues, which are not nearly so faulty in coloring as tongue pictures usually are.

The three remaining plates represent, first, the rather unusual conditions of concentric-ringed eruption of dermatitis herpetiformis, very suggestive of herpes iris lesions, the cockade-like form presented being very striking. Then comes a peculiar-looking gumma of the thigh, the syphilis in which is spoken of as "unknown and unrecognized." The history of this case, which is filled with interest and carries with it an important lesson, is written by Henri Feulard, in whose service the patient was observed.

The last subject (Plate XII.) is discussed by E. Besnier. It represents an old man showing, in separate figures, the two sides of the face, each of which is covered with disseminated lesions of epithelioma of the sebaceous type. One has ulcerated, and the side of the nose is destroyed by a slowly extending and penetrating cancer. This collection is simply one of interesting and instructive cases, with descriptive text written by the physician whose case is depicted. No attempt is made at a systematic treatise on the subject.

POPULAR ESSAYS ON THE CARE OF THE MOUTH AND TEETH. By VICTOR C. BELL, A.B., D.D.S.

THE second edition of this book has appeared so soon that it indeed endorses the contents. The author states that the book has been accepted for instruction by the New York board of education for use in the public schools. No greater compliment could be paid, and we commend the book for its practicability to the profession.

LA SÉROTHÉRAPIE DE LA FIÈVRE TYPHOÏDE, ÉTUDE EXPÉRIMENTALE. Par le DR. M. FUNCK. Bruxelles. 1896.

IN this very interesting and valuable monograph is contained a large number of experimental investigations with regard to the effect of "sero-therapy" in typhoid fever. Notwithstanding the beneficial results which were undoubtedly obtained by this specific treatment in experimentation on animals, Funck says that this mode of treatment should not as yet be applied or even tried in man.

THE METHODICAL EXAMINATION OF THE EYE. By WILLIAM LANG, F.R.C.S. Eng. London and New York: Longmans, Green & Co.

THIS is an excellent work for the beginner and contains all the necessary directions to enable the student to master this difficult procedure.

A TREATISE ON THE MEDICAL AND SURGICAL DISEASES OF INFANCY AND CHILDHOOD. By J. LEWIS SMITH, M.D. Eighth Edition. Thoroughly Revised and Greatly Enlarged. Lea Brothers & Co. 1896.

THIS volume is dedicated very fittingly to Dr. Frederick M. Warner, who was a collaborer in its preparation and died before its publication.

The book comprises nearly a thousand pages and is the outcome of almost a life's experience in hospital and private clinical work, besides having valuable chapters on the surgical diseases in children by Prof. Stephen Smith.

The value of the book is greatly enhanced by such contributions as that of Dr. Joseph O'Dwyer on "Intubation." Professor Robinson has several dermatological chapters and many good illustrations.

In a text-book of this size we miss a chapter on influenza, and the importance of urinary examination is not even mentioned. The book is quite modern, gives a great many points, and certainly deserves a large sale. The type is clear and the illustrations are very good.

ELECTRICITY IN ELECTRO-THERAPEUTICS. By EDWIN J. HOUSTON, Ph.D., and A. E. KENNELLY, Sc.D. New York: The W. J. Johnston Company. 1896.

THIS work is, for the most part, devoted to the explanation of the *modus operandi* of the various apparatus intended for the transmission of electro-motor force to the human body. It is necessarily rather too technical to be understood by the ordinary reader. The therapeutical side of the subject is treated somewhat scantily, which may be regarded as commendable rather than otherwise, since comparatively little is known of this subject, excepting as regards the heating power of the electric current as applied to cauterizing purposes. The laity has great confidence in the mysterious curative virtues ascribed to electricity, and hence in no other method of treatment is greater fraud daily practised. The high scientific reputation enjoyed by the authors is an assurance of the accuracy of their statements. The book has one hundred and twenty-eight good illustrations.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. XIII. Philadelphia. 1895.

THIS volume, containing the proceedings of the meeting held last year in New York, is full of interesting and practical material. Among the articles of special value are those bearing on the operative treatment of malignant diseases and the use of anæsthetics.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1895. Vol. XII. Edited for the Association by E. J. FERGUSON, M.D.

THE present volume contains an unusual variety of articles, medical and surgical, proving the well-earned position of the Association as a thoroughly progressive and actively working body.

THE NATIONAL DISPENSATORY FORMULARY. New and Revised Edition. Lea Brothers & Co. Philadelphia and New York.

THIS is a supplement to the National Dispensatory and is a formulary of unofficial preparations. It contains four hundred and fifty-four formulæ for the preparation of various remedies, ranging from acetum aromaticum to vinum rhei, and furnishes a very useful addition to the dispensatory. It is bound in pasteboard.

CONSUMPTION: ITS NATURE, CAUSE, AND PREVENTION. With an Outline of the Principles of Treatment, for all Classes of Readers. By EDWARD PLAYTER, M.D. (and medallist, Toronto University), M.C.P.S. Ont., Author of Playter's Physiology and Hygiene, Editor of the *Canada Health Journal*. Toronto: William Briggs. 1895.

THE object of the work is indicated in the title. It is intended for non-scientific rather than for medical readers, and still the latter will find much to interest them. Consumption is discussed by the author from the many sides which the subject presents, and the social problems it involves are well brought out.

The work is for sale in the States by E. B. Treat & Co., of New York.

THE DISEASES AND TREATMENT OF THE DISEASES OF THE RECTUM. By WILLIAM ALLINGHAM, F.R.C.S. Eng., and HERBERT ALLINGHAM, F.R.C.S. Eng. Sixth edition. New York: Wm. Wood & Co. 1896.

THIS very popular treatise, after being for some time out of print, appears much improved and elaborated in a sixth edition. The different forms of rectal diseases are discussed in an exhaustive and intelligent manner, and many illustrations of typical conditions are scattered throughout the text. The reader will be struck with the thoroughly practical character of the contents, and the very reasonable arguments for the choice of the different operative procedures. This will be noticed more particularly in reference to the commoner diseases of the rectum; for example, hemorrhoids, prolapsus,

and fistula. The criticism of Whitehead's operation is well presented and the objections to its widespread use are well taken. The various operations for hemorrhoids are given in an intelligent manner and will be of great service to the general practitioner, who so often treats these cases. The same may be said of fistula, the true pathological condition of which is so little understood and which is often so injudiciously treated. The importance of a single and proper division of the sphincter is forcibly insisted upon and the after-effect of the neglect of proper precautions in the treatment of the resultant wound and of a proper method of dilatation are very well put. The relative merits of inguinal and lumbar colotomy are practically considered, and tend to enforce the necessity of a proper discrimination in given cases. The radical method of the author in preventing prolapse after the former operation is in our opinion hardly advisable and more experience than that already presented is necessary before the measure can meet with any extended adoption. As a whole, the work is peculiarly adapted to the necessities of the general practitioner as well as the practical surgeon, and will amply repay a careful study.

DIETS FOR INFANTS AND CHILDREN IN HEALTH AND IN DISEASE. By LOUIS STARR, M.D., Editor "American Text-Book of the Diseases of Children." Philadelphia: W. B. Saunders. 1896.

THIS is a bound book of diet sheets, with ingredients for infant feeding indicated and the quantities left blank to be filled in for each case. There are seven forms of blanks for the different ages. Owing to the "compact binding" it has been found necessary to insert instructions as to how to tear out the leaves without tearing them across. Since the main object of the book is to have these readily removable, the binders might have done their work in a less "compact" manner. The scheme is a good one, but it has been rendered almost impracticable in the present edition by too much binding. The paper tears less readily along the perforated lines than elsewhere.

THE TRAINED NURSES' DIRECTORY, May, 1896. Compiled and Edited by M. LOUISE LONGEWAY, Graduate of the New York Training School, Bellevue Hospital. Published semi-annually.

THIS is a collection of names carefully selected by prominent physicians of New York and vicinity from their private lists, and has been endorsed by many well-known practitioners.

Being of vest-pocket size and with flexible cover, it is well suited for the physician to have with him when he needs to refer to the list. It is arranged by schools and by streets, and has blank sheets for memoranda. Many excellent nurses are omitted from the first issue, but the next promises to be more complete. The venture has a worthy object and should succeed.

ŒUVRES DE LÉON LE FORT, PROFESSEUR DE CLINIQUE CHIRURGICALE À LA FACULTÉ DE MÉDECINE DE PARIS, ETC. Publiées par le DR. FÉLIX LEJARS, Professeur Agrégé à la Faculté de Médecine, etc. Tome Deuxième, "Chirurgie Militaire; Enseignement," avec une préface de M. le Médecin Inspecteur-Général DUJARDIN-BEAUMETZ, Félix Alcan, Editeur. Paris. 1896.

THIS second volume of Professor Le Fort's extensive work makes a book of nearly a thousand pages. It is devoted chiefly to a consideration of military surgery, though the subject of instruction occupies an appropriate space. In a preface Dujardin-Beaumetz renders the author worthy homage. The volume is marked by the same proofs of profound study and devotion to the cause which has always characterized the numerous writings of this distinguished author.

The third volume, which will complete the work, is shortly to be issued and will be devoted to surgery proper.

THE TREATMENT OF PHTHISIS. By ARTHUR RANSOME, M.D., M.A. Cantab., F.R.S. London: Smith, Elder & Co. 1896.

THIS volume will be found to be a very practical addition to the literature of this very common disease and will be appreciated by every student anxious to analyze facts, draw deductions, and enlarge his personal resources in the treatment of the various complications and conditions of this dreaded disorder. No specific is given, but the whole subject is treated from a broad and rational standpoint.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 12, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

DR. IRA VAN GIESON presented a preliminary report on some studies he had made on

The Explanation of True Heterotopia of the Spinal Cord.—He said that by heterotopia of the spinal cord was meant a dislodgment of portions of the gray matter situated outside of the outlines of the posterior or anterior horns. Pick, in 1878, had first drawn attention to this condition, and had published a case in which he had found exceedingly minute masses of gray matter which had become displaced and were situated near the middle of the posterior columns. In a second case published a year or two afterward he found the same condition, to which he gave the name "heterotopia." After these cases had been placed on record a number of others had been published in which all sorts of displacements had been described, but many of these were afterward found to be really due to bruising of the spinal cord. The speaker said that he had reported two genuine cases, and that up to the present time there were only about six cases on record. The displaced portion was usually situated about the middle of the posterior columns. To understand what he considered to be the true nature of this condition, reference must be made to what are known as "outlying cells." In 1873, Beisso, an Italian, had shown that in the spinal cord of some of the lower animals, particularly in oxen, the ganglion cells were not confined to the gray matter. Sherrington had carefully studied these outlying cells in the human spinal cord. He found that they occurred in three regions, viz.: (1, and most frequently) on the internal surface of the posterior horn; (2) on the outside limb of the posterior horn; and (3) just at the junction of the anterior and posterior horns, where they join the lateral columns. Dr. Van Gieson said that he had found them in a fourth region—in the region of the anterior commissure. In his opinion heterotopia was simply a clustering together of these outlying ganglion cells. A study of the development of the nervous system showed that this whole system originated from the outer of the three germ layers—the ectoblast. The first stage of development consisted in a thickening of the dorsal aspect of the embryo, the cells of the ectoblast becoming a little thicker. Next, there was a dipping in of the ectoblast, forming what was called the primitive furrow. This was followed by a slight division between the ectoblast and the primitive furrow. To this the name of "neural crest" had been given, because from these crests arose the spinal ganglia. In the next stage of development the primitive furrow became deepened and cup-shaped, and the edges of the cup tended to approach each other. A continuation of this process resulted in the formation of a tube—the future canal of the spinal cord. Then the neural crest became spread over the spinal cord, and subsequently divided in two, these halves being situated on the sides of the spinal cord. These lateral halves then spread until they almost reached the anterior portion of the spinal cord. The cells which originally came from the spinal ganglia sent their processes into the spinal cord. As the cells of the primitive medullary canal migrate outward to the periphery of the spinal cord they become pear-shaped, forming the neuroblast, the future ganglion cells. It should be particularly noted that the development of these ganglion cells was in

a radial direction. From the radial growth of the ganglion cells and the constant encroachment on the gray matter of the posterior root collaterals and other fibres, some of these cells are thrust out beyond the confines of the gray matter and become the outlying cells; hence these displaced masses of gray matter are simply a grouping together of the outlying ganglion cells—in other words, an exaggeration of a normal condition. Heterotopia is observed, the speaker said, to the greatest extent in those regions in which were to be found the greatest number of outlying cells. The chances of these heterotopic masses forming a nidus for tumors seemed to him extremely small.

DR. JAMES EWING remarked that it was pleasant to learn that three out of the six genuine cases of heterotopia on record had been discovered by Americans.

Tumors of the Brain.—DR. J. S. THACHER made some remarks on this subject, illustrating them by lantern slides. He said that tumors of epithelial origin appeared in medical literature much less frequently than formerly. A considerable number of these epitheliomatous tumors had been shown to be sarcomata or endotheliomata. It was natural that true epithelial tumors should not be frequently met with in the brain, because the cells of the nervous system, although originally derived from the epiblast, had so far lost their resemblance to ordinary epithelium that only those growths starting from the lining epithelium of the central canal would show in neoplasms a structure which was distinctly epithelial. Very few cancers of the brain had been reported in recent years. Knapp had collected forty cases coming under his personal observation, and of the thirty in which the nature of the growth was recorded not one was cancerous. Dr. M. Allen Starr, in a collection of two hundred and sixty-nine tumors of the brain occurring in persons under twenty years of age, and in which the nature of the growth was recorded, found only ten to be cancerous, and most of these were secondary. The speaker then illustrated by lantern slides the nature of the growths found in four cases of primary carcinoma of the brain. These all contained cylindrical cells. Two of them were secondary to tumors elsewhere in all probability; one was in a stage of what could be called properly only epithelioma; and one was a tumor which had apparently begun in the brain and had gone on to multiple metastatic deposits.

The first slide exhibited was from a tumor of the brain secondary to a growth in the stomach. It had been taken from a man, fifty-five years of age, who had come into Dr. Murray's service at St. Luke's Hospital, complaining of pain in the shoulder. A tumor was found in the scapula which on examination proved to be an adeno-carcinoma. Dr. Thacher said that, thinking it appeared to be secondary to a tumor of the alimentary canal, he had asked if there had been any symptoms pointing in this direction, but he had received a negative reply. During the last two weeks of life the man had complained of pain in his head; the right pupil had been contracted, and there had been incomplete left hemiplegia. There were no symptoms of gastric trouble. The autopsy revealed a large tumor of the stomach to the left of the cardiac orifice; several smaller tumors in the right lung; a large tumor involving a portion of the scapula, and two tumors in the brain—one in the frontal lobe, one and a quarter inches in diameter, and one in the posterior part of the parietal lobe, one-half inch in diameter.

The second specimen was from a woman, forty-five years of age, in Dr. Northrup's service at the Presbyterian Hospital. Six months previously she had fallen and had had convulsions, followed by some difficulty of speech and complete loss of power in the left arm and

leg. She had recovered speech and the paralysis had improved. About two days before her death there had been some rigidity of the neck. She had then passed into coma. At the autopsy a tumor was found in the right parietal lobe just behind the fissure of Rolando. It measured two inches in diameter and involved the cortex, but did not reach the ventricle. It contained viscid material. In the lung was a tumor about half an inch in diameter. No other tumors were found. From its alveolar structure, the fact that the alveoli contained much mucin, that they were lined with cylindrical epithelium, that the tumor did not communicate with the ventricles, that it was apparently not connected with the membranes of the brain, and that there was a small tumor in the lung, he felt justified in concluding that this tumor was secondary to the nodule in the lung.

The third specimen was from a girl, sixteen years of age, who entered Dr. Ball's service at St. Luke's Hospital, complaining of vomiting and headache. She suffered from these attacks for two months or more before death. There were no other prominent cerebral symptoms, and she was supposed to be suffering from gastritis and hysteria. The vomiting occurred several times a day, and did not appear to depend upon the taking of food. About seven hours before death she complained of pain in the head being extremely severe, and she was more than usually irritable and noisy. Then there was a general rigidity lasting about an hour, and finally general tonic convulsions with cyanosis. At the autopsy, along the upper and inner edge of the right temporal lobe and along the floor of the descending horn of the lateral ventricle and invading the brain tissues in the immediate neighborhood, was a new growth measuring two inches by one by one inch. Its consistency was like that of the brain. It involved the right optic thalamus and corpora quadrigemina. There were no other tumors. The growth consisted of very regular cylindrical cells covering the papillæ. From the fact that there was no other tumor, from its distinctly papillary character, from the regular cylindrical cells, and from its situation at the border of one of the ventricles, the conclusion seemed inevitable that this was a primary papilloma of the choroid plexus and the descending horn of the lateral ventricle.

The fourth specimen was from a man, forty-five years of age, who came into Dr. Thompson's service at the Presbyterian Hospital about eight months before his death. He stated that four months before admission he had begun to suffer from lumbar pain, and three months later from prickling and numbness in the legs and thighs quickly followed by weakness. Then a marked "girdle" sensation had been felt about the waist. Over the trunk and legs was a marked reduction to sensibility, pain, and temperature. During the last month of life he became very dull. The autopsy showed a tumor encircling the cord and invading the eighth and ninth dorsal segments, and destroying all of the cord at that level except a little anteriorly. There was a small nodule in the lung, and in the brain were eleven tumors varying from half an inch to one and a half inches in diameter. These tumors were very vascular and papillary, the papillæ being covered with cylindrical epithelium. The tumor in the spinal cord had given rise to the clinical picture observed. It was conceivable that these numerous tumors in the brain and the one in the spinal cord might have been secondary to the tumor in the lung, which was about three-fourths of an inch in diameter. Clinically it would appear that the tumor of the spinal cord was not the primary one, yet in the four cases reported it had been shown that a considerable neoplasm might exist in the brain without clinical symptoms. From the fact that the largest tumor in the body was in the

brain, and was in the descending horn of the lateral ventricle, where two or three tumors had been recorded, and from the vascularity and papillary character of the tumors, he thought it was safe to conclude that the tumor began as a papilloma of the choroid plexus of the descending horn of the lateral ventricle, and afterward passed into the category of carcinomata.

DR. A. JACOBI asked why Dr. Thacher had suspected in the case of the adeno-carcinoma of the scapula that there was also a tumor of the alimentary canal.

DR. THACHER replied that the regularity of the cylindrical cells and the mucous contents of the alveoli were probably the most striking features which had led him to think there might be a tumor in the alimentary canal.

THE PRESIDENT said that he thought a metastatic tumor often preserved a suggestion of the structure from which it had developed. He had noticed this particularly in adenomata of the breast and of the stomach. In the former there was very frequently a distinct suggestion of a compound tubular gland preserved, although the growth might be extremely irregular in other respects and abundant. In the stomach he had noticed a preservation of the type of a simple cryptic gland.

DR. WOOD exhibited under the microscope sections from a

Tumor of the Cerebellum.—These sections had been taken from a patient who had been admitted to the St. Luke's Hospital to Dr. Kinnicutt's service about two weeks before death. There had been cough and pain in the left side before admission, and on entering the hospital bloody fluid had been found in the pleura from which nearly a pure culture of tubercle bacilli had been obtained. About one week later the man had become comatose, and this condition had been associated with rigidity of the muscles of the arm and some hyperæsthesia. At the autopsy the pleura was found to be very much thickened, there were a few old cicatrices in the lungs, and a number of pale yellowish nodules scattered through the brain—two or three in the cerebellum, two or three in the cerebrum, and one in the optic thalamus. There was no new growth in the alimentary canal. The tumor of the cerebellum was thought to be an endothelioma, (1) because the cells were developed in the perivascular lymph spaces, and (2) because the growth had a distinctly tubular character.

DR. THACHER said that at the autopsy he had felt positive that these were masses of tubercle, but the structure seen under the microscope certainly resembled carcinoma. As only one nodule had been examined microscopically he could not say whether the growth was endothelial or epithelial.

The society then went into executive session.

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Stated Meeting, February 26, 1896.

Lesions of the Heart and Blood-Vessels.—DR. GEORGE P. BIGGS presented four specimens illustrating sudden death due to occlusion of the coronary arteries. The first one was from a man, twenty-five years of age, a cooper by occupation. Alcoholism and syphilis were denied. The patient after going up a flight of stairs walked into a friend's room and sat down. After talking for a few minutes his head suddenly fell upon his chest, the breathing became rapid, and the face cyanotic. He was speechless and could not be aroused. The ambulance arrived about fifteen minutes later, and then the breathing was slow, irregular, and shallow, and there was no perceptible radial pulse. On admission to the hospital his breathing was shallow and irregular, he was cyanotic, and the

pulse could not be felt. After free stimulation he revived sufficiently to answer a few questions. He stated that he had not been drinking for a year past, that he had no pain, and that he was extremely thirsty. In spite of the cyanosis there was no feeling of suffocation. He soon relapsed into unconsciousness, and œdema of the lungs developed very rapidly. He died about an hour and a half after the development of the first symptoms. At the autopsy rigor mortis was well marked; there was no œdema; the diaphragm was at the level of the fifth space on the right side and the sixth space on the left. The heart was found very greatly distended with blood, which was dark in color and largely fluid. The cavities of the heart were dilated and the walls correspondingly thin. The heart muscle was rather soft but of normal color. The valves were normal except for slight thickening at the bases of the mitral and aortic cusps. There were several elevated, yellowish areas of atheroma in the aorta, two to five millimetres in diameter. Attached to two of these areas in the anterior portion of the aorta just above the aortic valve were two thrombi. The larger one of these was attached near the opening of the left coronary artery by three small finger-like projections only, and was irregularly cylindrical in shape, measuring one and a half by one-half centimetres. It was found lying in the most anterior sinus of Valsalva, completely filling it, and causing the aortic cusps, back of which it lay, to remain in the close position. More careful examination revealed that the left coronary artery, which arose from this sinus of Valsalva, was completely closed over by the thrombus. The second thrombus was half a centimetre in diameter, and was attached loosely a little above the first one. The coronary arteries were moderately atheromatous. The kidneys showed slight chronic diffuse nephritis.

The speaker said that the case was interesting as showing how easily the cause of death in such a case might be overlooked. The smaller thrombus had fallen off, notwithstanding the care taken in the removal of the heart, and was found only after careful search of the blood left in the pericardial sac. The larger thrombus, the one obstructing the coronary artery, was so loosely attached that it dropped off during the incision of the heart, and if the aorta had not been inspected from above before making the incision the position of the thrombus would have been entirely overlooked. Apparently the thrombi had been in existence for a considerable time, but had caused no trouble, as they had been regularly washed upward by the blood current. For some reason the larger one had suddenly fallen backward and occluded the left coronary artery, thus causing the sudden cardiac failure.

The second specimen was from an autopsy made some time ago for Dr. Robert Milbank. The patient, a male of thirty-one years, gave no history of syphilis, rheumatism, or malaria, and had enjoyed good health with the exception of attacks of what were described as "painful dyspepsia." He had recently taken a good deal of violent exercise. At 2 p.m. on the day of his death he had taken a hearty lunch with a friend at the club, and at 4 p.m. had been seized with severe epigastric pain. When seen by Dr. Milbank he was suffering intensely and was only temporarily relieved by the hypodermic injection of large doses of morphine. After an hour or two some watery mucus was vomited. The pulse was small and rapid—110 to 124. The patient was conscious almost to the last, and walked across the room shortly before death. He died about six hours after the first symptoms. The autopsy revealed an embolus of considerable size, lodged in the left coronary artery. In the aorta were two small thrombi, one attached just at the

mouth of the left coronary artery, the other attached a little higher up. A considerable portion of the thrombus at the mouth of the left coronary artery was missing, and was undoubtedly the source of the embolus in that vessel. There were no thrombi in the heart cavities. The organ was of normal size, and its valves were normal. There was an endarteritis of the aorta, apparently rather acute in character. The sub-pericardial adipose tissue was rather thick, particularly over the right ventricle. The other organs of the body showed no important lesions.

The third specimen was from a sailor, forty-eight years of age. Two days before admission to the hospital, while lifting a heavy weight, he had been suddenly seized with severe pain referred to the left hypochondriac region. This was soon followed by dyspnoea, and both pain and dyspnoea had been constant since that time. The pulse was found to be very irregular and feeble, the face extremely congested, and the feet were slightly œdematous. No cardiac murmur was audible. The respirations were rapid and feeble, and moist râles were heard over both sides of the chest, anteriorly and posteriorly. His temperature was 101.4° F., respirations 56, and pulse 100. Notwithstanding free stimulation he died a few hours after admission and two days after the onset of the symptoms. At the autopsy the body was found to be very obese; rigor mortis was very marked; the diaphragm was at the sixth rib on the right side and the sixth space on the left side. Each pleural cavity contained six hundred cubic centimetres of serous fluid, and the pericardium seventy-five cubic centimetres of serous fluid. The heart was very greatly enlarged; its cavities were all very much dilated and distended with partially clotted blood. There was slight hypertrophy of the left ventricle. The valves of the left side were very slightly thickened, but no incompetence could be detected. An ante-mortem thrombus completely filled the left auricular appendix, and a second thrombus, measuring two centimetres by one centimetre was attached in the apex of the left ventricle. The most anterior sinus of Valsalva was completely filled with an ante-mortem thrombus, which held the cusp completely closed. This thrombus covered over the opening of the left coronary artery, and was continuous with a similar clot which filled the coronary artery almost completely for three centimetres. The primary site of the development of this thrombus was apparently in the aorta very near the opening of the coronary artery. The aorta and coronary arteries were moderately atheromatous. The muscular substance of the heart was soft, pale, and friable throughout. The lungs were extremely œdematous. The spleen was normal. The kidneys showed a moderate amount of chronic diffuse nephritis. The right one contained a recent infarction, one centimetre in diameter. The vessels at the base of the brain were moderately atheromatous. The other organs were practically normal.

The speaker said that it was probable that the dyspnoea and feeble irregular heart action which suddenly developed shortly before death were due to a more complete closure of the left coronary artery. This obstruction was probably developed rather slowly, so that the disturbance of the heart action was not so marked as in the other cases.

Rupture of the Heart with Myomalacia.—For the fourth specimen Dr. BIGGS said he was indebted to Deputy Coroner O'Hanlon, who performed the autopsy. It had been removed from a man of sixty years who, for a year or more, had been troubled with indefinite precordial oppression and occasional attacks of angina. On the day of his death he went out feeling as well as usual, but was suddenly seized with a severe attack of angina just as he reached his desti-

nation. He succeeded in mounting a flight of stairs, but died almost instantly after doing so. At the autopsy the pericardial sac was found distended with blood. The heart was of normal size and was covered with considerable adipose tissue. Just at the junction of the outer wall of the left ventricle with the inter-ventricular septum was a large, ragged tear, about two centimetres in length. The cardiac muscle around this area was softened and torn. From this point of rupture the course of the blood was traced almost directly outward to the visceral layer of the pericardium. It then dissected its way upward to the base of the ventricle, lifting up the pericardium and forming a large hamatoma over the entire base of the left ventricle. The final rupture was shown by a linear ragged tear of the pericardium, about two centimetres long. The valves and the coronary arteries were very atheromatous. About one centimetre from the origin of the right coronary artery the lumen of the vessel was very materially encroached upon by atheromatous deposit, and finally completely occluded by a recent thrombus. The rupture occurred in the particular area supplied by this artery and was the result of myomalacia following its obstruction. Dr. Biggs referred to a recent article in the *Journal of Experimental Medicine*, in which Porter described some experiments he had made on dogs by ligating or partially occluding the coronary vessels. This experimenter's conclusions in part were: (1) That the frequency of the arrest of the heart as a result of this occlusion depended upon the size of the vessel ligated; (2) that the rapid closure of a coronary artery was invariably followed by death of the part it supplied, and that the process was a typical coagulation necrosis; (3) the disturbed action of the heart and final arrest he attributed to the disturbance of the co-ordination of the heart, due to the anæmia of a considerable portion of the heart muscle. On the passage of a glass tube down through the innominate into the coronary artery he noted invariably an almost immediate development of irregular heart action with a weakening of the contraction and lowering of the arterial pressure. If this occlusion were allowed to continue, the heart very soon became arrested. If the glass tube were soon removed, the symptoms disappeared and the heart's action returned to its normal state, showing that it was the anæmia of the part supplied which had disturbed the mechanism. By connecting the end of the glass tube with a supply of defibrinated blood diluted with salt solution, and supplying in this way nutrition to the area thus obstructed, he was able to keep up the normal action of the heart for a long time, thus demonstrating that the presence of the foreign body was not itself responsible for these symptoms. Cases of complete coronary obstruction, the speaker said, were rarely observed clinically, and still more rarely diagnosed, owing partly to the suddenness of death and the variability of the symptoms. The clinical picture usually presented is briefly as follows: Rapid, irregular, feeble heart; dyspnoea and pulmonary œdema, with or without precordial pain. The absence of pain was a characteristic feature of the first case presented, while in the second case the pain was described as "intense," and in the third and fourth cases as "severe." An interesting feature of the first two cases was the comparatively early age, twenty-five and thirty-one years, a period of life when coronary lesions are not usually expected.

The next specimen exhibited was one showing extensive replacement of the muscular tissue of the left ventricle by fibrous tissue. This was due to a gradual occlusion of the left coronary artery by atheromatous and calcareous changes. As the specimen had been previously presented to the society, it was shown

only as an illustration of the possible remote effect of coronary obstruction.

Ulcerative Endocarditis.—The last specimen in this series was one from a case of ulcerative endocarditis. It had been removed from a man, thirty-seven years of age, who had been well up to nine days before his admission to the New York Hospital, when he had had a chill. On the second day of his illness he was feverish, and suffered from shortness of breath and pain in the left side. He then developed also cough with mucous expectoration. A second chill occurred on the sixth day. On admission his temperature was 104° F., respirations 40, and pulse 120. Physical examination showed an area of dulness with bronchial voice and breathing on the left side opposite the angle of the scapula and near the spinal column. The heart action was regular, rapid, and strong. The urine contained a trace of albumin with granular casts. The patient improved under stimulation and tonic treatment up to the twenty-first day of his illness, when the temperature suddenly rose to 105.3° F. For some days previously it had been below 100° F., and his pulse had been between 72 and 80. The temperature soon subsided, was lower for four days, when another chill occurred, with a temperature of 104° F., followed by profuse perspiration. The blood was examined for malarial plasmodium, but none was found. After this time chills were of frequent occurrence, and were associated with profuse perspiration and a septic type of fever, the temperature frequently rising to 106° or 107° F., and often falling to normal. Prostration rapidly increased, and he died during the tenth week of his illness, and in the sixth week after the development of symptoms of general sepsis. The autopsy revealed abundant adhesions over the left lung, and a few over the right lung. The heart was about normal in size; its cavities were dilated and greatly distended with blood; the muscular substance was pale and soft; the mitral and pulmonary valves were normal. Two of the aortic cusps were normal, while the third had attached to the lower two-thirds of its inferior surface a large amount of grayish coagula. Three ragged perforations, the largest four millimetres in diameter, through this aortic cusp were found in the area with which the thrombi were connected. Examination of the cusps from above showed no vegetations, but there was conclusive evidence of the development of a large aneurism of the valve prior to the rupture. The tricuspid orifice was almost completely filled with firm, whitish thrombi, which were attached to the superior surface of the valve. The largest thrombus measured two and a half centimetres in diameter. All the thrombi were solid throughout. Examination in the fresh state and by cultures showed large numbers of capsule diplococci. A large part of the lower left lobe of the lung was still consolidated. There were a few areas of infarction in the upper lobe, and thrombi were present in many of the pulmonary vessels. The right lung contained infarctions, and the vessels leading to those areas were occluded by thrombi. The spleen was slightly enlarged and soft, but contained no infarctions. Both kidneys showed moderate parenchymatous degeneration; the right one contained an infarction.

THE PRESIDENT said that only a short time ago he had seen a review of a German article which stated that experiments like those described had been tried on dogs and rabbits. In this article it had been asserted that total occlusion of the coronary arteries caused complete arrest of the heart in about two minutes, and that if the occlusion were complete for a short time only and the blood then readmitted to the vessels the heart would recover. The specimen of interstitial myocarditis was of extreme interest in connection with the subject of aneurism of the heart.

Double Aorta and Dissecting Aneurism.—DR. WILLIAMS, of Buffalo, presented a specimen of double aorta and dissecting aneurism. The patient, a man of fifty-eight years, had been under the care of Dr. Charles G. Stockton, who had first seen him on September 27, 1894. The patient said he had never been sick up to eight years before, when he had had a severe attack of pneumonia. The previous winter he had had some shortness of breath and tumultuous heart action, and since then more or less dyspnoea on exercise or excitement. His height was five feet nine inches, and his weight two hundred and sixteen pounds. He presented a distinctly livid appearance: the pulse was weak and irregular; the capillary circulation was poor; there were dry cough and scanty mucous expectoration. Physical examination showed emphysema of both lungs with congestion at the bases. There was a systolic bruit at the apex of the heart, conveyed far to the left. The impulse was diffused and scarcely perceptible. When lying down the patient's face became greatly congested. One month before this time this man had successfully passed an examination for life insurance. It was found that he voided eighteen hundred and twenty-four cubic centimetres of urine in the twenty-four hours, which contained 17.8 grams of urea, that the specific gravity of the urine was 1.010, and that it was free from sugar and indican. Under treatment with digitalis, hot-air baths, and faradization, his general condition improved considerably. One morning he was found dead in bed without having made any complaint during the night. The autopsy was made about twelve hours after death. Rigor mortis was firm. The subcutaneous fat was three-fourths of an inch thick over the thorax and two inches thick over the abdomen. There was a quantity of bloody serum in the left pleural cavity, and a large firm blood clot. The left pleural cavity was full of clotted blood; the right pleural cavity was empty. The heart was very large, its muscle thick and firm, and there was hypertrophy and dilatation, especially of the left ventricle. The mitral orifice admitted two fingers. The valves were stretched, but not thickened. There was moderate atheroma of the ascending aorta. The left kidney was large, firm, and contained several small cysts. The capsule was somewhat adherent, and the surface beneath granular. The right kidney presented a similar condition. The kidney showed under the microscope the changes of chronic diffuse nephritis. The spleen and liver were normal; the stomach was small; the large intestine and vermiform appendix were normal. The upper and posterior wall of the aorta exhibited an opening one-fourth of an inch in diameter and nearly round. It was supposed at first to communicate with the descending aorta, which had ruptured into the pleural cavity. The aneurismal dissection in the thoracic aorta appeared to the left and in front, extending behind beyond the middle line to the right. Between the tenth and eleventh intercostal arteries it was far over to the right and behind. At the level of the renal arteries it had travelled still farther around, and a little below this point it entirely encircled the pair of aortic trunks to be subsequently described. It reached to the bifurcation of the aorta, and on the right common iliac to its bifurcation into the external and internal iliacs. The opening below the left subclavian artery did not communicate directly with the aneurism, but with a vessel which was continuous with the left common iliac. What had been supposed to be the only aorta was continuous with the right common iliac. The dissecting aneurism surrounded both vessels more or less completely. The aneurism had its origin in a rupture, not of the main artery but in a channel to the left of it. It had stripped off the pleura on the left side and had broken

through this, causing the fatal hemorrhage into that cavity.

A careful examination showed that there was a duplication of the aorta from the left subclavian down, the two portions being separated by a complete septum. The right was the larger and was in line with the descending limb of the arch. The left branch did not exhibit arterio-sclerosis. The principal vessels arose from the right branch, except the anterior mesenteric, which was given off from the left and behind. The celiac axis, superior mesenteric, and both renal arteries arose from the right or principal branch. There were ten pairs of intercostal arteries arranged along the right aorta, most of them patulous. Many of the intercostals opened from the right aorta into the left, and went no farther.

Dr. Williams said that this condition was very rare. Krause cited five examples of double aorta. In view of the fact that in the development of the human embryo the right and left systems of arterial arches fuse together at a very early period, it was astonishing that the man should have lived to a good age in health and comfort.

Rupture of the Aorta.—DR. JAMES EWING presented a specimen of rupture of the aorta removed from a woman twenty-six years of age. She presented no personal or family history of importance. The illness had begun three years before death with the ordinary symptoms of acute nephritis developing after exposure to cold. It was characterized at the onset by œdema and dyspnea. These symptoms continued irregularly for about one year, after which uræmic symptoms were added. She entered the hospital on January 27th and was then pale and cyanosed. There was a paralysis of the right side of the face which had appeared three months before. The pulse was 100, somewhat irregular, and showed remarkably high tension. There was severe and constant headache, and a constant feeling of sinking and choking about the heart. She was given the usual remedies for reducing arterial tension without much effect, and they were finally stopped. Within two hours after discontinuing the use of arterial dilators, she complained of severe pain in the chest and became greatly prostrated. The house physician then found in addition to the loud systolic murmur, heard all over the precordium, a remarkably harsh double murmur, heard loudest over the aortic valve. The patient went into collapse, and died within an hour. At the autopsy the kidneys were found to be of about the normal size, the surface was coarsely granular, the capsules non-adherent, the cortex irregular in thickness, the markings obliterated, and the kidney tissue in part replaced by uric-acid infarcts. There was very little congestion of the kidney. The heart was moderately enlarged. The wall of the left ventricle was very considerably hypertrophied without dilatation. There was no roughening of any of the valves, and there was only very slight atheroma. On opening the pericardium a large amount of fresh bloody serum was evacuated. The heart was surrounded by a thick dark clot. Some difficulty was experienced in finding the origin of the blood, so the abdominal viscera were removed and the aorta stripped up. On reaching the aortic valve the finger was passed into a peculiar pouch. About one inch above the aortic cusps was a clean linear rupture of the whole aortic wall, and through this rupture the blood had infiltrated the tissues around the aorta, and, rupturing into the pericardium, had infiltrated the tissues of the aorta to the middle of the transverse arch. At the origin of the left subclavian artery could be seen a healed partial rupture of the subclavian vein, about three-quarters of an inch in length, which appeared as if the intima and media had been slightly displaced on the adventitia. The remainder of the aorta showed very little atheroma.

The speaker remarked that at least two such cases had been reported to the society within the past few years.

DR. GEORGE P. BIGGS said that about a year and a half ago Dr. Ferguson had presented to the society a specimen showing a vertical linear rupture in the aorta, situated just a short distance above the aortic valve. In this case the blood, after having dissected along the aorta nearly its entire length, had finally broken through into the pericardium, causing sudden death.

DR. VAN HORNE NORRIE recalled a case of rupture of the aorta, seen about two years ago in a male patient in St. Luke's Hospital. This man was suffering from phthisis and nothing unusual had been noticed until about half an hour before his death, when, after a sudden attack of pain around the heart he went into collapse and died. The autopsy showed complete transverse rupture of the aorta about one inch above the aortic orifice, and a large amount of blood in the pericardial sac. The gross appearance of the aorta was normal.

DR. EWING said that Dr. Delafield thought that the primary cause of the rupture in the case he had just reported had been the high tension of the arteries. From the gross and microscopical appearances of the specimen presented, it was evident that the rupture had not been due to the giving way of a cicatrix of syphilitic origin.

The society then adjourned.

Clinical Department.

A CASE OF FATAL TRAUMATIC MYOCARDITIS (?).

By R. VAN SANTVOORD, M.D.,

NEW YORK.

THE following case presented from the standpoint of pathology so many points of interest upon which little light is shed by recent literature, in addition to its medico-legal importance, that it seems worth reporting, although, in the absence of an autopsy, it is unfortunately incomplete.

L. Z—, aged twenty-four, an engineer by occupation, had consulted his physician, Dr. G. W. Oakes, of Williamsbridge, a few days before the accident about to be narrated, for a trifling derangement of digestion. He was otherwise well and able to attend to his work. On June 1, 1894, a wagon in which he was riding was struck by a trolley car and he was thrown violently to the pavement. Just how he fell I was not able to ascertain. He was taken to a hospital and ten days later to his home, where he was attended by his own physician. On July 2d I saw him in consultation and found the following: He was seated with his elbows resting on a table in front of him, suffering from great dyspnea. There were old ecchymoses about the right side of the head and face. The pulse was feeble, regular, beating 136 per minute. The heart was not appreciably enlarged or dilated. Its sounds were weak but normal. There were a few moist râles over the lower lobes of both lungs. The legs and feet were very œdematous. There were no fractures of ribs or evidences of intracranial injury. I was informed by his physician that the symptoms had been the same, though at first not so intense, during the period of his attendance since the accident and the patient was said to have suffered similarly in the hospital, though of this part of the history I could get no satisfactory account. On July 5th death occurred from cardiac exhaustion.

We have here a case of fatal cardiac lesions, the exact nature of which was not self-evident, resulting from traumatism, but without any penetrating wound.

An erroneous statement that a diagnosis of fracture of the base of the skull had been made at the hospital led me to consider first the possibility of some nerve lesion. Rapid heart action has been observed in cases of lesions of the medulla, presumably from paralysis of the pneumogastric or by pressure upon the latter by tumors in the thorax. Neither in the one case¹ nor in the other² does the rapid heart action imperil life. In Bouveret's article on paroxysmal tachycardia³ several fatal cases of this disease are recorded and the theory is advanced that the disease is due to the exhaustion of the cells of the bulbar centres of the vagus. In the only case among those which Bouveret regards as typical of this malady, that of Bristow,⁴ death did not occur during a paroxysm and no lesion of the nervous system was found, but the heart was much dilated. In view of the facts that in cases of demonstrated lesions of the medulla and of the pneumogastrics, the heart's action has not been so rapid as to imperil life, and that the only case in which an autopsy has been recorded in a case of paroxysmal tachycardia a lesion of the myocardium was found, the statement that there may be a lesion of the vagus centre or of any other nerve centre which betrays itself by dangerously rapid cardiac action seems at least unproved. In such cases a lesion of the myocardium seems much more probable, in the light of our present knowledge. These considerations led me to think of the probability of the existence of a lesion of the myocardium in my case.

A considerable number of cases of injury to the heart due to non-penetrating injuries have been collected by Fischer⁵ and Schuster.⁶ More or less extensive lacerations and ecchymoses of the heart muscle with or without injuries to the aorta and other organs are related, death being caused by shock, hemorrhage, traumatic aneurism, or secondary inflammations. In only eleven of eighty-two cases collected by Schuster did the patient survive more than twenty-four hours.

Two highly suggestive cases are recorded by Hochhaus.⁷ The first was that of an adult, forty-three years old, previously healthy, who fell from a wagon, breaking some ribs, though not in a locality involving injury to the heart. His heart later was found to be somewhat dilated, pulse 100-120, small and soft. He became premanently disabled on account of his cardiac malady. The second was a similar though more complicated case resulting from a fall on the back. Both were regarded as cases of chronic myocarditis of traumatic origin.

It is to this class of cases of injury to the heart muscle due to non-penetrating injury that the case above narrated probably belongs. The lesion is supposed by Schuster to be caused by concussion or by the direct crushing of the heart between the sternum and the vertebrae, the latter springing back into place. It seems not impossible that cardiac laceration may be produced by spasmodic contraction excited by the shock of the accident, as occurs not infrequently in the case of the voluntary muscles.

In looking over the recent literature of this subject I could find very little about the matter. It is not probable that such cases are extremely rare. It is not improbable that traumatism has a larger share than is generally recognized in chronic diseases of the myo-

cardium, as exemplified by the two cases related by Hochhaus above referred to. The effect of traumatism on the cardiac valves has long been recognized. I publish this case in the hope that it may attract attention to the less readily recognized lesions of the myocardium due to injury and lead to the publication of illustrative cases.

106 WEST ONE HUNDRED AND TWENTY-SECOND STREET.

A CASE OF GLOSSITIS.

By W. WASHBURN, M.D.,

NEW YORK.

J. M. H.—, aged forty-five, commercial traveller, had generally enjoyed good health, but had been subject to what had been termed malarial attacks, for which he had been treated by quinine. About December 1st the patient discovered a small ulcer on the inside of the left cheek, which after washing with witchhazel disappeared. He had not had syphilis.

On December 5th the patient presented himself at my office for treatment for sore throat and pain down the left side of the neck. He was well nourished, rather fleshy. The skin was of good color and the eyes were clear. The pulse was 90, temperature 100° F., respiration 22. The left tonsil was enlarged slightly, with marked redness, localized on the anterior inferior surface. I ordered a gargle of tannic acid and potassium chlorate. Early the following morning I was summoned in haste, the messenger saying that the patient was choking to death. When I reached the patient he was in bed, conscious but unable to speak, and had a feeling as though he could not breathe. The nose was, however, free and with a little encouragement he soon learned that he could not only breathe properly but also swallow without any great difficulty. The mouth was forcibly open and the tongue filled the whole opening, the teeth being embedded in the tongue. Closer examination showed that the left side of the tongue was extremely thickened—nearly three inches thick—and that the right side was very little affected. Cracked ice was immediately applied to that portion of the tongue that could be reached. Diagnosis: Left hemiglossitis. The sublingual veins were opened as soon as a knife could be procured, some fifteen minutes later. The patient could articulate (very thickly) immediately after the blood began to flow, and his mental condition improved at once. Ice was ordered now for external application, as the left cheek and left side of the neck were beginning to swell rapidly. An hour later more blood was drawn from under the left side of the tongue, with relief (for the patient had again become unable to articulate. The bleeding was repeated each hour thereafter until about noon, after which the swelling did not again increase on that side of the tongue, but began on the right side and rapidly increased, so as to make articulation again very difficult. The same treatment was applied on the right side of the tongue that had been given to the left, and in the mean while three leeches were applied to the lower angle of the left jaw. At 1 P.M. the pulse was 108; temperature, 101° F.; respiration 18 and pretty full. The leeches were still on the left side, and the right side of the face and right side of the neck were swelling but under control by blood-letting from the under surface of the tongue. Here a different course had to be adopted in bleeding, for the veins could be seen, there having been so much rolling over of the tongue to the right side, and longitudinal cuts were therefore made as near the under side as possible. The bleeding was at first not very free, but a little later the veins were reached and the improvement was as rapid as it had

¹ Jacoby: N. Y. Med. Journal, 1893, 373.

² Prod'gung: Deutsch. Archiv f. klin. Med., xxxi., p. 349.

³ Rev. de Méd., 1889, p. 755.

⁴ Brain, Vol. 4.

⁵ Langenbeck's Archiv, Bd. ix.

⁶ Zeitschr. für Heilkunde, 1880-81, p. 417.

⁷ Deutsches Archiv f. klin. Med., ii., p. 1, 1892.

been on the left side. A catheter was left with the nurse, with instructions how to use it in case of œdema glottidis. Solution of acetanilid in fifteen-drop doses, about one grain, was given every hour. Swelling of the right side of the tongue began to go down rapidly about 2 P.M., but the glands of the neck on that side remained swollen.

The mouth was now douched with ice water, as patient could control the water from going down the throat. This was continued for ten minutes and repeated each hour. Mustard leaves were applied to the feet and removed when these became very red. Hot applications to the abdomen were also made.

The subsequent incisions in the tongue showed white lines of tenacious pseudo-membrane (the knife and hands were thoroughly aseptic). The mouth was sprayed every hour with a solution of the permanganate of potassium. Patient left the city on December 10th and has not been heard from since.

The case presents some peculiar features. No cause could be found for the glossitis—there were no sharp edges of any of the teeth. The patient had never had syphilis and no other known poison had been absorbed or injected; recovery took place without the formation of pus. The case is reported as interesting because of these features and the probability, so far as can be seen, of the glossitis being the direct result of cold, as is claimed by some authors, among whom Cohen, in "Pepper's System of Medicine," may be quoted.

One other feature deserves mention—the fact that first one side of the tongue only was affected and then the other, and to this may be attributed the further fact that there was no protrusion of the tongue, as is usually the case, but rather a rolling over and pointing downward of the tip, which was caught behind the lower teeth and during the time it was swollen could not be dislodged from that position, except partially.

BILATERAL ORCHIDECTOMY, SUPRAPUBIC CYSTOTOMY, FOLLOWED BY ACUTE MANIA AND DEATH.

By WILLIAM WARREN TOWNSEND, M.D.,

RUTLAND, VT.,

GENITO-URINARY SURGEON, VERMONT STATE HOUSE OF CORRECTION.

REALIZING that the advisability of bilateral orchidectomy for prostatic hypertrophy is still under discussion, and believing that it is the duty of every operator to give a full and detailed history of cases that come under his observation, I report the following:

S. M. P.—, aged sixty-seven, farmer, came to consult me in regard to a bladder trouble which he had had for the past five years, and gave the following history: Up to the beginning of his trouble he had always enjoyed good health, and had been a hard worker. He was always very energetic sexually. He gave a complete history of beginning prostatic hypertrophy, namely, frequent and nocturnal micturition, lack of force to stream, etc. The use of the catheter began two years before, as voluntary micturition had become impossible, and since then he had consulted a number of physicians, who advised various internal remedies, vesical irrigations, and suppositories. Since using the catheter he had been growing worse; introduction of the instrument was getting more painful, and had to be performed every hour, day and night.

The urine contained a large quantity of pus and some blood. The prostate was enlarged to about the size of a goose egg. The passage of a searcher through the prostatic urethra excited a severe paroxysm. The bladder contained 55 c.c. of residual urine which was ammoniacal. Stone was suspected but was

not made out by the examination, as this was quite painful and the patient would not consent to an anæsthetic merely for an examination. Cystoscopy was not performed for the same reason. As the case seemed to me to be an ideal one for bilateral orchidectomy, and as the patient was in excellent condition in other respects, I advised operation, which was assented to. November 3, 1895, I performed the operation in the presence of a number of my associates. The first forty-eight hours after operation the patient was in excellent spirits, and other than pain from the wound and that occasioned by catheterization, which was performed every two or three hours instead of every hour, as had been done previous to operation, he suffered little. On the third day the dressings were removed and the wound was found to be healed. A collodion and gauze dressing was put on and from the time of operation up to the fifth day all went well. Catheterization was performed every two or three hours and frequently when the beak passed the cut-off muscle urine would flow out along side the catheter.

Beginning about the fifth day the patient, after the bladder had been voided of its contents, experienced severe pain near where the beak passed into the prostatic urethra, and after the bladder had been voided of its contents.

Examination of the prostate by palpation per rectum showed that there had been atrophy. In passing the catheter I detected a distinct grating on withdrawing the instrument, and with the searcher and various manipulations vesical calculus was made out. Operation was advised and one week from the day of orchidectomy I did a suprapubic cystotomy, and removed three calculi weighing in all forty-eight grams. The patient recovered from the shock of the operation and on the day following was doing well; the urine was draining from the bladder and his condition was good.

The second day following the operation the temperature ran up to 102° F., whereupon the gauze packing was removed, the bladder washed out, and a drainage tube inserted; the temperature came down to 101° F. following the dressing. Pulse and respiration were of good character up to within a few hours of death. The next morning he had a normal temperature, but was somewhat delirious. Thinking that there might be some septic condition, I removed the tube, irrigated, and repacked with gauze. He grew more delirious, was very restless, and insisted upon getting out of bed. Bromides and sulphonal failed to quiet him, and on the following morning I found him in a maniacal condition and requiring the services of several attendants to keep him in bed. I called Dr. L. C. Stillings in consultation, who advised hypodermatic injections of hyoscine and feeding with the œsophageal tube introduced through the nares (as the patient refused nourishment, thinking that we were trying to poison him). This form of treatment was carried out until death took place from exhaustion, eight days after the suprapubic operation and fifteen days after the bilateral orchidectomy.

What caused this maniacal condition? We can certainly eliminate the idea of sepsis, as the wound was perfect in each operation, and so far as uræmia is concerned I think that also can be eliminated, because a very careful examination, both microscopical and chemical, was made of the urine and no sign of kidney lesion was discovered. Was it possible for the mental condition to be due to the severe strain in undergoing two such serious operations in so short a time when recovery or rather alleviation from the painful symptoms was anticipated as a result of the orchidectomy? This we might expect in an hysterical subject, but hardly in the patient in question.

In reviewing the literature, I find a quotation from the *British Medical Journal*, May 18, 1895: "The author reports seven cases in which this operation was performed and in the first hemiplegia occurred, with death four weeks after the operation. The second developed signs of acute mania six days after the operation and died ten days after; the third also developed mania and died on the twelfth day; the fourth exhibited the same symptoms with the same result, death. The fifth had no appreciable mitigation of the urinary trouble thirty days later. The sixth was one of single orchidectomy, but the patient died in a few days in a state of mental aberration; and finally the seventh, also a single orchidectomy, developed distinct mental weakness, and death followed."

It is well known that when oöphorectomy was first being done, numerous cases of mania were reported following the same. Should the testicle and brain not maintain the same relation to each other as the ovary and brain? I will leave this to the neurologists.

In conclusion I will say that as for the operation relieving the prostatic hypertrophy it was a success, as there was a marked decrease in the size of the gland, determined not only by rectal palpation but by palpation and ocular demonstration through the suprapubic incision. Although unfortunate in not being able to report a favorable case, I will operate again, as the favorable cases that have been reported outnumber the unfavorable ones. In the case just reported the prostate did decrease in size and I have every reason to believe that, had the patient lived, the prostate would have been reduced so as to have allowed the urine to be voided voluntarily *per vias naturales*.

NARCOTINE IN MALARIA.

By LOUIS C. AGER, M.D.,

ASSISTANT BACTERIOLOGIST TO THE HOAGLAND LABORATORY, BROOKLYN.

IN the MEDICAL RECORD for September 21, 1895, the statement was made that the opium alkaloid "narcotine" or "anarcotine" was being used very successfully in India as a substitute for quinine. The drug was recommended in the acute forms of malaria only, but it occurred to me that it might be useful in hemicrania, supraorbital neuralgia, and the other chronic forms of malarial poisoning that are often so difficult to deal with. After considerable difficulty I got some of the drug from a wholesale house in New York and put it up myself in two-grain capsules. The first case in which I used it was that of a woman about thirty-five years old. She had had acute malarial fever a few years before and had been troubled with neuralgia in various forms ever since. About a month before I saw her she had a severe attack of hemicrania, which had only been controlled by the hypodermic use of morphine. When I saw her she was suffering from a similar attack of a severe character. I gave her three two-grain doses of narcotine half an hour apart, then two grains every four hours, till about fourteen grains had been taken. The patient was much relieved after the third dose, and has had little or no return of the trouble in the last three months.

Since that time I have used narcotine in a few similar cases with very good results. In one case there was considerable heart depression about two hours after the third dose, but not so much as sometimes occurs after full doses of the coal-tar analgesics.

Although my experience with the drug has been far too limited to furnish any positive knowledge of its usefulness, I feel encouraged to try it further and to suggest it to others.

Surgical Suggestions.

The Hot Iron.—Before using it render the skin area anæsthetic by applying pure synthetic crystallized guaiacol, in quantity of from twenty to sixty drops. —PIZE.

Epitheliomata of slight extent often give way to such mild means as the following solution frequently applied:

R Resorcin	2 gm.
Potass. chlorat.....	10 "
Aq. dest.....	300 "

—BROCK.

Burns of the Second Degree.—

R Carbonate of lime	10 gm.
Oxide of zinc	5 "
Starch,	
Linseed oil,	
Lime water.....	āā 10 "
Ichthylol.....	1-3 "

M.

—LEISTIKOW.

Orchitis.—Apply a few drops of guaiacol over the scrotum.—BALZER.

Analgesia, without irritation of the skin, is best obtained by adding an equal part of glycerin, or some vehicle which can be absorbed by the skin, to guaiacol, and covering with tissue to prevent evaporation.—FERRAND.

Tedious Labor.—After a case of tedious labor, an iodoform pessary is to be inserted in the vagina. A similar pessary is to be used night and morning for the first three days, and once in twenty-four hours for the next six days.—*Clifton Dispensary Rules for Midwives*.

Dr. Cheever, in the *Boston Medical and Surgical Journal*, says it is not advisable to operate in glandular infiltrations so extensive as to preclude entire removal; neither is it wise to operate when you cannot remove the whole disease, as in a tuberculous organ of which you excise a part, nor in a sarcoma of the antrum in which you cannot extirpate the sphenoid cells. It is allowable to depart from these rules when the pain is so agonizing that unless the suffering can be palliated the patient had better die than live; and also in a "forlorn hope," so-called, the patient is entitled to an operation if he assumes the responsibility. Even then it is well not to operate unless there is some slight chance of success.

Deaths from Anæsthetics.—The German Surgical Society gives the following statistics for the past five years in regard to mortality from anæsthesia: Chloroform was administered 201,224 times, with 88 deaths, or in the ratio of 1 in 2,286; ether, 42,141 times, with 7 deaths, or in the ratio of 1 in 6,020; chloroform and ether, 10,162 times, with 1 death; chloroform, alcohol, and ether, 5,744, with 1 death; ethyl bromide, 8,967, with 2 deaths.

Spontaneous Straightening in Rickety Curves of the Legs.—Dr. Bruns concludes from observations in Tübingen (*Beiträge Chir.*, vol. xvi., 1) that the greatest number of cases undergoes spontaneous cure in from two to four years. If the curves are unchanged at the sixth year, spontaneous cure does not occur. The chief aim of treatment should be to improve the general health. Of the number of cases under observation 75 per cent. were cured, 15.3 per cent. were improved, 9.7 per cent. remained unchanged. He considers that after the acute stage it is not harmful for children to be on their feet.

Epididymitis.—The testicle should be wrapped in lint and moistened frequently with lead water and opium, or the following:

R Tincture of aconite,
Tincture of opium āā ʒi.
Dilute lead water,
Water.....āā ʒij.

Osteomyelitis.—Dr. Funkhouser, of St. Louis, says the chief diagnostic point in osteomyelitis is the acutely sensitive spot near the junction of the epiphyses.

Fistula in Ano.—Dr. Gibbs, in the *New York Medical Journal*, March 21st, gives two reasons for failure in treating this trouble. 1. We are by no means sure of starting with an aseptic wound, though it is a simple matter to lay open a small, superficial, straight tract, and after thorough cleansing obtain immediate union. It is a different matter with an old fistula running under the skin and up around the intestine, with pockets and ramifications difficult to find, and all surrounded with thickened, new-formed connective tissue. In the latter condition, 2, the difficulty of preserving aseptic conditions long enough to allow of firm union in an organ which has to be functionally active, and at the same time is eliminating septic material.

Floating Bodies in Joints.—Dr. Halstead (*Annals of Surgery*, September, 1895) draws the following conclusions: 1. That the etiology of some of these bodies is not fully understood, but that the condition described by König under the name of osteochondritis desiccans explains most that are found in otherwise healthy joints. 2. Few are the direct result of violence. 3. The most pronounced symptom is severe pain in the joint, with locking of the joint, usually in a nearly extended position, this being followed by acute inflammatory processes. 4. The lengthening of the femur when there are movable bodies in the knee may be the result of irritation produced by the pressure of these bodies. 5. The only treatment is the removal by direct incision, preferably using cocaine anæsthesia.

Hypertrophy of the Prostate.—Where objection is made to castration, remove a small portion of the vasa deferentia and atrophy will follow. It may be done under local anæsthesia. Castration has given eighty per cent. of cures.—WHITE.

Abortion.—Dr. Jacob (*Monatschr. f. Geburtsh. u. Gynäk.*, September, 1895) thinks the right treatment is rest and opium, with extract of viburnum prunifolium. If there is free flooding with the os closed, the vagina should be plugged with iodoform gauze or aseptic wool. If the os is dilated to allow passage of finger, the ovum should be detached and extracted and the uterus syringed out once for all with any suitable disinfectant solution. When dilatation of the os is imperfect and flooding grows severe, it is right to press the finger forcibly through with great care and then effect extraction. In many cases the expulsion of the ovum may be left to nature. Ergot should be given for a week after abortion. Jacob deprecates the employment of the curette and vaginal irrigation.

Septic Peritonitis.—Dr. Brown concludes: 1. That septic peritonitis is a surgical condition, and should at the earliest possible moment be put under surgical supervision. 2. That all cases of acute diffuse peritonitis are not necessarily fatal, and while the mortality following operation must be great, many of these cases can be cured by prompt resort to the knife. 3. That success in these cases will depend on: (a) early operation; (b) careful cleansing of the abdominal cavity by sponging and irrigation; (c) by drainage by means

of glass drain, supplemented if necessary by gauze. 4. That all such cases should be operated on. No surgeon should fail to give his patient the benefit of the chance afforded by operation, no matter how desperate the condition may be: they all die without operation and many desperate cases are cured by prompt surgical interference.—*Medical Mirror*, May, 1896.

Tinea Tonsurans.—Dr. Harvey thinks that much of the scalp trouble found in institutions is due to the careless and too frequent use of hair-clippers. Girls with long hair seldom have ringworm of the scalp.

Dog-Tail Sutures.—It is said that the tendons found in the tail of a dog make better sutures than either catgut or kangaroo tendon, when properly prepared in sublimate.—*Peoria Medical Journal*.

Preservation of the Perineum.—Dr. Oliver, before the Ontario Medical Association, June, 1896, says that his method, when the perineum was rigid, was to introduce two fingers of the right hand into the vagina, and with each pain stretch the perineum in advance of the head. When full expansion is complete two fingers are introduced behind the occiput, and this part of the head is brought well down under the pubic arch. This, he claimed, should be a routine practice. He also advocated the method of expelling the head in the interval between pains by means of the thumb or finger in the rectum.

Local Anæsthetics.—Dr. Loup (*Bulletin Médical*, 1896) says that when a fluid is injected under the skin the nerve filaments are rendered insensible by driving away the blood and temporarily preventing its return, producing an anæmia. Dr. Loup, acting on this principle, has succeeded in producing an anæsthetic area by means of a perfectly neutral substance—sterilized olive oil.

Shall We Operate for Simple Fracture of the Cranial Vault?—Dr. Nancrede replies: "Bearing in mind the immediate risks of encephalitis and the future ones of epilepsy and insanity, there can be but one opinion as to the advisability of operating for all varieties of accessible fractures. An exploratory incision made with strict antiseptic precautions will resolve any doubt in cases of head injury, and if no bone lesion be found will heal promptly, adding nothing to the risks."

Ruptured Urethra.—Dr. Cabot (*Journal of Cutaneous and Genito-Urinary Diseases*, July, 1896) says: 1. In every case of ruptured urethra, immediate perineal section, with suture of the urethra, should be practised. 2. By this procedure not only do we greatly lessen the danger of urine infiltration and abscess, but we also, in a large proportion of cases, may hope to prevent the formation of close, intractable strictures. 3. In the early operation the search for the posterior end of the urethra is much easier than in the later. The hemorrhage from the branch of the artery of the bulb serves as a guide to that end of the canal.

Fibroids.—Dr. Martin says the indications for vaginal hysterectomy proper for fibroids must of necessity include only the smallest tumors, or, at best, fibroid uteri with long slender subperitoneal projections. The operation is often the ideal method of treating small multiple fibroids, which are so frequently the cause of severe uterine pains and excessive hemorrhage. Fibroids of considerable size may be treated by vaginal hysterectomy, when the uterus is low in the pelvis and the vagina is large and the tissues are loose. It is easy to turn a vaginal hysterectomy for fibroids into a morcellement if it be necessary.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ELECTION OF COUNCILLORS OF COLLEGE OF SURGEONS—EXHIBITS IN THE HUNTERIAN MUSEUM—RUMORS ABOUT THE BRITISH MEDICAL ASSOCIATION—UNIVERSITY OF LONDON IN THE LORDS—HOSPITAL MANAGEMENT QUESTION—EDINBURGH INFIRMARY—GLOUCESTER EPIDEMIC—TESTIMONIALS—THE LATE DR. RALFE.

LONDON, July 10, 1896.

THE election at the Royal College of Surgeons has terminated in a way rather disappointing to the reformers. Mr. Bryant, Mr. Davies-Colley, and Mr. Pick were elected. There was no excitement whatever at the college, partly due, no doubt, to the large number of voting-papers which were employed, rendering it unnecessary for the voter to appear in person. Mr. Davies-Colley supplanted, so to say, Mr. Cadge, who usually voted in favor of reforms; so that the fight to secure them will be more arduous, and this election will be looked back upon as a decided check. It is not, perhaps, of much consequence, but the fellows seem determined to stick to all their privileges and deny the members any share in the government of their own college.

From July 1st to 4th there was, as usual, an exhibition of the additions made to the Hunterian Museum during the past year. They were placed in the council room of the college and examined with considerable interest. There is a very fine specimen of the gigantic extinct bird, moa, of the New Zealand South Island. The bones, I heard, did not all belong to one bird, but they have been very carefully selected to match, and some which could not be obtained have been supplied by accurate casts. It was said, too, that this skeleton is particularly valuable, as it contains both great toes and both coraco-scapulæ, as neither of these are to be seen in a specimen in the British Museum. A collection of cystic and other tumors originating about the kidney attracted some attention, as did a skeleton showing the changes of osteitis deformans. The dissected legs and feet from a case of congenital abscess of the tibia were also shown, as well as other interesting specimens.

It is whispered that there may be a little diversion at the annual meeting of the British Medical Association. I may say it is more than a whisper, to judge from a letter which is circulated in some quarters, threatening an attack on the *Journal* and its editor, to be led by Mr. Lawson Tait. He will probably be supported by a not inconsiderable number of members, provided the managers will give any chance for discussion; but perhaps they will once more adopt their usual plan of averting criticism or any unpleasant remarks by staving off this subject until close upon the announcement of refreshments or some equal attraction. They may, however, try this game once too often. Then it is said that probably the editor's health may not permit him to put in an appearance, when there would, of course, be no fight, but the usual loud and emphatic pronouncement by councillor after councillor of that mighty formula—"Our Great Association."

There are many malcontents among the would-be contributors of papers, especially to the ethical section. Among these is Mr. Laffan, of Castel, who has spoken out boldly and told his grievance, which is that the managers plead overcrowding as an excuse for rejecting his paper. He appealed to Mr. Tait, whom he seems to have imagined was a *persona grata*—an

error difficult to account for: and he declares that both *Journal* and association are in the hands of a clique—a statement which some think shows him to be a veritable Rip Van Winkle.

A bill for reconstructing the University of London has been introduced in the House of Lords. It adopts the recommendations of the Royal Commission, but in the present state of public business it has no chance of passing this session.

The question of management of hospitals, to which I have formerly referred, has caused some trouble in Edinburgh. Last winter one of the staff of the infirmary, who had been nominated by the College of Surgeons, resigned in order to gain extension of service in the wards, for, although there was no rule on the subject, the managers did not consider that any of the staff should be members of their board, and a new rule has been adopted to this effect. This arrangement is logical enough, as the members of the staff are in a sense the servants of the board; or, to put it more agreeably, officers appointed by and responsible to the board. As I have informed you, at some hospitals one or more of the staff have seats at the board, and in a few all of the staff are admitted, but in the latter case usually without votes. On a small board it is easy to imagine that the staff might virtually obtain the full control of the institution—a position which the lay members are not often willing to accept. Some representation of the staff must often be felt necessary. Perhaps the best plan is for the staff to hold separate meetings as a medical committee and communicate their resolutions to the board of management.

The epidemic at Gloucester is not yet over, although more than two thousand persons have been attacked. Last week there seems to have been some recrudescence. During the last six weeks the cases of small-pox notified numbered sixteen, twenty-five, fifty-six, forty-two, forty-seven, and eighty-four respectively. And yet the opposition to vaccination still continues, though on a smaller scale than before.

It is proposed at St. Mary's Hospital to get up a testimonial to Sir William Broadbent, and some would like to extend the subscriptions over a wider area. I scarcely know why, unless because he has obtained a baronetcy. It is true he has done his work well at the hospital, but he has had his reward and enjoys a large practice. There are so many calls to help poor doctors that I think the rich ones should decline to accept gifts from their brethren.

I regret to report the death of Dr. Ralfe, who a short time ago retired from the physiciancy of the London Hospital and was appointed consulting physician. He was a hard-working and exceedingly able man, and his retirement was caused by failing health. Your readers will know his book on "Diseases of the Kidney," which was perhaps his most important work. But his great knowledge of chemistry in relation to physiology and pathology enabled him to add to medical literature papers of permanent value on those subjects, and to give his students accurate and authoritative instruction. The profession loses in him an industrious and learned exponent of advanced medicine and a genial, upright colleague.

Resection of the Hip for Coxalgia.—1. Conservative treatment must be reserved for the first stage of coxalgia. 2. Surgical intervention in tuberculosis of the hip-joint is indicated as soon as pus has formed in the articulation. 3. In coxalgia without suppuration surgical intervention is indicated if the pain or the deformity resists continuous extension.—LAMBATTE, *Journal de Médecine de Chirurgie et de Pharmacologie*, 1895, t. iv., f. 3.

BERI-BERI TWELVE THOUSAND FEET ABOVE SEA LEVEL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Professor Miura reports a case of beri-beri on top of Fujiyama in the month of December (*Sei-I-Kwa Medical Journal*, June, 1896), which is rather a staggerer. The temperature at that altitude is very low and the velocity of wind great. It is well known that beri-beri in Japan is a disease of June, July, and August, between the spring and fall monsoons, in an average temperature of 24.1° C. When the cool northwest monsoon comes in, beri-beri ceases altogether, even on the plains.

Now, if the disease were due to a germ, could it develop on Fujiyama when it does not in the plain? If it is due, as Professor Miura claims in this case, to insufficient alimentation and constipation, why should not this same cause operate elsewhere? Perhaps such a cold and snowy climate as such a mountain must have in the month of December caused the patient to use in excess the ordinary mode of heating of the Japanese, that is, the charcoal hibachi.

An individual on the top of Fujiyama in December must seek continued shelter—on the east side of the mountain, in an unventilated hut, anchored in some crannied nook, or in a cave—to escape the perpetual snowfall and bitter cold northwest winds. In such a place of refuge, carbonic fumes could accumulate.

All roads lead to Rome, and it seems to me that wherever I catch hold of a case of beri-beri I always somehow discover the carbonic gases.

ALBERT S. ASHMEAD, M.D.

NEW YORK.

"GERMS AND SERUMS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of July 18th, Dr. Lincoln Phillips attacks antitoxin in particular and the serum therapy and germ theory in general. To use his own words, "after reading his letter I cannot refrain from writing a few words in reply."

I agree with the doctor, that if we allow it we may be made the dupes of some of the chemical manufacturing companies; but, fortunately for us, we do not have to prescribe, *volens volens*, every preparation we see advertised, or even endorsed by any great gun of the profession; so the first paragraph of his letter is not, strictly speaking, the issue. More especially is this the case, as neither the germ theory nor serum therapy originated in the shop of any chemical company, but through patient and thorough work by conscientious investigators, who, most likely, never received any monetary return for their labor.

Dr. Phillips says: "What of antitoxin? Time will demonstrate, as it has almost done already, that it is a delusion and a snare." This is dogmatic, and I for one disagree with the writer. Up to the last few weeks I have been living in a locality where diphtheria is almost unknown—high up in the Alleghany Mountains in Virginia—and I have not had a case of true diphtheria in my practice since antitoxin made its appearance on the field; therefore I claim to be entirely disinterested and unbiassed. I have read and studied the subject, weighing each article pro and con., and my reading has not been with any preformed opinion in favor of antitoxin, rather the reverse: and I have come to the conclusion that in antitoxin we have a remedy which surpasses any other in its curative value in diphtheria. It acts in the same manner that vaccine acts in small-pox, and proves the truth of

simile dissimile est rather than that *similia similibus curantur*.

"Beware of the diagnostic powers of a man who reports from fifty to one hundred consecutive cases of diphtheria cured without the loss of a single one, antitoxin or no antitoxin." To that I say, Amen.

So far as I am aware, infallible cure has never been claimed for antitoxin, but statistics, gathered with as much care as possible, have proved that a mortality of 12.3 per cent. of all cases treated with antitoxin is such an advance over a mortality of 20.8 per cent. without its use, that we cannot ignore its curative value, and to say that it is a delusion and a snare is misleading.

The old cry of the anti-antitoxinists is, Mistaken diagnosis and unreliability of figures. Why a physician should be more prone to make a false diagnosis of a case because he intends to pursue one course in treatment in preference to another, I cannot see. If I lass one case as diphtheria because I use antitoxin, and call another case presenting the same symptoms follicular tonsillitis because I employ other remedies, I am wilfully creating an erroneous impression in the minds of both the laity and the profession. I for one cannot think that the gentlemen who have been at such trouble to get figures would lend themselves to such deception. Reasoning on this basis, what can false diagnosis have to do with it? If we have a mortality of 20.8 per cent. against 12.3 per cent. under the same conditions of false diagnosis, is not the balance in favor of the treatment which gives the lesser death rate?

The same may apply to "mild cases." We all know that one epidemic of contagious disease may be very much more severe and fatal than another; but surely a method in treatment does not affect the character of the epidemic, since it can affect only the cases under treatment. If it does, then Dr. Phillips is arguing against himself, as we have the lesser death rate with antitoxin, according to statistics. And we must go by them, as we have nothing else to go by.

I know it may be said that if figures are correct all the epidemics of diphtheria treated with antitoxin showing a decreased mortality presented a mild type, and in the past two years diphtheria has not been such a malignant disease as heretofore. All I can say is, may it continue to decrease in severity, as I have no means of knowing what the severity of the disease may have been, except the word of the men who "see blue through blue glasses."

"We are too enthusiastic over germs and germ theories." Let us consider briefly what is the status of the germ at present. Literally speaking, a germ is the original source or cause. Medically speaking, it is the organism or protozoon which causes disease. We know that the germ exists, for we see it under the microscope. We know that it multiplies, for we plant an almost invisible amount on a suitable sterilized medium, and in twenty-four or forty-eight hours we have a large mass containing, nay, made up of, hundreds of thousands of the same kind of germs which we planted. We know that in some cases they have the power of locomotion, as we see them scudding across the microscopic field like fish in the sea. We know that they produce disease, because inoculations in lower animals produce pathological conditions, as evidenced by post-mortem examinations and death. We know they produce specific disease, as inoculations of Klebs-Loeffler bacilli produce diphtheritic deposits, inoculation of pneumococcus results in pneumonic symptoms, tubercle produces tuberculosis, and so on. What can there be in this to be too enthusiastic about? And this is as far as the germ theorists claim to go; when it comes to counteracting the effects of these bacteria, we enter into the domain of therapeutics. If

we have discovered in germs, bacteria, micrococci, bacilli, spirilla—call them what we will—the cause of disease, have we not made a glorious beginning and one that may lead to great results in cure? For the first principle in treatment is to get at the cause. Can we be too enthusiastic over the germ theory?

If we are too enthusiastic over germs, we have to go back twenty years and acknowledge our complete ignorance of the etiology of many diseases, and especially of the cause of contagion and infection, as the only way we can explain these phenomena is in the presence of these "overestimated" germs.

When I studied medicine the germ theory was in its infancy and bacteriology was not taught in this country, but investigation since then has proved conclusively to me that bacteria are not myths, but living, moving organisms, having the power to produce disease and dangerous to belittle and ignore.

Asepsis and antisepsis have proved of inestimable benefit to surgery. Why? By inhibiting the growth of pyogenic organisms; and here we have tangible results. So with antitoxin, we have results through the deteriorated activity and virulence in the special diphtheritic bacillus, brought about by the influence of the antitoxin in direct contact with this bacillus and neutralizing its power in the system.

Dr. Phillips closes his letter by saying: "So that if we give a remedy and the patient gets well, what definite reason have we for assuming the patient would not have recovered without medicine?" I am afraid the doctor is either a fatalist or a faith curist. I am glad to say that I, with many others in the profession, can say that I am convinced that remedies administered by me have been instrumental in saving and prolonging life, and I regret that any one practising our noble calling should consider it such a happy-go-lucky empiricism as the writer does.

I pray you to excuse such a dissertation on a well-nigh worn-out subject, and I hope the doctor will not take umbrage at anything I may have said here.

W. H. F. MILLEF, M.D.

BALTIMORE, MD.

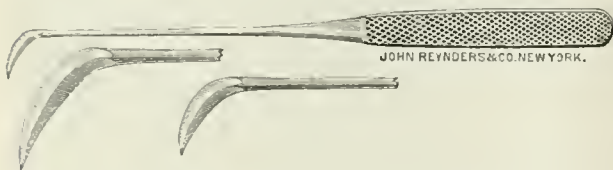
New Instruments.

A CERVIX KNIFE FOR DENUDING IN TRACHELORRHAPHY.

By AUGUSTIN H. GOELET, M.D.,

NEW YORK.

THE accompanying cut illustrates a knife designed for facilitating the denudation of the lips of the cervix in the operation of trachelorrhaphy as described in the



MEDICAL RECORD of July 4th. It consists of a two-edged pointed blade set at an obtuse angle to a firm shaft and handle. It is made in two sizes. The cervix is transfixed beyond the angle of cicatricial tissue and the blade cuts as it is drawn downward, denuding one side at a single stroke. The denudation can be accomplished with this knife in one-half the time that is usually consumed when scissors are employed, and the surface left for coaptation is more even and regular.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 25, 1896:

	Cases.	Deaths.
Tuberculosis.....	120	98
Typhoid fever.....	20	7
Scarlet fever.....	44	5
Cerebro-spinal meningitis.....	5	5
Measles.....	115	6
Diphtheria.....	195	24
Small-pox.....	0	0

Medical Legislation in New York State by the Last Legislature.—The amendment of greatest interest to physicians, passed by the last legislature, was that to section 145 of the public health law, relating to admission to examination. This amendment provides that admission to examination for the degree of M.D. must be preceded by the study of medicine for four full school years of at least nine months each year, including four satisfactory courses of at least six months each in four different calendar years. Under the law as it was the length of a school year was not stipulated and the former courses in medical colleges in this State averaged from five to seven months. The law further provides that New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the State whose minimum graduation standard is less than that fixed for the New York State schools. Another provision allows medical schools to matriculate conditionally a student deficient in not more than one year's academic work or twelve counts of the preliminary education required, provided the name and deficiency of each student so matriculated be filed with the regents' office within three months and that the deficiency be made up before the student begins the second annual medical course counted toward the degree. Students who had matriculated in a New York medical school before June 5, 1890, and students who had matriculated in a New York medical school before May 13, 1895, as having entered before June 5, 1890 on the prescribed three years' study of medicine, shall be exempt from the preliminary education requirement. It was further provided that a medical student certificate may be earned without notice to the regents of the conditioned matriculation either before the student begins the second annual medical course counted toward the degree or two years before the date of the degree for matriculants in any registered medical school, in the four cases following: (1) For matriculants prior to May 9, 1893, for any twenty counts, allowing ten for the preliminaries, not including reading and writing; (2) for matriculants prior to May 13, 1895, for arithmetic, elementary English, geography, spelling, United States history, English composition, and physics, or any fifty counts, allowing fourteen for the preliminaries; (3) for matriculants prior to January 1, 1896, for any twelve academic counts; (4) for matriculants prior to January 1, 1897, for any twenty-four academic counts. But all matriculants after January 1, 1897, must secure forty-eight academic counts, or their full equivalent, before beginning the first annual medical course counted toward the degree, unless admitted conditionally, as hereinbefore specified, when the deficiency must be made up before the student begins the second annual medical course counted toward the degree. This law took effect March 31, 1896, except

that the increase in the required course of medical study from three to four years does not take effect till January 1, 1898, and does not apply to students who matriculated before that date and received the degree of M.D. before January 1, 1902.

Two bills making changes in examinations failed to pass. The first provided that the regents shall not alone conduct preliminary examinations prior to applicants entering upon the study of medicine, but that colleges may also do it. The second provided that any citizen of the United States who shall have, after a regular course of study, received the degree of M.D. from a regularly incorporated medical college in the United States, in which the course of study is equal with the courses of study in medical schools in this State, and shall have practised medicine for at least three years, may, upon producing necessary proof of the above provisions, be licensed to practise medicine in this State upon the payment of a fee of \$25. A bill requiring the State board of medical examiners to issue a license to Abraham C. Miller, also failed.

Aside from the main amendment, noted above, the public health law was amended as follows: relative to dental examiners; allowing pharmacists who were eligible on May 24, 1894, to be licensed at any time; changing the qualifications for the practice of veterinary medicine; allowing the health officer of the port of New York to receive for fumigation and disinfection of every vessel from an infected port, or of such vessel as in his judgment shall require fumigation and disinfection by reason of exposure to infection or contagion, \$50, or such sum not more than \$50 or less than \$5, as may in his judgment be deemed reasonable, during a single quarantine; allowing the medical schools and colleges in the counties of Onondaga, Oswego, Madison, Cortland, and also Auburn State prison to have all unclaimed cadavers in those counties.

These amendments to the public health law did not pass: repealing the provision as to vaccination of school children; providing a fine of \$50, or imprisonment for six months, or both, for violations of regulations of local boards of health; providing that the town board of health shall be the village board of health in villages of under two thousand population; requiring a certain standard of test for lager beer, ale, and porter, and providing that lager beer shall be kept in storage for six months after it is brewed before it is sold.

A law was passed providing that every concern employing a master plumber in New York City shall register his name and address annually in March at the office of the department of buildings and receive a certificate of registration, providing he holds a certificate of competency from the plumbing board. Hereafter the plumbing and drainage of all buildings, both public and private, in the city of New York, shall be executed in accordance with the rules and regulations adopted by the superintendent of buildings. An appropriation of \$6,000 was made for equipping the quarantine boat *Ripple* with disinfecting apparatus. The health officer of the port of New York was given \$6,000 for expenses of maintenance and repairs on Fire Island, and for the salaries of the superintendent, watchmen, and other employees during the year 1896; and the regents of the university \$10,000 for conducting examinations in the preliminary education of dental students as required by the law of 1895, chapter 626, and of veterinary students as required by the law of 1895, chapter 860, and for deficiency in the general examination appropriation caused by increase in number of schools and students.

Efforts were made, without success, to exempt from jury duty veterinary surgeons and registered dentists; also to amend the code of civil procedure as to physi-

cal examination of plaintiff by physicians of the same sex; also to regulate the employment of medical expert testimony in criminal proceedings; also, providing that the term funeral expenses, whenever the same is used in connection with the settlement of the estates of decedents, shall hereafter be deemed to include the reasonable compensation of physicians and surgeons for services and medicines furnished to the decedent during the last illness in the lifetime of the decedent. An appropriation of \$3,500 was made for the State medical library.

A law was passed, making it a misdemeanor if any person in charge of an ambulance or hospital shall refuse in answer to a call for an ambulance to take to the hospital from which the ambulance came, for examination and treatment, the person or persons for whom a call may be made. A charter was given to the Merchant Marine Hospital Service, with William T. Jenkins, M.D., Carter S. Cole, M.D., A. T. Talmadge, M.D., C. W. Hogan, and Cornelius Van Cott as the incorporators. The commissioners of the sinking fund of New York City were authorized to lease to the Hospital for Scarlet Fever and Diphtheria Patients a piece of ground belonging to the city and situated on the block bounded by Avenue C, East River, Sixteenth and Seventeenth Streets. The board of trustees of Faxon Hospital in Utica were required to grant equal rights and privileges to practitioners of all schools of medicine.

The New York Homœopathic College and Hospital was allowed to charge for board, nursing, and medical or surgical aid and attention, \$1 a day for each needy and charity patient who occupies a bed in the Flower Surgical Hospital, belonging to the New York Homœopathic College and Hospital, such payment not to exceed \$1,200 a year. Another law confirmed the title of St. Luke's Hospital to certain lands in New York City by consenting to, ratifying, validating, and confirming certain deeds made by the mayor, aldermen, and commonalty of New York City, and certain deeds made by the rector, churchwardens, and vestrymen of the Anglo-American Free Church of Saint George the Martyr. Houses or homes for the reformation, protection, or shelter of females day nurseries or corporations or societies for the care and instruction of poor babies and needy children, and industrial homes and any benevolent or charitable corporation owning or maintaining public baths, for free school societies, or free circulating libraries, now existing in New York City, were exempted from the payment of water rates, under the law of 1887, providing hospitals, orphan asylums, and other charitable institutions in the city with water, and remitting assessments therefor. An appropriation of \$6,000 was made to the Pasteur Institute of New York City, as a full equivalent for services, as provided in chapter 770 of the laws of 1895. M. J. Dady was given \$4,500 to purchase the building and land situated at and adjoining the Kings County farm for the use of the hospital, valuation to be fixed by the board of managers of the hospital.

These hospital bills failed: legalizing certain acts of the board of supervisors of Erie County, and providing for the management and maintenance of Erie County Hospital as an institution separate from the almshouse: amending the town law so as to enable towns to raise money for the support of hospitals; allowing New York City to appropriate \$10,000 annually to the community of Notre Dame de Bon Secours (Good Help) for its charitable uses and purposes, and to St. Mark's Hospital, for board, nursing, and medical or surgical aid and attendance, \$1 per day for each needy and charity patient who receives such care, support, and maintenance from said hospital, such payments not to exceed in the aggregate \$30,000 per annum; providing for the erection of a

hospital in Brooklyn for the use of the department of charities and corrections and under its supervision.

A bill abolishing all the coroners in the State, in obedience to the new constitution, and with the approval of the State medical and bar associations, was introduced but not passed. It did away with all coroners, post-mortem examiners, coroners' physicians, and coroners' jurors, and conferred upon the appellate divisions of the Supreme Court power to appoint their successors. The bill abolishing coroners' juries also failed. A two-year term was made for the coroners of New York County; and a four-year term for the coroners of Kings County. In the former county the coroners were allowed to appoint two assistant clerks, who shall keep the office open between the hours of 4 P.M. and 9 A.M., every day in the year, including Sundays and legal holidays, one at least of said clerks being in attendance during said hours; but an effort to raise the salaries of coroners' physicians from \$3,000 to \$5,000 failed.

A law was passed protecting the owners of bottles, boxes, siphons, tins, or kegs used in the sale of soda waters, mineral or aerated waters, porter, ale, beer, cider, ginger ale, milk, cream, small beer, lager beer, weiss beer, white beer, or other beverages, or medicines, medical preparations, perfumery, oils, compounds, or mixtures. The law relating to instructions as to the bad effects of alcoholic liquors was revised. The trustees of the Clifton Springs Sanitarium Company were authorized to issue \$150,000 in bonds and to mortgage the trust property to raise money to pay the cost of completing the new sanitarium building. The charter of the Inebriates' Home for Kings County was amended relating to the appointment of directors.

Among the bills that failed were these: providing for the medical treatment of persons who have been convicted of public intoxication; providing for the treatment of the disease of drunkenness; providing for the treatment and cure of inebriates and persons addicted to the excessive use of opium and other narcotics; prohibiting vivisection and dissection in the public schools; relating to proceedings for the commitment of the insane to State hospitals and other institutions; charter for the Optical Society of the State of New York for the purpose of improving and regulating the practice of dispensing and refracting opticians.

Laws local to New York City were passed: authorizing the sinking fund commissioners, whenever required to do so by the board of health, to set apart land on the south side of East Seventeenth Street between Avenue C and the East River, and adjacent to the hospitals now under the control and supervision of the board of health, for the construction thereon of a building as an ambulance station and vaccine laboratory; for the relief of the Mount Sinai Training School for Nurses, and legalizing its incorporation. These bills failed: amending the law regulating the sale of poisons so that the name of the substance or substances best known and used as the antidote for the article contained in the box, bottle, vessel, or paper shall be given; forbidding any but a registered pharmacist to expose or offer for sale at retail any medicine, medicinal preparation, or poison whatsoever; allowing an officer or employee who has served thirty years in the health department of New York City to draw upon the health department pension fund; amending the charter of the Deutsche Poliklinik; making further provision for the proper maintenance, care, and treatment of sick, infirm, and destitute persons in New York City under the jurisdiction and care of the commissioner of public charities.

An amendment was made to the law enabling the Kings County Pharmaceutical Society to establish a college of pharmacy in the city of Brooklyn. These

bills were lost: allowing the commissioner of police and excise in Brooklyn to appoint not to exceed seven surgeons, and all surgeons so appointed shall hold such office at the pleasure of the commissioner; creating a board of physicians and surgeons for the city of Brooklyn, defining the duties thereof, and abolishing all surgeons connected with any of the departments of said city, except the department of health; amending the Erie County midwifery law of 1885, so that the county judge shall appoint a board of examiners in midwifery to consist of nine members (each with a three-year term), who shall have been licensed to practise physics and surgery in this State, and who shall have been in active practice for at least five years.

An Old-Timer.—A correspondent in Chelsea, Mass., sends the following: "Some of us in these days of tablet triturates and ready-made syrups, elixirs, solutions, and what not, are rapidly becoming rusty in the gentle art of writing the prescription, especially the one of the shot-gun order. To show that even our State board of registration has not caused this to become a lost art in the old Bay State, I beg to submit the following, taken from the file of one of our city druggists who has filled it twice during the last month. The man had gleet and said this cured him:

"R Calsum hypophos.....	z iij.
Potas. hypophos.....	gr. xxv.
Lithier brom.....	i.
Die. phosfor. acid.....	ij.
Fl. ex. nux vomika.....	iss.
" hydrasters.....	vi.
" hamemelis.....	vi.
" cann. indica.....	iss.
" gelseminumi.....	i.
" gentiarn.....	ij.
" chim. ophila.....	ij.
Oil of morrus.....	iv.
Aq. dastil,	
Syr. symplepcis.....	aa ad 3 xxxij.

"M. Too teaspoonfuls in water one-half hour before meals."

Syphilis from an Insurance Point of View.—Dr. P. H. Maclaren, of Edinburgh, in considering this subject without reference to general mortality statistics, from which it is difficult to obtain accurate information, states that he is inclined to classify for insurance purposes all syphilitics under the three following groups: 1. If a man has been properly treated, the probabilities are that, provided he is of good constitution and habits, no complications will arise, and the expectation would be that he will go through life with scarcely more appreciable risk than one who has never had the disease. 2. If proposer has not undergone a sufficient course of treatment, and applies for insurance before the expiration of six years, the period at which the disease normally terminates, and yet is not suffering from any tertiary manifestations, and is otherwise satisfactory, the chances are that he may escape the malign form, but ten per cent. extra should be charged until the expiration of the six years, and the case then reconsidered. 3. When tertiary symptoms have developed, the proposal should be absolutely declined, because, while treatment may temporarily remove these, it cannot eradicate the tendency to recurrence; and clinical observation has shown that those so affected rarely live beyond a term of ten years, and often much less when palliative treatment is not carried out. While his personal experience is almost absolutely favorable regarding the prognosis of the cases included in Class 1, it is questionable when the cases are looked at, with the interests of the offices perfectly safeguarded, if they should not practically be treated in the same way as those in Class 2.—*Edinburgh Medical Journal*, March, 1896.

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THE ANTITOXIN TREATMENT OF DIPHTHERIA IN THE KAISER AND KAISERIN FRIEDRICH CHILDREN'S HOSPITAL IN BERLIN, AND DR. WINTERS' OBSERVATIONS THEREON.

By ADOLF BAGINSKY, M.D.,

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THE erroneous statements of Dr. Joseph Winters, recently made in the *MEDICAL RECORD*, regarding the statistics of the antitoxin treatment for diphtheria in the Berlin hospital of which I have the honor to be the supervising physician, have compelled me to present certain facts to my American colleagues which may be of interest in the pending discussion of the real merits of the new remedy.

Dr. Winters offers the following so-called observations from the diphtheria division of the cases treated in the Poliklinik and Klinik:¹

"When I first visited the Empress Frederika Hospital while in Berlin, I was first invited to attend the Dispensary Clinic for diseases of children, which opportunity I availed myself of. Such care in the management of cases of slight illness I do not think can be seen anywhere else in the world. The waiting-room for children is under the charge of a trained nurse. Every child has its temperature, pulse, and respiration taken by the nurse and its clothing removed; it is then carefully wrapped and taken before the physician. There again you see the same minute, painstaking care in every case. Noticing this great care and that not in a single instance was the throat examined, I thought it strange. The doctor told me that the throat was not examined in this room, because the throat of every child was examined before being brought to this room, and if there was any affection of the throat the child was referred to the diphtheria polyclinic. A clinic for walking cases of diphtheria was a revelation to me. The next hour I visited the room where the diphtheria polyclinic is held, under the supervision of the same physician. Every child brought to the dispensary department of the Empress Frederika Hospital, if it presents any throat lesion, is placed in an isolation room of the hospital which they now have for these cases; it is immediately injected with antitoxin, and if Loeffler's bacillus is found, it is placed in the diphtheria pavilion and receives further serum treatment. It is in this way that the enormous number of cases, as compared with previous years, is taken into this hospital for serum treatment. When there is a lack of serum or when there is no serum, these walking cases of throat affection are not detained in the hospital, as it is not deemed safe to do so when they cannot be immunized and protected against their surroundings. It is this method of conducting the diphtheria department of the Empress Frederika Hospital which accounts for the reported low mortality and for the difference in mortality during periods when se-

rum is used and when it is not used. It was this very feature of the reports from the Empress Frederika Hospital which made the strong impression on Virchow. But Virchow had not studied the details; he accepted the percentage mortality without knowing how such percentages were obtained."

In this portion of Dr. Winters' paper there are so many false statements, perhaps based partly on faulty observations, that I find it necessary to preface these remarks with a plain description of our methods as they actually exist:

In the Poliklinik (Dispensary) of our hospital we have two distinct departments, viz., an infectious department and a non-infectious department.

In the non-infectious department children are treated in the dispensary as out-door cases or are admitted to the internal wards of the hospital as medical or surgical patients. The surgical wards are under the charge of Professor Gluck, and are restricted to the reception of patients who have no infectious disease.

In the infectious department only really infectious cases are treated, in so-called pavilions especially designed for this purpose, and only a few cases and convalescents are treated in the poliklinik or dispensary. For this purpose the infectious department has a number of wards (so-called "Ordinations-Zimmer"), and these are not, as Dr. Winters says, isolation rooms "which they now have for these cases," implying that they have been in existence only since the antitoxin treatment was introduced. This department has existed since the opening of the hospital in 1890. In other words, these isolation wards existed long before anybody thought of antitoxin. These wards are variously labelled: "For scarlatinal cases," "for diphtheria cases," "for pertussis cases," "for measles cases;" for surgical infectious cases, such as erysipelas, phlegmons, vulvo-vaginitis, blennorrhœa neonatorum; and, finally, we keep one room reserved for special purposes.

The division, or, rather, the distribution of the various new cases, is managed by one of my assistants, a physician especially named for the position. His work consists in examining the cases and sending them to their various rooms on the strength of the diagnosis made by him. Naturally, the throat is carefully examined and each symptom given proper weight. This physician, furthermore, examines the urine of the children, for it is here that we frequently observe those pathological conditions which are the forerunners of infections. Although every child is strictly isolated until we arrive at a proper diagnosis, it is the invariable rule in our wards to re-examine the throat of every child before treatment is commenced; so that it is untrue and improper for Dr. Winters to state that he recently observed anything different in spite of our "painstaking care." The throat of each and every case is not only examined by my assistants, but frequently by myself, and, as a rule, every important case is treated by me personally, and detained by the assistants if a doubtful diagnosis exists until I corroborate it or otherwise. It is to be taken for granted that I examine thoroughly all cases before giving my opinion.

To again quote Dr. Winters: "The throat was not

¹ *MEDICAL RECORD*, June 20, 1896.

examined in this room." This latter is absolutely untrue, and it is equally evident that Dr. Winters has misunderstood all our methods.

We could even overlook some of Dr. Winters' remarks, were it not for the fact that he distinctly states that a case of angina in a child "is immediately injected with antitoxin." This is such a glaring misstatement that I find it difficult to understand how and why Dr. Winters could be willing to permit such an assertion to appear in print.

In the special diphtheria room above mentioned all cases of spurious angina which simulate diphtheria are carefully examined, not, as Dr. Winters puts it, "by the same [admitting] physician," but by the special diphtheria assistant, one of my assistant physicians, who has charge of the diphtheria pavilion; and it is he who, as special assistant in this disease, is required by me to separate all cases of catarrhal angina from those of diphtheria. For this purpose this assistant of mine is required to use all necessary clinical, microscopical, and bacteriological methods in arriving at the proper diagnosis.

Children with apparent diphtheria are brought in the diphtheria pavilion. It is in this separate diphtheria building that antitoxin treatment is commenced, and not, as Dr. Winters erroneously puts it, "receives further serum treatment."

Other cases in which the diagnosis is not clear are disposed of in two ways: 1st. They are admitted to the quarantine, which is situated on the whole of the upper part of the poliklinik or dispensary building, and are subjected to careful scrutiny; or, 2d, they are given out-door treatment, consisting of gargles of chlorate of potassium, quinine, and ice compresses; but the mothers are invariably given strict instructions in regard to isolation, care, diet, and medication.

I should be pleased to have Dr. Winters inform me how he came to state that a child had been injected "immediately" with serum in our poliklinik or dispensary. The treatment with antitoxin is given only in the diphtheria ward or pavilion, in some cases in the quarantine station, but never otherwise.

But it is proper, also, to state when and why we have given injections "immediately" in our poliklinik. All the brothers and sisters of a patient with diphtheria whom we admit in our diphtheria pavilion receive "immunizing injections of antitoxin," when we are positive that a case of diphtheria really exists; and these injections are given soon after the antitoxin treatment is commenced in our poliklinik, and are for the purpose of conferring "immunity." And I would furthermore ask Dr. Winters to inform me "when and where" I called cases which were given immunizing injections of one hundred and fifty and two hundred antitoxin units "cases which were treated and cured," as though they had been ill with diphtheria. The observations as given by Dr. Winters and all his conclusions are incorrect, and are based on such faulty observations as to amount almost to misrepresentations.

It is absolutely untrue that at the time when no antitoxin could be procured children were sent away. Dr. Winters was in our hospital, according to our visitors' list, once only, and it is, therefore, quite evident that we cannot expect him to know our exact mode of procedure from one superficial inspection; for I repeat that our working methods are exactly now as they have been since the hospital was opened in 1890.

If, however, he had wished to be thoroughly informed about our working and scientific arrangements, he could have received such information in New York City from one of your physicians, Dr. Louis Fischer, who is thoroughly conversant with our *modus operandi*, and has had an abundant opportunity for acquainting himself with it. Besides, I believe he was one of the

first to introduce and generalize the antitoxin treatment in America after having learned it in our diphtheria wards.

Therefore, with such flimsy knowledge of our ways, all of the so-called observations and experience of Dr. Winters at the Kaiser and Kaiserin Friedrich Children's Hospital as regards the antitoxin treatment amount, *a priori*, to nothing.

Now, as regards my own experience and my views concerning the antitoxin treatment of diphtheria in the Kaiser and Kaiserin Friedrich Children's Hospital, I can only endorse every word that I have said or written in its favor, and will stand by it.

I regard it as useless always to go back to statistics and repeat them, for, by putting together a lot of figures one will never be able to convince people. In statistics there are so many things to consider, so many to discard, and so many facts to analyze that one cannot only prove every absurdity, but can often succeed in disproving facts.

I consider it of prime importance to classify each and every case according to (1) its primary or earliest clinical manifestations; (2) its course, and (3) its termination. Under these conditions I am in a position to announce some new facts:

1st. Our cases are to-day just as severe as they have ever been on admission to our hospital. It is absolutely untrue that since the introduction of the serum treatment we have been dealing with milder forms of diphtheria. On the contrary, we have had the worst forms and most malignant cases during all this time as well as during the last few months. It is therefore wrong to speak of mild epidemics, for even in my private consultation practice I have met the worst forms of diphtheria.

2d. In spite of the malignant type of our cases we find that the course of treatment since the introduction of the so-called healing serum is so much more favorable that a comparison with former methods is uncalled for. We can easily compare results of the former clinical methods by noting the percentage of mortality. As an example allow me to offer the following statistics of the first half of the present year:

1896.	January,	number discharged cured,	27;	died,	2 = 6.89%
	February,	"	"	25;	" 4 = 16%
	March,	"	"	25;	" 3 = 10.71%
	April,	"	"	25;	" 0 = 0%
	May,	"	"	25;	" 3 = 10.71%
	June,	"	"	20;	" 1 = 5%

This is the percentage of mortality which we can place opposite former percentages of forty to fifty per cent. But this would be hardly enough if we did not consider the course taken by convalescing cases and the remedy used in the treatment.

3d. When the antitoxin treatment was first introduced opposition was thought to be justified by the fact that with the greater number of admitted cases more mild cases were admitted to the hospital, and so it was asserted that a larger number of milder cases were treated to swell the favorable statistics. To disprove that I can show that, although the number of cases admitted has been considerably lessened and the cases taken were always of the severest kind, the mortality has diminished and the percentage of discharged cured has considerably increased.

4. I have as yet never noticed, after an injection of antitoxin, whether the remedy was employed as a curative agent or was used in prophylactic doses to confer immunity (excepting in two cases which I shall report in detail later), any symptoms which were detrimental to the health of the patient. In the large amount of carefully studied material, I have looked at every factor and watched for harmful results, and cannot find a single fact which would tend to destroy my confidence in the absolute value of this antitoxin as a

healing agent in diphtheria. I therefore cannot understand the reports of other observers about the poor results and effects of the serum. Surely it is not possible in comparison with the great value of antitoxin observed in such a large number of cases of diphtheria in our hospital to diminish this value by a few reports of unsuccessful or doubtful cases occurring elsewhere.

5th. It is highly important that in the treatment of diphtheria with antitoxin the physician should first ascertain the quality of the antitoxin used and not take the first substance he finds labelled in the market. For it is a well-known fact that some alleged antitoxins are absolutely inert. It is therefore advisable to use, as we are in the habit of using, antitoxin the preparation of which is under the control of the German government. We use in our hospital two kinds of antitoxin: 1st, Aronson's and, 2d, Behring's.

6th. It is also necessary to remember that diphtheria is a disease attended by many grave complications and that antitoxin is not our sole reliance in such emergencies. To be markedly successful in this disease the physician must be a pathologist and a therapist and be thoroughly in touch with all the special indications that may arise during its course. If he does not properly understand the leading principles of treatment the best remedy we have will be a failure with him. The results to which I refer have been achieved not only in the hospital, but also in private practice.

I do not intend to go any further into this subject at the present time, but think it just to give my American colleagues a proper insight into the true state of affairs as they exist here and the facts as gained from the material under observation.

It is to be sincerely hoped that should American observers desire to pass criticism on our methods or report the affairs of our hospital they will qualify themselves with better information and study our workings properly—not as Dr. Winters has done or believes he has done. I am always ready to offer my hand cheerfully for this purpose.

THE ANTISEPTIC TREATMENT OF TYPHOID FEVER.¹

BY WESLEY DAVIS, M.D.,

WORCESTER, MASS.

IN the time allowed me I can point out only in the most cursory manner some of the methods employed, with very little in the way of full illustration.

I wish first to direct your attention to the etiology of typhoid fever. I suppose we are all agreed and ready to admit that it is a germ disease; that the germs may enter the body by the way either of the air or of the food and drink, and that whichever way they enter they are carried through the œsophagus to the canal below, when they find a most favorable culture medium as they approach the lower portion of the ileum; then they multiply with great rapidity, all the conditions being favorable. The ptomains which they form are absorbed and cause the fever with which we have to contend; moreover, the germs themselves are taken up entire and carried through the glands and lymphatics to many tissues of the body, when, of course, they may continue with more or less activity their toxin-producing mission.

But nowhere are they found in such abundance, and nowhere are the conditions so favorable for their multiplication, as in the lower portion of the small intestine. This undoubtedly accounts for the greater fre-

quency of the typhoid lesions in this locality. The glands here take up from the contents of the intestine a greater number of bacilli than do the glands in other parts of the canal, simply because this is the most favorable culture ground, and consequently there are more bacilli and ptomains here to be absorbed, as well as more glands to be affected by their absorption.

It seems to me we must all admit that this fever is dependent upon the absorption of these poisonous ptomains into the blood, as is the case in diphtheria and septicæmia. We should look upon our patient and endeavor to judge by his condition as to the amount and severity of the poisoning taking place. In any other disease than typhoid fever we would endeavor to cleanse the source of infection with antiseptics, and the more thoroughly we were able to accomplish this the better would be the chance for recovery.

Now, as I view the matter, this is precisely the condition of the typhoid patient: the small intestines are the source of the trouble and the problem for us to solve is what we can do to overcome or prevent this poisoning from continuing. If we could stop it at once we might see as rapid cures as we sometimes do when septic conditions are removed from other parts of the body and we should have an aborted typhoid fever.

Since we cannot reach the site of infection, as is possible in many unclean surgical cases, the next best thing is to wash out the intestine with cathartics, which, if begun early enough and combined with suitable antiseptics and copious draughts of sterilized water, must carry out of the system multitudes of bacilli that otherwise would remain to multiply and generate their ptomains for continuous poisoning.

If this be true, it naturally follows that we must continue to flush out the canal with antiseptics just so long as the bacilli remain and develop the toxin which keeps up the fever. We have quite an extended list of antiseptics that have been tried and are claimed to be useful for this purpose, among which may be mentioned naphthol, naphthalin, thalline, salol, resorcin, sulpho-carbolate of zinc, and arsenite of copper.

I have unwittingly had a little experience with the zinc, the result of which has interested and I think instructed me greatly.

Last August I was called to attend a girl who had become so ill she could not continue her work longer as a domestic and was taken home by a cousin to be cared for. I found her with what seemed a very severe attack of cholera morbus, so severe that for a day or two I feared collapse. At my first visit I put her upon grain doses of sulpho-carbolate of zinc every hour in addition to the other treatment. About the fourth day, the choleraic condition being improved, she had a temperature of 104° F., and developed a parotitis which aroused my first suspicion of typhoid fever. I directed the nurse to disinfect the stools and be careful, but evidently too late. I saw this patient eight days, when she was so far recovered that I did not consider it necessary to put her in other hands when I left town. The week following the cousin was attacked with typhoid fever and was ill nine weeks, my patient becoming the nurse. Her husband came under my care at the City Hospital October 19th, having been sick two weeks, and was discharged November 16th. A boarder in the family, also having been sick two weeks, was admitted to the hospital September 9th and discharged October 14th. The men were ill six and seven weeks each and the woman nine.

Why did my patient recover so rapidly? Is it unreasonable to believe that the bacilli were eliminated

¹ Read before the Worcester District Medical Society, April 15, 1896.

by nature in spite of my efforts and that the sulphocarbonate of zinc acted as a disinfectant? Or shall we consider it as confirming Dr. Chambers' claim that the fever can be aborted early by emeto-catharsis?

My patient was actually ill not over two weeks, yet lost her hair as thoroughly as did her cousin, who was sick nine weeks.

At our annual meeting in May last I called attention to the Woodbridge treatment and showed the chart of a case then convalescing. The case made a rapid recovery, the result being so satisfactory that I have treated every case coming under my care since by the same method.

In the City Hospital we had eighteen undoubted cases of the fever during my service from October 1st to January. These cases all recovered, and those uncomplicated pursued what appeared to be an unusually mild course. It certainly seemed encouraging for the treatment when we found there were fifty-one cases reported to the Board of Health outside the hospital during this period, with twelve deaths, a mortality of 23.5 per cent. against none at the hospital, while during the same period of 1894 we lost four out of eighteen under the regular treatment.

I have treated eight cases in private practice, which have done well and served to strengthen my faith in the method.

Dr. Woodbridge has reported another series of fifty cases, making in all over four hundred, without a death among those uncomplicated. He also reports eight hundred cases reported by one hundred and seventeen other physicians, with nine deaths. He states that "seven certainly, and possibly eight of these were due to grave complications (developed prior to the commencement of the treatment) or to the late stage of the disease at which treatment was begun, or possibly to faults of preparing or administering the remedies."

So far as I have been able to learn from the journals, every one who has had faith and enthusiasm enough to carry out the treatment faithfully gives a favorable report.

We will now turn our attention to the treatment itself. Here are the formulæ:

TABLET NO. 1.

R Podophyllin	gr. $\frac{1}{10}$.
Calomel (hydr. chlor. mit.)	gr. $\frac{1}{15}$.
Guaiaicol carb.	gr. $\frac{1}{15}$.
Menthol.	gr. $\frac{1}{15}$.
Eucalyptol.	℥ i.

TABLET NO. 2.

R Podophyllin	gr. $\frac{1}{10}$.
Hydrargyri chloridi mitis	gr. $\frac{1}{15}$.
Guaiaicol carb.	gr. $\frac{1}{15}$.
Menthol.	gr. $\frac{1}{15}$.
Thymol	gr. $\frac{1}{15}$.
Eucalyptol.	℥ i.

NO. 3 CAPSULE.

R Guaiaicol carb.	gr. iij.
Thymol	gr. i.
Menthol.	gr. ss.
Eucalyptol.	℥ v.

You will observe the laxatives do not enter into the composition of the capsules.

In the use of these, No. 1 is to be given at once and thereafter every fifteen minutes for the first twenty-four hours, as directed by Dr. Woodbridge. I have given them thus, but on attempting to dissolve the tablets concluded they might as well be given at intervals of half an hour in double the dose, *i.e.*, two tablets every half-hour.

At the end of the first day if these are well borne, and the bowels have not moved too freely, two No. 2 tablets are to be given every hour alternately with two

No. 1 tablets, so that the medicine is given every half-hour.

If five or six free evacuations occur during the second twenty-four hours the treatment can be continued, or the intervals lengthened to three-quarters of an hour or more, according to the judgment of the physician. My experience is that patients do best when the bowels are kept well open.

After three days capsule No. 3 is given, one every three hours, between which the tablets, mostly No. 2, are given, according to the effect to be maintained upon the bowels. The ideal management of a case would be to have the frequency of the dejections diminish from six or eight, *pari passu* with the fall of temperature, until there should be only two or three in twenty-four hours when it reaches normal.

There is nothing in the treatment that contraindicates the use of baths, turpentine stupes, stimulants, tonics, or opiates to relieve pain, and I have always used them when indicated.

Realizing the impossibility of reproducing in the MEDICAL RECORD the thirty and more clinical charts exhibited when the paper was read before the society, I will give a brief history of some of the cases and draw a few conclusions which seem warranted from a study of all the charts:

April 14, 1895.—First saw Mr. C——, the case already referred to, who had a temperature of 104° F., severe pain in head and back, with general soreness. He was given acetanilid and quinine without relief. Bromides also failed and morphine was resorted to on the 16th, his bowels having been previously moved by calomel, ipecac, and soda, and showing no tendency to overact.

April 17th.—His head was still aching and he begged for relief, which was obtained by morphine, but the pain returned as soon as he awoke.

April 18th.—He continued much the same, with persistent fever and pain in head and back, which strengthened my suspicions of typhoid fever, and he was put upon the No. 1 tablets, one every fifteen minutes, the acetanilid being omitted. The following morning he had a temperature of 104.5° F., pulse 108. The tablets were then given every half-hour in double doses, as he objected to the frequency. This treatment was followed faithfully until he had eleven dejections during the second twenty-four hours, when the tablets were diminished in frequency and finally omitted. But for six days the number of dejections ranged from six to eight every day, when, becoming anxious as to their frequency, I ordered the milk scalded for a few days, and about this time the tablets and capsules were ordered made small as possible that they might be more easily taken. The characteristic eruption was well marked on the third day after the treatment was begun, and the next day, with a temperature of 104.3° F., he called for bread and milk, which was allowed whenever he desired. He had no delirium or tympany and the tongue was moist throughout.

Two days after he commenced on the small tablets and capsules his temperature was 100.5° F., but gradually rose to 102.8° F., when we discovered tablets in the stools. A visit to the druggist revealed the fact that he had combined the medicines with calcined magnesia in his efforts to make the tablets and capsules as small as possible, and this had rendered them insoluble.

We recovered in all over seventy-five tablets and capsules, and as soon as the medicines were made soluble his temperature dropped to normal in a night on the eighteenth day of the treatment. We would probably have reached a normal temperature several days earlier if the medicines had been soluble. His appetite was good and he indulged it quite freely and

made a very rapid recovery, going to Vermont on a business trip one month from the day the tablet treatment was commenced, and having had an evening temperature of 104° F. for over six days of the time.

If seventy-five and more of these undissolved tablets and capsules can pass through the alimentary canal of a typhoid patient and not produce a relapse, what have we to fear from the residuum of a beef-steak dinner, providing we keep the bowels open, well flushed out with an antiseptic solution? My experience has made me skeptical as to the influence of easily digested food in producing relapses.

In 1894 we had at the City Hospital three patients convalescing at the same time. One had passed the prescribed ten days of normal temperature and was put upon toast, which seeming to do no harm, he was given chicken after a day or two and the diet made a little more liberal, when after a day or two his temperature rose and he had a relapse, from which he ultimately recovered. The second had passed his period of normal temperature and was put upon toast only, when he relapsed but finally recovered. The third got a relapse the seventh day of normal temperature, having had no food, and died.

These cases impressed me strongly, as they occurred within a few days in the same ward and we could not ascertain any cause or learn that the patients had obtained any forbidden fruit or article of diet.

I am disposed to think relapses may be the result of late ulceration in Peyer's patches or the separation of sloughs in patches when ulceration has already occurred, thus liberating bacilli into the canal, which, occurring in connection with constipation, may give time for their multiplication and a reinfection of the system.

Here is a brief report of the last case treated, that of a lad of seventeen, member of the Classical High School. I saw him first the sixth day of the disease. Temperature, 102.5° F.; it reached 104° F. the eighth and again the thirteenth day of the disease. There is nothing especially interesting about the case except that he became so deaf after a few days that he could hear no ordinary conversation, and complained of a feeling of tightness as though a band were drawn about the forehead. He had no delirium, tympanites, or sordes; the tongue was clean and moist throughout all the latter half. He ate stale bread in his milk or broth whenever he desired, also chewed beefsteak, and usually drank two eggs a day beaten up in milk. He had an ice cap to the head, baths occasionally, but would not tolerate them cold. As he complained of considerable abdominal tenderness, turpentine stupes were applied. He had strychnine, but no alcoholic stimulants were used. A little opiate was given for a distress in the bowels that troubled him at times, and toward the last the cathartic effect of the tablets was assisted by one-third of a seidlitz powder each morning. His hearing returned as the fever subsided and he made a good recovery.

On July 27th I was called to a little girl, aged eight, who had been complaining for a week of pain in the head, back, and limbs. She had a temperature of 104.5° F. I put her at once upon one No. 1 every half-hour. The next day I found her so much improved that I thought I had made a mistake, the temperature being nearly normal. I omitted the tablets, but much to my annoyance two days later I found the temperature 103.5° F., when I put her upon tablets Nos. 1 and 2 alternately, three-quarters of an hour apart. I also ordered capsules of half-size, which she took without much difficulty. Her temperature reached normal August 4th, *i.e.*, in eight days, but treatment was not entirely omitted until nearly a week later. Her recovery was good.

George C—— had been feeling poorly for a week

or more, had consulted a physician twice, but continuing to grow worse, went to bed, where I found him. His temperature was not high, but the history and his condition impressed me with the feeling that I had a typhoid fever to treat. The peculiar typhoid facies was well marked. I put him on the treatment at my first visit and the result was very gratifying, his temperature reaching normal in eight days. It was some two weeks before he was able to work.

Miss F——, a school teacher. Her mother having told me how she complained of being so very tired and exhausted, I was not surprised when called to find nearly all the symptoms of typhoid present. I put her at once upon the treatment and after a few doses she vomited excessively. I then stopped the tablets and gave subnitrate of bismuth for a few hours, when, the stomach seeming quiet, the tablets were resumed, but again rejected. She was then put upon the sulpho-carbolate of zinc alternately with guaiacol carbonate, gr. iv., every four hours. Her bowels were kept open with calomel. She made a prompt recovery, temperature reaching normal in six days. She was out of school between two and three weeks.

I saw Miss G——, aged twelve, on Saturday with a temperature of 104° F., prescribed for the fever and gave a cathartic, supposing from the sudden invasion it would subside soon, and did not see her again. I was called the following Tuesday to find a temperature of 105.3° F., iliac gurgling, and splenic dulness as large as the back of the clenched fist and as distinct as over the liver. I put her at once upon the No. 1 tablet and followed the treatment faithfully. Thursday morning there had been six dejections and at 8:30 P.M. the temperature was 105.2° F. Friday morning there had been six more dejections and the temperature was 101° F. and next morning 98.5° F.; four days of treatment. The splenic dulness disappeared almost as rapidly as the high temperature and could not be detected on the second day of normal temperature. She made a steady but rather slow convalescence.

Mr. E——, a rather robust and corpulent travelling salesman, twenty-eight years of age, was attacked the day before I saw him with chilliness and severe pain in the head, back, and limbs, with muscular soreness. I found him October 5th with a temperature of 102.5° F., complaining very much of his pains. I gave a calomel purge and acetanilid in hot water for the pains, but next day found him with more fever in spite of the acetanilid. His temperature was 103.5° F. and he begged for something to relieve the pains in his head and back. There was no epistaxis and at this time no special tenderness in the right iliac region, but the expression of his face was that of a typhoid, and the severity of the pain and his peculiar complaint reminded me of the first case so much that I put him at once upon the tablet treatment and followed it faithfully, with the result that his temperature was normal in five days. I would say that after the first few days he developed considerable iliac tenderness and it was four weeks before he was able to resume his work. I believe this to have been a case of aborted typhoid fever, and that, too, in a man in whom everything favored the severest form had it taken its regular course.

I will present in this connection one case taken from the hospital records: W. J. T——, a young man, laborer. He consulted me at my office December 14th. Had some fever and general malaise. I did not feel positive as to the diagnosis.

December 15th I saw him at his boarding-house. I now found symptoms so suspicious that I put him upon the tablet treatment. Next day when I saw him the indications were still more marked and I sent him to the hospital. Here is the record made by the house officer: "He says ten days ago he had a chill; epis-

taxis twice last week, again this morning. Has had diarrhœa, body ached generally, tongue coated, abdomen slightly distended, rose spots, gurgling, and slight tenderness in iliac region of both sides, lips dry and cracked. Temperature, 102.6° F."

This reads like a typhoid record, more so than any of my private cases, and yet the result was the most satisfactory of all, the temperature reaching normal in three days. He was discharged well January 9th, having been in the hospital twenty-four days.

This comprises all the cases I have to present that I regard as aborted, and I am well aware that you can, and probably will, doubt the diagnosis. But I wish to ask one question. Are we justified at this early period of the disease in quietly folding our hands and allowing the bacilli to thrive and multiply in the alimentary canal until they have so affected the solitary and agminated glands that ulceration and sloughing become inevitable, not to mention the profound poisoning of the nervous system by the absorption of their ptomains? Shall we do this, I ask, merely to establish a diagnosis that cannot be doubted?

I firmly believe that the great majority of these bacilli—the intestines and stools always being found full of them—can be rendered inert and washed away at this early stage, and that by so doing the opportunity for making an accurate diagnosis may be forever lost. Dr. Woodbridge claims that under this treatment he has never failed to abort a case of typhoid fever seen before the eighth day. But the time of actual beginning must in many cases be involved in much uncertainty.

Osler, in speaking of the Brand treatment, says he gives the patients the benefit of the doubt and bathes them early, even before the diagnosis is established, though by so doing he has often bathed patients with other diseases than typhoid.

I can but think the principle involved is correct and should be applied with even greater freedom in this antiseptic and eliminating treatment of typhoid fever.

Mr. F—— had been sick in bed a week. On admission he had a hemorrhage, again on the fourth day, and two or three more succeeding it. Five days later he had a chill with temperature of 106° F., which was repeated next day. No complication being discoverable, he was put upon quinine and the chills or excessive temperature did not return. He had a severe run of the fever. There was a condition of paresis in one leg simulating phlebitis, but without swelling, though there was inability to move the limb. A little later there was retention of urine from paresis of the bladder and still later cystitis. He was ultimately discharged well.

Mrs. R—— had been sick eleven days on admission. To all appearances she was a very sick woman. Temperature, 104° F.; diarrhœa, five dejections the first day. Abdomen swollen and tympanitic. The house officer remarked it was a good case to test the treatment, upon which she was placed at once. The second day she had fifteen movements of the bowels and the temperature fell two degrees. While she was a very sick woman, her condition from that time was better. She had stomatitis, so we had to abandon the tablets, using the capsules and four grains of guaiacol carbonate every three hours alternately. We were not then so thoroughly imbued with the idea that the bowels should be kept open, and I think we erred in not using sufficient cathartics. She had a relapse and was put back upon the same treatment as at first, and made a good recovery.

Mr. D—— had been sick five weeks on admission, and from the history we were given to suppose he had malaria. We waited three days for the chill, and when it did not come and the temperature kept going higher we put him upon the treatment. He had a

slight recrudescence and a tedious convalescence, and also a rheumatic condition of one calf, which prevented his standing upon that leg for a week or more and when that was better the other was similarly affected. His recovery was ultimately good.

Mr. Sh—— had an ordinary attack, except as complicated with stomatitis and parotitis. He made a good recovery.

Mr. G—— had an attack of local peritonitis; other than that his case was uneventful.

The other charts simply showed the course the disease pursued in the sixteen uncomplicated cases and why we had the reputation of having mild typhoid. Among these would have been included the two following cases had not the charts been lost:

Carl —— admitted October 2d. The record says: "Temperature, 103.8° F.; numerous rose spots.

"October 9th.—Temperature dropped from 104.8° F. last night to 100.5° F. this morning.

"October 11th.—The morning temperature was 98° F. and the evening temperature was normal the 15th, i.e., in thirteen days."

Fitz —— was admitted October 12th with numerous rose spots. He had stomatitis from treatment, but nevertheless a normal temperature in nine days.

I am indebted to Dr. Greene for valuable charts from the hospital in this section, also to Dr. Farnham, too, for illustrating the effect of the treatment in children of five and nine years of age.

Before we leave the consideration of the charts I wish to call your attention to the fact that after the first few days of treatment in all the uncomplicated cases the temperature falls steadily and in some cases rapidly to normal in from eight to twenty days, the average being thirteen days. Also to the number of movements of the bowels and to what seems to be a fact that constipation ushers in relapses.

I wish also to call attention to the effect of the treatment upon the temperature. Observe how the temperature changed when the treatment was begun, becoming less vacillating, and how it resumed the same character when it was omitted. The same thing occurred in D——'s case when the treatment was commenced. Then observe how afterward throughout the whole course of the disease it did not vacillate like an ordinary typhoid temperature from morning to evening, the range being about one-half as great. In other words, the antiseptic and eliminative treatment removes much of the septic character of the disease, as shown in the daily range of temperature and its more or less rapid fall.

While I am a firm believer in hydrotherapy for the disease when indicated, I also believe that the necessity for its use is greatly diminished by steadily and persistently washing out the alimentary canal with antiseptics and cathartics, thus removing as far as possible the most fruitful source of the poisoning which is maintaining the high temperature that indicates the necessity for a further resort to hydrotherapy. Another thing that impressed me strongly while observing the cases under this treatment was the fact that in a short time after commencing it the dull apathetic look would give place to one of more intelligence and patients would seem to take more interest in what was transpiring about them. The tongue became moist early, as a rule, and seemed unusually clean throughout the course of the disease. We had none of the red, dry, and cracked tongues that we have been accustomed to see so frequently. Many seemed to have a desire for food, even with quite an elevation of temperature, and I have not hesitated to give stale bread, either toasted or with milk, and other things of similar character whenever they desired, if the tongue was tolerably clean and moist. Tender boiled chicken was usually allowed as soon as the temperature reached

normal. Tympanites has usually disappeared in a few days. This I suppose to be owing to the constant passage through the bowel of an antiseptic fluid which does not favor decomposition and the liberation of gases. Also to the fact that the bacilli in the canal are rendered inactive, washed away or destroyed, thus preventing the poisoning of the nerve centres by their toxins, which favors or even produces paralysis of the muscular coat of the bowel, thereby allowing distention.

Stomatitis occurred in quite a number of cases. When this was well marked the tablets were omitted and guaiacol carbonate in from three to five grain doses given alternately with the capsules. This removed all cathartics from the treatment, and we endeavored to compensate for it by the use of podophyllin, sulphate of magnesia, and the like.

I now think as I study the charts that in some of the cases we failed to keep the bowels sufficiently loose, and that probably the results might have been better if we had substituted in tablet No. 2 $\frac{1}{16}$ gr. of podophyllin for the calomel and podophyllin and used these in place of the guaiacol carbonate and various cathartics.

Dr. Shields says: "All cases of ptialism can be prevented by using a tooth powder of potassium chloride once daily." If this proves true, it is a matter of much value, as there is probably nothing so valuable as a cathartic in the disease as calomel if it can be used without producing stomatitis. It seems important to give the cathartic frequently in order to keep up a steady and constant action, thus changing in a measure the current of the fluids in the bowel from the mucous membrane to the lumen, thereby lessening the amount of septic absorption from the canal. One of Dr. Greene's patients had as many as twenty-two dejections in one day and twelve the next. Mrs. R— had fifteen, followed by a fall of two degrees in temperature, and one of my private patients had eleven. They certainly did not seem to be injured by them. Nausea was induced by the tablets in a few cases, but was soon overcome by a short suspension and giving bismuth for a few hours, when the treatment was usually well tolerated. Nothing was allowed to interfere with its continuance, not even hemorrhage, for we considered that a bowel emptied of its contents, both fluid and gaseous, would place the ruptured vessel in the most favorable condition for the hemorrhage to be arrested. A few cases, either from the irritation of the antiseptic or the frequency of the stools, developed a dysenteric condition, which was always relieved by a few injections of starch and laudanum without discontinuing the treatment. In none of my cases did hemorrhage commence later than the fourth day of treatment. To get the best results from the treatment the medicines must be given faithfully and persistently. Possibly this may explain why those who are enthusiastic in its praise get better results than those who are skeptical.

I do not wish any one to think that I consider this treatment perfect in its present form; on the contrary, I regard it as only in its infancy, and that as the mass of physicians shall give it a trial and learn what it can do in its present form, they will gradually have confidence and ability to make variations and observe results intelligently, until quite likely a more perfect method may be evolved. I would also enter a most respectful protest against experimenting before having tested it as it is, since thereby much harm may unintentionally be done by bringing discredit upon the method which it does not merit.

Now, gentlemen, in closing I wish to remind you that long before diseases were known to have germs it was thoroughly established that the stools of a typhoid patient contained a poison or ferment which, placed in

a privy vault, would infect the whole community. From this source, in a variety of ways, the germs are received into the alimentary canal and pass downward until they are below the inhibiting properties of the upper portion and arrive upon their native soil. Here in the contents of the lower portion of the ileum, always at a proper temperature for their rapid development, they multiply and grow in the greatest profusion. Their ptomains are absorbed, giving the malaise for the commencing fever and the fever itself as they become sufficiently abundant. The bacilli are taken up into the glands, both solitary and agminated of the mucous membrane, and there multiply and cause these parts to swell and ultimately to ulcerate and slough from the pressure. This does not occur until near the tenth day. Osler reports one case that had not ulcerated at ten days, and Phillips, two, one at fourteen and another at thirty-six days, yet autopsies were made and it was found that the patients died of typhoid fever, as shown by the swelling of the glands.

What killed them? Certainly not the extensive ulcerative destruction of the canal. Then it must have been the poisoning from the ptomains, and where were these developed? Undoubtedly some in the swollen glands of the mucous membrane, but chiefly in the contents of the canal itself, where everything in their history shows that they develop most rapidly and consequently produce the greatest amount of toxin. Now, if this is true of the germs of typhoid fever, its causes are always to a certain extent within our reach and under our control, and the reason why the treatment should be commenced early and continued faithfully throughout the disease must be apparent to every one.

Without detaining you longer I wish to call your attention to the frequency with which the bowels moved and to remind you that nevertheless the patients all recovered.

THE IMPORTANCE OF AN UNDERSTANDING OF MIDDLE-EAR DISEASE BY ALL PRACTITIONERS, WITH A REPORT OF SOME CASES IN WHICH INEXCUSABLE ERRORS HAVE BEEN MADE.¹

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ON account of the anatomical relations of the middle ear and the gravity of some of the results of middle-ear disease, as regards not only permanent loss of hearing but also danger to life, no part of the body is of more importance to all practitioners; and still there is no branch of medicine about which the majority of physicians know so little.

Besides destroying the organ of hearing and causing death, ear disease may result in permanent paralysis, disturbances of co-ordination, or it may affect the organs of sight, taste, and smell.

In most medical schools very little attention is paid to the teaching of diseases of the ear, and students, as a rule, have very limited clinical opportunities. Although grave and fatal cases are sure to come into the hands of all practitioners, there is no examination in this branch of surgery in most medical schools. Consequently, the average student pays little or no attention to diseases of the ear. Now that a four years' course has gone into effect in so many medical schools in this country, all things point to more thorough teaching and better clinical advantages in all special departments; and it is to be hoped that the ear will no longer be so slighted.

¹ Read before the Harvard Medical Society of New York, May 25, 1895.

Most medical men have a better idea of all other special branches, even including diseases of the eye; but if one of their patients has eye trouble, he is much less apt to tamper with it than with the middle ear. With the best intentions, the average physician assumes the responsibility of treating all acute and suppurative diseases of the ear, believing himself fully competent to handle such skilfully.

From childhood he has been taught to consider ear-ache and running ears as naturally of frequent occurrence but of minor importance, and commences his medical education with but little respect for the diseases of the ear. An examination on this subject not being compulsory, he oftentimes neglects the lectures and ignores this important branch of his profession, not even acquiring sufficient knowledge to appreciate their possible danger.

The correction of this grave evil lies in the hands of the faculties of the medical schools, who, by requiring all students to pass a rigid examination in aural diseases, would do much to benefit a long-suffering public.

The eye being on the surface, patients can see acute trouble; or, if there is a disturbance of vision, they realize the gravity of the case and are very apt to seek the advice of a specialist even without consulting their family physician. On the other hand, the tympanic cavity is situated so deep in the skull that the patients cannot see for themselves, and do not appreciate the gravity of their case; and if they have an acute or suppurative ear disease are well satisfied to place themselves in the hands of their family medical adviser. Comparatively few cases of acute or suppurative ear disease come into the hands of a specialist until either the patient's condition has become so serious that they insist on other advice, or the family physician, having exhausted his remedies, gives the thing up as a bad job—which, by the way, he is very loth to do. Patients dread becoming blind, but patients with ear trouble do not realize their danger. In eye disease there is little or no danger to life; but, in neglecting proper aural treatment, a patient runs the risk of death or permanent injury to the organ of hearing.

Children especially are neglected. Their little ears may ache ever so hard, but so long as the general practitioner assures the family that "pain will pass away or the ear discharge, and in children discharge from the ear is harmless and usually takes care of itself," the parents are satisfied. Adults stand a certain amount of pain; then, their patience becoming exhausted, and having obtained no relief, they seek other advice. Ear disease in infants is often overlooked.

Anatomy.—To emphasize the importance of disease of the middle ear, let us briefly consider some of the anatomical relations of its parts as given by different authorities.

So intimately are the middle ear and external auditory meatus associated in their diseases, and as in all middle-ear disease the condition of the canal must be considered, I also give its anatomical relations.

The External Auditory Canal.—The external auditory canal is in relation anteriorly and inferiorly with the parotid gland, suppuration of which may discharge through the meatus. Anteriorly it is also in relation with the posterior wall of the articular fossa of the inferior maxillary bone.

The posterior wall is made up by the mastoid process; and pus from the mastoid may come through this wall.

Its superior wall forms a portion of the middle cranial fossa and is covered by the dura mater. This wall may be very thin, and otitis externa may produce disease of the brain.

The Middle Ear.—The middle ear consists of the tympanic cavity, membrana tympani, the ossicles, Eustachian tube, and mastoid process. The mucous membrane lining these parts is continuous with that of the pharynx, and acts as periosteum. This explains how easily ulceration of the mucous membrane will cause caries; and a spot of caries the size of a pin's head will permit of extension to the cranial cavity and fatal consequences.

It is especially the tympanic cavity that concerns all practitioners.

The Tympanic Cavity.—The tympanum is an irregular prismatic cavity, enclosing the auditory ossicles, and measuring about half an inch from above downward and from before backward, and from one-twelfth to three-sixteenths of an inch from without inward. It is situated within the petrous portion of the temporal bone, immediately above the jugular fossa and below the cerebral membranes, the carotid canal lying in front, mastoid cells behind, external meatus externally, and the labyrinth internally. It is in relation with more structures of importance than any cavity of equal size in the body.

The fact that there are some twenty communications with the tympanic cavity readily explains the numerous channels for invasion of middle-ear disease to deeply seated and important parts.

The relations and conditions of the different walls of the tympanic cavity are of sufficient importance to be considered separately.

The superior wall forms the roof of the mastoid and Eustachian tube, and is the partition between the cranial and tympanic cavities. Its thickness varies, sometimes being very thin or entirely wanting, the mucous membrane of the tympanum being in contact with the cerebral membranes and forming part of the cranial cavity. In infants the suture petro-squamosa is open, but in adults this is usually closed.

The inferior wall separates the tympanum from the jugular vein. This wall also varies in thickness, sometimes being membranous.

The anterior wall lies close to the carotid canal. At its upper part the Eustachian tube opens into the tympanic cavity.

The posterior wall has important relations to the facial nerve, as the eminentia pyramidalis containing the stapedius muscle is connected with the Fallopiian canal by fissures. Therefore, in caries of this wall, the facial nerve is exposed to danger. In the upper part of this wall is the opening between the mastoid and tympanum.

The membrana tympani is the dividing line between the middle and external ear. Its function as a protective to the delicate structures of the middle and internal ear is not of secondary importance to whatever part it takes in the transmission of sound.

The inner wall of the tympanic cavity forms the dividing line between the tympanum and labyrinth.

Its relations and landmarks are the fenestra ovalis in the upper posterior part, below and posteriorly the fenestra rotunda. Between and in front of the two fenestræ is the promontory. Vertically above the promontory is Jacobson's nerve, and above and behind the fenestra ovalis is a portion of the Fallopiian canal containing the facial nerve.

Caries of the inner wall may cause suppuration in the labyrinth and extension into the cavity of the skull.

The facial nerve, being separated by a thin plate of bone which may be deficient in places, is easily inflamed or destroyed.

The Mastoid.—The relations of the mastoid process to the lateral sinus and cranial cavity should be remembered by all. Sometimes the petroso-mastoid suture is not obliterated, and pus may make its way through it to the cranial cavity.

The lateral fossa or sulcus forms the inner and posterior wall of the greater part of the mastoid cells. Usually this wall is strong, but it may be very thin or perforated.

Vessels and Nerves of the Middle Ear.—Owing to the free anastomosis between the fibres of the sympathetic, trifacial, pneumogastric, and glosso-pharyngeal, and the nerves of the middle ear, either reflex aural symptoms may arise from disease in other parts of the body or reflex symptoms of other organs may be due to disease of the ear.

The arteries of the tympanic cavity are derived from the external and internal carotid, middle meningeal, and stylo-mastoid. Of the blood supply little need be said, except to remind you of the free anastomosis between the vessels of the tympanum with those of the labyrinth and brain. This is often the channel for a purulent inflammation.

Many general practitioners are, and all should be, perfectly familiar with the normal landmarks and methods of examining the middle ear, and perfectly able to recognize and treat all cases of acute or suppurative disease with credit to themselves and full justice to their patients. They can do a paracentesis or mastoid operation if necessary, and know full well when the case demands such surgical interference. It does not require any great amount of training or special skill for any man to acquire sufficient knowledge to become familiar enough with the ear to be able to examine a case and recognize the normal landmarks of the drum membrane. This is more than half the battle. Very soon he would notice any deviations from the normal picture in the field, such as foreign bodies or cerumen in the canal, polypi, granulations, perforations, congestions, bulging, or retraction of the drum membrane. When it comes to recognizing the finer changes within the tympanic cavity, the result of suppuration or adhesions; changes in the ossicles, the result of misplacement or caries; and the finer diagnostic points between obscure diseases, special skill and long experience are requisite, and this is not within the scope of the busy general practitioner.

My experience leads me to believe that most men, in examining the ear, hold their speculum at the wrong angle; and so, instead of seeing the drum membrane, obtain a beautiful view of the posterior wall of the meatus.

The cases I report will well illustrate some inexcusable mistakes made by general practitioners, many of them excellent men and graduates of our best schools.

In the treatment of disease of the ear, treatment of the nose and throat should go hand in hand, and together they should be treated as one organ. The aurist who is not a thorough throat man can obtain but poor results.

Prognosis of Middle-Ear Diseases.—While speaking of the necessity of a more thorough understanding of middle-ear disease by the average man, a few words on the prognosis and result of treatment may not be amiss.

Excluding chronic middle-ear catarrh, the results from treatment in middle-ear disease are most satisfactory, nay, even brilliant. In no branch of medicine or surgery are they better.

Chronic middle-ear catarrh usually comes on so slowly, and the loss of hearing is so gradual, that it is quite imperceptible to the patient. He becomes quite deaf before he realizes that the hearing is affected. In the mean time the disease has been running on from two to ten or more years before the patient seeks treatment. The patient is told by his family and friends that he is getting deaf, but does not believe it and replies that "people mumble and do not articulate distinctly." On finally awaking to the fact that

he is deaf, it is too late to accomplish much by treatment. Usually all that can be done is to get back what hearing has recently been lost, and to help the patient keep what hearing still remains. The more acute the chronic middle-ear catarrh in its onset, the better the prognosis in individuals previously healthy.

When chronic middle-ear catarrh is due to disease of nose or throat and is seen early, we can stop the disease and restore in large measure what hearing has already been lost. When acute middle-ear catarrh is properly treated, we can restore the hearing. It is in the treatment of acute and chronic middle-ear suppuration with or without granulations, polypi, and other complications, that we can expect and do get brilliant results.

Statistics show that about two-thirds of all ear diseases are of the middle ear, and that about thirty per cent. of all ear diseases are suppurative; also that an average of about seven-tenths of one per cent. of all ear cases treated in ear hospitals are affections of the mastoid.

According to Field, between one and two per cent. of all cases of aural suppuration are supposed to result fatally from intracranial complications.

Barker records that out of eight thousand and twenty-eight deaths from all causes in three large London hospitals during twelve years, forty-five cases were due to disease of the temporal bone.

Four factors are to be taken into consideration in the prognosis of suppurative middle-ear disease: Prognosis as to life, stopping discharge, closing of perforation, restoration of hearing.

Acute middle-ear suppuration, properly handled, rarely causes intracranial complications or results in death. The danger of septicæmia is slight. Under proper treatment the discharge stops, perforation closes, and the hearing usually becomes normal.

In scarlet fever and diphtheria prognosis is more doubtful. In these cases the amount of destruction decides the result. Ulceration may be rapid and destroy all of the drum membrane, and extend to the ossicles, and they may be thrown out with the discharge.

Prognosis in acute mastoid disease, except in specific and tuberculous individuals, is good.

In healthy individuals with chronic suppuration, we can stop the discharge. The closing of the perforation depends on the amount of destruction of the drum membrane and the condition of the edges of the perforation. If the perforation remains open there is always danger of a recurrent attack. The amount of hearing remaining depends on the condition of the drum membrane and ossicles.

Death, as a result of a neglected chronic otorrhœa, is by no means uncommon. It seems to be pretty generally agreed to by all aurists that as long as a discharge from the ear exists there is danger to life.

C. H. Burnett says that "so long as a chronic purulent discharge comes from an ear, the patient's life and hearing are in danger, and unless the otorrhœa is cured the disease surely tends to extend to the brain."

Schwartz says: "As long as purulency exists, even though it be so slight that no discharge from the canal is seen, there is danger to life. The symptoms of fatal disease may appear with unexpected suddenness when the otorrhœa has, perhaps, existed for many years, with no perceptible detriment to the general health, and in cases also in which no caries exists."

Urbantschitsch states that "practical experience teaches that individuals with chronic otorrhœa do not, as a rule, reach advanced age."

Death may result from meningitis, cerebral abscess, septicæmia, general pyæmia, septic thrombo-phlebitis, hemorrhage.

Thrombosis and phlebitis are most common in the lateral sinus, but may occur in the superior or inferior petrosal sinus.

Ulceration through the anterior wall of the tympanic cavity may cause erosion of the internal carotid artery. Fortunately this is rare, about twenty cases having been reported.

Ulceration through the inferior wall of the tympanic cavity may cause fatal hemorrhage from the internal jugular vein. Also there may be hemorrhage from the middle meningeal artery, and lateral and petrosal sinuses.

The stand taken by most life-insurance companies shows the respect with which they regard otorrhœa as a factor in causing death. By the best of them it is agreed that all persons with chronic middle-ear suppuration should be rejected. Some companies believe in assuming the risk at an advanced premium. Some companies reject individuals in whom there is a permanent dry perforation of the drum membrane, and other companies accept such a person if there has been no discharge from the ear for a certain number of years. Of course, during an acute suppuration, no person is accepted; and some companies refuse to assume the risk if there is a history of recurrent attacks of acute suppuration, even though the drum membrane is intact and other conditions are apparently normal.

Unrecognized Acute Middle-Ear Suppuration Followed by Meningitis.—In August, 1894, a house officer in one of our best New York hospitals requested me to examine this case: A woman, aged thirty, poorly developed and nourished. Her right ear had been useless since childhood, the result of suppuration, but had not discharged since that time, and was found to be perfectly dry. The left ear had never troubled her until the present attack. Some ten days before I first saw her she had pain in the left ear; since which time the pain had been steadily on the increase, and for the last few days she had been unable to sleep, temperature running from 101° to 103° F. for several days. Physical examination negative. On examining the left ear, the meatus was found very much congested and swollen in its upper posterior portions; the drum membrane only so around the extreme periphery. The rest of the drum membrane was pale yellowish, with great bulging, and pus was seen through it in the tympanic cavity. So great was the pressure of this pus that all blood was apparently squeezed out of the vessels of the drum membrane. Immediate paracentesis was advised. The house officer did not have the authority to give me permission to do even so slight an operation without first consulting his "visiting," a fine and very busy practitioner. That afternoon the "visiting" examined the case; and he, seeing no great inflammation or cause for operation, decided to await further developments. Three days later he decided to have the ear lanced, and called in the visiting surgeon to operate. The surgeon punctured the ear in two or three places, but got nothing but blood. Probably forgetting the direction of the meatus, he neglected to lift the auricle upward and backward, and, his speculum being at a wrong angle, his knife went into the posterior wall of the meatus. This gave the patient no relief. She developed meningitis and died.

Acute Mastoid Disease, Diagnosed as "Cellulitis."—Mary —, aged twenty-five, a strong and healthy woman. Last July, while at a summer resort on Long Island, she had an attack of erysipelas and developed an acute ear trouble. The disease extended into the mastoid, and her sufferings for the four weeks before I saw her were very great. Her physician, a New York man, having a summer practice at one of the fashionable resorts, attributed the great pain, extending all over the side of the head, the extensive

mastoid œdema, and sensitiveness on pressure, to a cellulitis resulting from the erysipelas. He allowed this condition to go on for some four weeks, all the time the swelling and her sufferings being on the increase. Then he finally suggested a change of air. She came to New York and consulted another man, who viewed the case in much the same light as his predecessor. One week later she fell into my hands. I found the walls of the left meatus nearly in contact, from great œdema of the upper posterior wall of the meatus, and œdema and apparent fluctuation over the mastoid, the auricle standing out prominently. Under ether I did a paracentesis and mastoid operation. Some two ounces of pus were found in the tissues over the mastoid. The external cortex of the mastoid was solid and no sinus was present, but a spot of inflamed, discolored bone was seen. This spot was very soft, and a drill easily penetrated it. On going in some one-fourth of an inch, pus welled out of the bone under great pressure. The opening was enlarged and a large drainage tube inserted. There was no pain after operation, and the patient made an unusually rapid recovery.

Furuncle of Canal, Diagnosed as "Mastoid Disease."—CASE I.—Last May I was called upon to do a mastoid operation in this case: A woman, aged twenty, had severe pain in and around the ear for three days. On examination I found the auricle congested and sensitive to the merest touch. The movements of the jaw in mastication caused excruciating pain, as did also all movements of the auricle. There was no tenderness over the mastoid except when the auricle was touched. A large furuncle of the posterior wall of meatus was found. This was incised, with evacuation of its contents. Relief was immediate, and in three days the patient was entirely well.

CASE II.—A male, aged thirty-five. History and condition of ear the same as in above case. Patient had been to the hospital and was told that he would have to be admitted, an operation performed, and it would be two weeks before he could leave the hospital, as the ear would have to be opened from behind. Incision gave the same relief and result as above.

Acute Middle-Ear Suppuration Diagnosed and Treated as "Neuralgia."—CASE I.—Miss C—, aged twenty-six. Never had ear trouble before. In May, 1893, during an attack of acute coryza she first had pain in right ear four days previous to my first visit. Pain in the ear steadily increased and extended into the mastoid and all over the side of the head. For two nights she had been unable to sleep. When her sister came for me, she reported that the patient had been delirious all night. Her physician had several times examined the ear, and pronounced it "neuralgia," as the drum membrane was perfectly normal. On my arrival I found her condition quite serious. Pulse, 160; temperature, 103.4° F.; and she was excited and feeble. Great mastoid tenderness, and the chances were that the case would require a mastoid operation. Examination showed the deeper part of the meatus filled with cerumen, no portion of the drum membrane being visible. On removing the cerumen the drum membrane was found swollen, congested, and bulging, with two small bullæ on it. These were incised and a free paracentesis made, after which there was abundant serous discharge. One hour later temperature was 100° F. Patient went to sleep soon after the operation. Her ear trouble yielded nicely to treatment (leeches, ice, and douching), and in one week's time the ear was entirely well.

CASE II.—Miss McG—, aged twenty-two. History and condition about the same as in the last case, except that there was no cerumen and that her trouble had been running on some four weeks. She had been in the hands of two men, both of whom assured her

that "the ear had not gathered and would not gather." After a paracentesis this case for a week yielded nicely to treatment, but mastoid inflammation developed and operative interference became necessary and was advised. The family would not consent to a mastoid operation, and the last I heard of the case she was trying the "faith cure."

Otalgia Dentalis Diagnosed as "a Gathering in Ear."—CASE I.—Girl, aged twelve. Bad pains in the left ear for three weeks. The ear had been syringed and poulticed for over two weeks. The child was examined by her medical adviser half an hour before I first saw her, his verdict being that the "ear is nearly ripe; go on in the same way and the ear will soon break." My examination revealed a normal drum membrane. I discovered a very bad tooth. I advised its removal and promised relief. The tooth was extracted and her sufferings ended.

CASE II.—Mrs. A—, aged forty, had pain in her ear for some weeks. She was examined by a good general practitioner and her trouble was pronounced by him "a gathering in the ear," and he insisted on immediately lancing it. The patient did not like the idea, and, as I had treated one of her children for ear trouble, she came directly from him to my office. I again found a normal drum membrane and a bad tooth, after the removal of which the same result followed as above.

Acute Middle-Ear Suppuration Right, but Same Disease on Left Overlooked.—Willie L—, four months old, a very badly nourished and weak child, was first seen by me in July, 1894. History: The child did very well until he was about four weeks old, except that he had "snuffles." Then the child commenced to be very fretful and restless, cried a great deal, and never slept soundly. The child became very much emaciated. Three weeks before I first saw the child his right ear commenced to discharge, but there was no improvement in his general condition. All this time the family physician was in constant attendance. At the appearance of discharge from the ear he said: "Let the ear alone and the child will soon be well now." For all this the child was steadily going down hill. Two weeks later a throat man who does considerable ear work was consulted. At this time there was a profuse muco-purulent discharge from the right ear. As after his having treated the child for a few days there was no improvement in the child's restlessness or general condition, he referred the case to me for an opinion as to the cause of the baby's apparently continued pain. On examining the right ear I found a large perforation of the drum membrane, with free discharge and no bulging. The left drum membrane was very much bulged and pus could be seen through it in the tympanic cavity. I wrote to my friend and advised an immediate paracentesis of the left drum membrane. Three days later the child was again sent to my office; the doctor, seeing no indications for paracentesis, did not operate. The child's general condition was much worse, but the condition of his ears remained unchanged. I emphasized my former advice. Next day I was requested by the doctor to take charge of the case. I made a curved incision of the drum membrane, upon which there was free escape of muco-pus. The child quickly became quiet and went to sleep before the nurse left my office. The child rapidly gained his strength. Later I performed an adenoid operation, and to-day the baby is as healthy a specimen as one would wish to see.

Polypus from Shrapnell's Membrane the Unrecognized Cause of Head Symptoms.—Woman, aged fifty, suffered from vertigo and dull pain with fulness all over the left side of head for some two years. Treated by family physician for head trouble and change of life. She was assured that she had no ear

trouble, although every few days she noticed a stain on the towel after cleaning the ear. This was "softened wax," the doctor reported. On examining the ear a polypus the size of an ordinary pea was seen hanging down from Shrapnell's membrane. This was removed, and through the perforation of Shrapnell's membrane the attic was seen to be filled with pus and desquamated epithelium. The attic was thoroughly cleansed with a middle-ear syringe, introduced through the perforation. The woman's vertigo and head symptoms were relieved.

Polypus of Ear, Diagnosed as "Chronic Catarrhal Disease."—Mrs. M—, aged sixty, suffered from tinnitus, fulness, and pain all over the left side of head some five years, and felt sure that she was going insane. She had been treated off and on for chronic catarrhal deafness for several years by one of the best doctors in a favorite watering-place. He last treated her by catheterization for her "retracted drum membrane" two days before I first saw her. On examination I found a very large glistening polypus entirely filling the inner half of the external meatus. This was removed and the drum membrane found to be almost entirely destroyed. The symptoms were relieved, and the patient now feels that her head and brain are as good as any one's.

Acute Middle-Ear Disease with a Bulla of Drum Membrane Diagnosed as "a Malignant Growth."—A woman, aged thirty-six. History of earache for three weeks without treatment. Referred to me by a physician who had made a diagnosis of sarcoma from the great pain and its very rapid growth. On examination I found the right meatus almost filled by a large bulla. This was incised and large clots were removed, after which, as there was some bulging of membrana tympani, a paracentesis was done. Serous discharge. Relief of pain. Convalescence rapid and uneventful.

Dried White Desquamated Epithelium in Canal. Diagnosis Made that "Ossicles were Coming Out."—A nervous woman, aged twenty-five, with a history of deafness with pain in right ear for several months. She was examined by her physician, and he sent for me in a great state of excitement, as he found that the ossicles of the ear were surely coming out. He had probed them, and was positive that they were bones of the ear. On examination I found the inner third of the meatus filled with a whitish, irregular mass of hard, dry, desquamated epithelium. This was removed and the ossicles were seen intact. Patient had a small, dry perforation of Shrapnell's membrane, from which no pus escaped. Pain and deafness were relieved.

Were I to enumerate the number of patients I have seen with perfectly intact drum membranes, who had been told by physicians that the ear drums were entirely gone, I would more than try the patience of this society. Some of the drum membranes were perfectly normal, others in various stages of thickening, retraction, cicatrization, or calcification.

On the other hand, patients without a vestige of drum membrane or a sign of an ossicle, in whom on examination the entire inner wall of tympanic cavity could be seen, have been assured that their drum membranes were perfectly normal.

12 EAST THIRTY-EIGHTH STREET, NEW YORK.

Inoculation against Rabies in Vienna.—During the years 1894-95 the number of patients who underwent a course of preventive treatment of rabies at the Rudolf-Stiftung in Vienna was one hundred and twenty. The anti-rabic department, where the treatment is the same as that employed at the Pasteur Institute in Paris, is under the care of Professor Paltauf. There were no deaths among those treated by inoculation.

FORMALIN AS A PRESERVATIVE.¹

By H. A. L. RYFKOGEL, M.D.,

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To find an ideal preserving fluid has long been the aim of those taking an interest in the care of specimens of organic life.

Such a preservative must not alter the preparation in any way, it should cause no shrinkage nor hardening, the color of the object ought not to change, the microscopic as well as the macroscopic appearance must be preserved, the fluid should be non-inflammable and obtainable at but little cost. As yet no combination has fulfilled all these indications, nor is it likely that any ever will; for preserving fluids are usually such by virtue of one of these very objections, if such it really be, namely the hardening of albuminous material.

Of necessity all preserving fluids must have antiseptic qualities and many such, as alcohol and glycerin, are hygroscopic as well. This last quality is of course not an advantage, owing to the great shrinkage that occurs on the withdrawal of any water from animal tissues.

It is by the presence of these qualities that we must judge the value of the different media in use. Thus, solutions of boric acid, four per cent., or carbolic acid, one to two per cent., are simply antiseptic. Any object placed in these will indeed not suffer putrefactive changes, but after a time will become macerated and practically worthless. Glycerin is hygroscopic and slightly antiseptic. It alters by shrinkage and is too costly for ordinary use. Alcohol is hygroscopic, antiseptic, and coagulates albumin. It therefore both hardens and shrinks the specimens. It also alters by dissolving out many of the organic pigments. Finally, solutions of formic aldehyde are antiseptic. They harden albumin, but cause no shrinkage, and effect animal pigment but slightly.

Of course all fluid preservatives alter the appearance of tissues to a certain degree by the withdrawal of blood.

The specimens we show you have been kept in formic-aldehyde solution or formalin, which appears to overcome many of the objections mentioned above.

Formic aldehyde, a gaseous body discovered in 1863 by Hoffmann, while passing methyl alcohol and air over hot platinum, is one of a peculiar series of chemical compounds which differ only in the amount of oxygen they contain. The first of these is methane, or marsh gas, of which the chemical formula is CH_4 . The second is methyl alcohol with a formula of CH_3O , and the third, methylenglycol, is represented by the formula CH_2O . If we now extract from this last one molecule of water, we have the formula of formic aldehyde, CH_2O .

Formic aldehyde is a gas, colorless and possessing a very pungent odor. When inhaled it is very irritating, quickly setting up a coryza or bronchitis. Its point of saturation in water is forty per cent., and it is this saturated solution that is sold under the name of formalin by Schering. We probably have here a solution of methylenglycol, for, as shown above, formic aldehyde plus one molecule of water gives us methylenglycol, thus: $\text{CH}_2\text{O} + \text{H}_2\text{O} = \text{CH}_2\text{O}_2$.

On account of its antiseptic properties, discovered by Blum, it has been used in many diseased conditions dependent on pathogenic germs, but it is of its uses as a preservative and fixing agent that we now

wish to speak. These, as mentioned above, depend on its antiseptic powers and ability to harden protoplasm.

Solutions of one-per-cent. strength, *i.e.*, one volume of formalin to forty of water, preserve gross specimens of tissue indefinitely and so thoroughly that microscopic sections may be prepared therefrom at any time. Solutions of this strength will not, however, fix the cells so as to show fine intracellular structure. Still it is the architecture of the tissue, as it were, that most interests the pathologist, and this will be perfectly shown.

Solutions of even less strength may be used, but with less satisfactory results as regards preservation of color and minute detail. When the object to be preserved has many delicate colors that must be shown, a stronger solution, *e.g.*, four per cent. to eight per cent., had better be employed. Bodies of insects and reptiles, fruit and flowers should thus be preserved.

You have all noticed that the slime or mucus that covers the bodies of certain fishes, reptiles, etc., and some pathologic specimens becomes converted into white stringy masses when the animal or tissue is placed in alcohol. This does not occur with formalin in solutions stronger than one in forty (one per cent.); so that any slime or mucus that covers specimens placed therein remains transparent.

Formalin gives beautiful results in the preservation of the central nervous system, showing very distinctly the white and gray matter. For this purpose, however, it has two objections. First, it causes a certain amount of swelling; second, the gray matter becomes very brittle, so that small pieces are broken off in handling. These may both be remedied by making up the one per cent. solution of formalin in fifty per cent. alcohol, thus:

R Formalin	.....	1 part.
Alcohol,	.....	
Water	.....	50 parts.

This at first glance may appear expensive, but it is not so, for a single immersion will suffice, owing to the great rapidity of penetration of the formalin. Of course if alcohol alone were used it would have to be changed one or more times to obtain a good result.

If a strong solution of formalin be injected into the digestive tube and carotid artery of a small animal, The specimen may be left hanging in the open air for many months without undergoing change.

Blanchard has preserved leeches in the fluid and found no alteration in the delicate coloration of the animals after a year.

Egg albumen placed in formalin, four per cent., solidifies and becomes slightly opalescent. If it is now boiled it will not change in appearance.

Formalin has also been of great use to teachers of bacteriology demonstrating cultures in gelatin. For, if the vapor of formalin be introduced into a test tube in which a culture is growing, it immediately arrests the growth of bacteria. Moreover, the gelatin which has been liquefied by the bacteria is again solidified without alteration of appearance. Thus a culture may be kept in any stage of growth desired.

As a fixing agent in solutions of two per cent. to five per cent. it far surpasses alcohol and almost equals the more costly fixing agents, such as osmic acid, etc., killing as it does the cells before any change can take place in the finest intracellular structure. For example, it has been used instead of osmic acid in Ramon y Cajal's method for nervous tissues with better results.

Durig has used four-per-cent. formalin as a mordant instead of aniline-oil water.

Cullen, of Johns Hopkins, has devised a method for making frozen sections permanent by means of formalin. He places the section in formalin, four per cent.,

¹ Read before the Alumni Association of the Medical Department of the University of California, April, 1896.

three to five minutes; alcohol, fifty per cent., three minutes; alcohol absolute, five minutes. Cullen finds sections prepared in this manner in twenty minutes after an operation as definite for diagnostic purposes as those prepared by the ordinary methods which take several days.

To recapitulate, the advantages of formalin over alcohol are as follows:

1. Alcohol by withdrawing the water from a specimen causes great shrinkage. Formalin, acting only by changing the protoplasm, causes very little shrinkage.

2. Alcohol dissolves out most organic pigments and so greatly alters the appearance of objects. Formalin does not do this to any extent.

3. The price of alcohol is nearly \$3 a gallon; that of one-per-cent. formalin solution about 30 cents.

4. Alcohol is very inflammable. Formalin, being a watery solution of a gas, is not so.

5. Alcohol by changing mucus or slime to white strings spoils the appearance of objects covered by this material. Formalin by leaving mucus and slime transparent is free from this objection.

The objection to formalin is the irritating quality of its vapor when inhaled. This is, however, not troublesome in the solutions ordinarily employed.

The specimens shown well illustrated the advantages of formalin. Two were specimens of a pneumonic lung, one in alcohol, the other in formalin. From the external surface of the one in alcohol the delicate mottling and striping had almost vanished. On the contrary the specimen in formalin—in this case one per cent.—was almost unaltered.

In another jar was a uterus from a case dead of purpura hemorrhagica. This was placed in a four-per-cent. formalin solution in order thoroughly to harden the blood clot in the interior of the uterus. After four weeks the uterus was carefully cut across and the specimen was ready. Upon examination it was seen that the blood clot formed a perfect cast of the cavity. Neither the uterus nor the clot had shrunk to any appreciable degree.

Colloid material in the Graafian follicles remains clear and has not decreased in volume; one of them is filled with a clot which, like that in the uterus, completely fills the cavity.

Had this specimen been prepared in alcohol every thing would have been shrunk and distorted. The clot would not have formed such a perfect cast of the uterine canal and the contents of the Graafian follicles would have appeared as opaque balls or strings filling a small part of their interior.

1546 HOWARD STREET.

Physicians Should Work Less.—Dr. Kortright, in the *Brooklyn Medical Journal*, says that arterial sclerosis is a common cause of death in physicians. The lesson that we should learn from our deceased colleagues, he states, is not to work too long. When you find your arterial tension increasing, your temporal artery becoming tortuous, your radial growing hard, especially if you have a little palpitation and pass an increased amount of limpid urine, whatever your years, know that old age is upon you. Henceforth shape your life like one that is old. Curb your ambition. Be content with a small practice. Reduce your expenses. Give up your night work. Decline confinements. Take a long vacation in summer. Retire early. Eat abstemiously. Drink not at all. Sell your horse. Take a great deal of moderate exercise in the open air. Watch the functions of the skin. Guard against a chill. Cultivate an even disposition. Study to be quiet.

A DANGER IN FILTERING URINE WITH TALC.

By BRANDRETH SYMONDS, A.M., M.D.,

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THE difficulties in testing for albumin in the urine are too well known to be enumerated here. The fallacies to which our tests are liable and the means of avoiding and overcoming these are generally well understood. If the albumin is abundant there is no liability of error. When urine shows a distinct white cloud on boiling which is not dispelled by the addition of nitric acid, and when also a distinct white ring is instantaneously formed at the junction of the same urine and cold nitric acid—the so-called Heller's test—it is not necessary for us to examine further in order to predicate the presence of albumin in that specimen of urine, or to seek more delicate tests for this particular case. The accuracy of combined positive results with these two tests cannot be questioned. When, however, the amount of albumin is less, so small that the cloud on boiling is a faint one and needs good light and a dark background in order to discern it, and the contact test with nitric acid shows negative results even after standing for half an hour, then our tests may give certain fallacious reactions against which it is necessary to be on our guard. The substance which it is most difficult to exclude under these circumstances is mucin. This is present in nearly all urines, even of men who are apparently healthy. The test for it is very simple and delicate. If mucinous urine is allowed to overlie acetic acid, a diffused white ring is quickly formed at or just above the junction of the two fluids. This reaction is also produced by means of citric,¹ picric,² tartaric,³ and dilute mineral acids. The latter in the slightest excess are said to dissolve the precipitate. The delicacy of these reactions with mucin causes Oliver to say: "All acid reagents employed for the detection of albumin in small quantities by the contact method are open to the fallacy of the mucin reaction."

Each writer agrees with all the others in recognizing this difficulty in testing for albumin with all tests but his own. As regards his own test, either it does not react with mucin or there are certain easy modifications by which this difficulty can be absolutely avoided, but no other test besides his is to be countenanced, as all the others are inaccurate or not delicate. This is the story that is told by a dozen writers on this subject, affording thereby much amusement to that unbiassed physician who reads them all. I have tried nearly all these contact tests, and must agree with the majority as regards the accuracy of each test. I consider each of them liable to give a reaction with mucin which cannot be distinguished from that with albumin.

About two years ago a method for avoiding these reactions with mucin was introduced to the profession by a well-known firm of apothecaries, who also made a specialty of urinalysis. This method, which received the endorsement of Grey,⁴ was as follows: "Clarify the urine by adding about sixty grains of powdered French chalk, purified for this purpose, to an ounce of a mixture of two parts of urine and one of distilled water; shake all thoroughly together and pour upon a small four-ply filter, which has been previously wetted with distilled water, throwing away the first portion of about one drachm, and returning remaining

¹ Tyson: "Practical Examination of Urine," p. 60.

² Roberts: *Medical Chronicle*, October, 1844, p. 3.

³ Neubauer and Vogel: "Analysis of Urine," p. 177.

⁴ Oliver on "Urine Testing," p. 111.

⁵ American Journal of the Medical Sciences, 1894, vol. cviii., p. 396.

portions to the filter, until the filtrate is perfectly clear. This separates the bacteria and the suspended mucin from the mucus of the mucous membrane."

I used this method for some time for clarifying urine which was partly decomposed, before my attention was drawn to its faculty of separating out also mucin. This seemed very reasonable, as I had previously noticed its ability to remove a large part of the urinary coloring-matter, which is more soluble than mucin. For a short time this method gave great satisfaction. Then the unpleasant thought arose that if talc possessed the power of removing mucin and urinary coloring-matter, why does it not also remove albumin? I submit herewith the experiments which were undertaken to determine this. Esbach's albuminometer was used for the quantitative investigations in all cases. Even if this is only approximately accurate, it is reliable enough for purposes of comparison. All the tests in each experiment were made on the same evening and the results were carefully checked the next evening, thus insuring accuracy for purposes of comparison. The urine, of course, was not diluted prior to filtration. In order to avoid the suspicion that the results might be due to dilution from the water contained in the wetted filter-paper, the first two drachms of the filtrate were in all cases thrown aside.

I. This specimen unfiltered showed 0.075 per cent. of albumin. Six drachms of urine were mixed with one teaspoonful of talc,¹ and then filtered. The filtrate showed less than 0.025 per cent. of albumin.

II. This specimen unfiltered showed 0.05 per cent. of albumin. Two ounces were mixed with two teaspoonfuls of talc and filtered. The filtrate showed a precipitate in the albuminometer, but too small to be measured. One ounce of this filtrate was now mixed with one teaspoonful of talc and passed through a fresh filter. This second filtrate showed a slight cloudiness with Esbach's reagent, but no precipitate. One-half ounce of this second filtrate was mixed with one-half teaspoonful of talc and put through a fresh filter. The filtrate from this gave no reaction at all with Esbach's reagent.

III. This specimen was from a case of chronic nephritis associated with valvular cardiac disease. From the history it seems probable that the renal lesion was primary. The unfiltered urine showed 0.225 per cent. of albumin. The first filtrate of two ounces of urine with two teaspoonfuls of talc reduced this to 0.15 per cent. One ounce of this filtrate was again mixed with one teaspoonful of talc and passed through a fresh filter. The amount of albumin was thereby reduced to 0.075 per cent.

IV. Another specimen was obtained from this same case a few days later. The unfiltered urine now showed 0.175 per cent. of albumin. The first filtrate showed 0.1 per cent., the second filtrate 0.05 per cent., and the third filtrate 0.025 per cent. Fresh talc, of course, was used for each filtration.

V. As the power of talc to remove albumin from the urine was by this time fully established, the following experiment was made to prove that if the quantity was constant this power varied directly almost with the amount of talc used. The original urine unfiltered showed 0.175 per cent. of albumin. When one ounce was mixed with two teaspoonfuls of talc, the filtrate showed 0.1 per cent.; when the same quantity was mixed with three teaspoonfuls of talc, the filtrate showed 0.05 per cent.; when with four teaspoonfuls, it showed 0.025 per cent.; when mixed with five teaspoonfuls of talc, the filtrate showed an amount too small to be measured in Esbach's tube. This experiment also removes the suspicion that the comparative diminution of albumin in the successive filtrations

might be due to the repeated dilutions from the thick, wetted filters used.

VI. In order to eliminate the possibility of actual dilution, this experiment was devised. A sample of urine was taken which showed when unfiltered 0.175 per cent. of albumin. Two ounces of this were then shaken for some time with three teaspoonfuls of talc. The mixture was then poured into a precipitating glass and allowed to stand for twenty-four hours. At the end of that time practically all the talc had settled to the bottom, leaving above the clear urine considerably decolorized. This was then passed through one thickness of unwetted filter-paper, in order to get rid of a little talc at the top of the fluid. The albumin was found to be reduced to a trifle less than 0.1 per cent.

VII. It might be urged that even if talc does remove albumin, these experiments do not show that it takes all out of a specimen, and there will still be left enough to respond satisfactorily to our tests. The urine used in these experiments was intentionally selected on account of the large amount of albumin contained therein, so that any loss could be easily measured. The figures furnished by Esbach's albuminometer refer only to dry albumin, and an amount equivalent to 0.2 per cent. on that instrument would make one-fifth or one-fourth of the bulk of urine when estimated in the ordinary wet way by boiling and allowing the urine to stand for a few hours in a test tube. In fact, a percentage of albumin that furnishes no appreciable deposit in Esbach's tube will yet give perfectly satisfactory and characteristic reactions with all our tests and may be of the profoundest clinical significance. The dangers of clarifying the urine by this method are most pronounced in just these cases, which are encountered every day in ordinary practice. For example, a specimen of urine on boiling showed a distinct cloud which was not dispelled on the addition of nitric acid. On contact with nitric acid it showed instantaneously a delicate white ring at the junction of the two liquids, thus indicating albumin. On contact with acetic acid it showed a white ring, indicating mucin. The quantitative analysis showed an amount of albumin too small to be measured in Esbach's tube. One ounce was filtered with one teaspoonful of talc in the usual way. The filtrate showed no cloud on boiling; the contact test with nitric acid gave a negative result, even after half an hour, and likewise the contact test with acetic acid. In order to see if simple dilution could cause this change in the reactions, the original urine was diluted one-half with plain water. All three tests then gave positive results, although a little fainter than before dilution. The contact test with nitric acid required about two minutes before the ring of albumin appeared, but then it was typical.

This loss of albumin has occurred repeatedly in my analyses, and might readily have led to the most serious mistakes. It is on this account, and not from a mere academic interest, that these experiments were undertaken. The results given prove the great danger of the method, I think conclusively.

VIII. At the suggestion of D. Granville M. White, two experiments were made to determine the influence of talc in removing sugar from the urine. The first experiment showed some reduction in the amount of sugar, but, unfortunately, my notes on this case have been lost. The second experiment showed a reduction from over 0.75 per cent. before filtration to less than 0.5 per cent. after filtration, one ounce of urine having been mixed with one teaspoonful of talc.

128 WEST FIFTY-NINTH STREET.

Surgery of the Lay Press.—"Egan was removed to Bellevue Hospital, where it was found that the tendons and two arteries had been severed and one or two nerves fractured."

¹ One rather heaping teaspoonful of purified talc or French chalk was found to weigh fifty-four grains.

THE USE OF PEROXIDE OF HYDROGEN IN DISEASES OF THE NOSE, THROAT, AND EAR.¹

By W. SCHIEPPEGKELL, A.M., M.D.,

NEW ORLEANS, LA.

VICE-PRESIDENT OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY; CHAIRMAN, SECTION ON OTOLGY, LARYNGOLOGY, AND RHINOLOGY, LOUISIANA STATE MEDICAL SOCIETY; VICE-PRESIDENT, NEW ORLEANS ELECTRIC SOCIETY, ETC.

PEROXIDE of hydrogen is one of the most useful agents which we have in the treatment of diseases of the nose, throat, and ear. Its germicidal and antiseptic properties, and its capacity for destroying pus and decaying organic matter without injurious effect on healthy tissues, render it almost indispensable in many cases. It has always been a source of surprise to me that so little reference to this valuable agent is found in the foreign periodicals.

Peroxide of hydrogen is a dioxide or double oxide of hydrogen (H_2O_2), water being simply a monoxide of hydrogen (H_2O). It derives its name "peroxide" from the fact that it is the highest oxide of hydrogen known to chemistry. It was first prepared by Thénard, about seventy years ago, and was known as "oxygenated water," a name still retained in France. A given volume of it, when decomposed, yields four hundred and seventy-five times its own volume of free oxygen. In its undiluted state it is a strong cauterant of animal tissue, and is therefore usually prepared as a two- or three-per-cent. solution, the former yielding, when decomposed, ten and the second fifteen times the volume of the liquid in gaseous form.

Peroxide of hydrogen is not toxic; in fact, it is used for internal medication, and the amount which may be taken without injurious effect is well illustrated by a case recently reported, in a course of discussion on diphtheria, by Dr. Rudolph Matas. In this case, in which Dr. Matas had occasion to prescribe it for a man suffering from asthma, the patient, from a misunderstanding of the directions, took six or eight four-ounce bottles of peroxide of hydrogen during one night, and was not only not injured by this excessive amount, but actually believed that he had been benefited.

In diseases of the nose, peroxide of hydrogen is an important therapeutic agent. In ozana a wash of a twenty-five-per-cent. solution is useful; or, after washing the nostrils with an alkaline or the normal physiological salt solution, the hydrogen peroxide, pure or mixed with an equal quantity of glycerin, may be applied locally by means of an atomizer or applicator with cotton, to remove or destroy any scabs or secretion which may be left. In this way the nostrils can be kept clean, and the offensive odor, which is one of the most unpleasant features of this disease, may be prevented. In purulent rhinitis a five-per-cent. solution, to which an alkali has been added, is useful. It is also said to be serviceable in controlling nasal and pharyngeal hemorrhage.

In membranous rhinitis, whether due to the Klebs-Loeffler bacillus or to micrococci, the spraying of the nostrils with a twenty- to fifty-per-cent. solution is indicated, and has given me excellent results. My experience in diphtheritic rhinitis with this agent has been so satisfactory that I have not deemed it necessary to use the antitoxin in these cases, as this does not seem to prevent the post-diphtheritic paralysis, which would be the only reason for my using it in diphtheritic rhinitis.

In specific necrosis in the nostrils, peroxide of hydrogen is an important agent, not only for its disinfecting properties, but also for controlling the horrible odor that is present in these cases. In diseases of the

accessory sinuses of the nose, peroxide of hydrogen is so beneficial that I use it in all cases, whether of a maxillary, frontal, ethmoidal, or sphenoidal sinus. In my opinion it cleans and disinfects the infractuositities of these cavities more effectively than any agent that we have.

In diseases of the throat, peroxide of hydrogen is used in follicular and other forms of tonsillitis, and in specific affections, and is a sheet anchor in diphtheritic processes in this region. Long before the introduction of antitoxin, I have had excellent results from hydrogen peroxide in diphtheria, and even since the use of this serum I never fail to use the peroxide as a valuable adjunct, and I believe it to have had an important bearing on the results obtained. It attacks the membrane, disinfects the parts, and has no injurious effects when swallowed, which is more than can be said of many other antiseptics used for this purpose. In a recent case of laryngeal diphtheria, to which I was called in consultation, the stridor and dyspnea were so marked that I was compelled at once to introduce an intubation tube. The tube, however, was repeatedly coughed out, and I then made use of a procedure which I had found beneficial in former cases—the injection of a seventy-five-per-cent. alkaline solution of peroxide of hydrogen directly into the larynx, by means of a laryngeal syringe. The relief given by this injection was so great that I was not compelled to intubate again, but simply to make these injections every four hours. The patient also received three injections of diphtheria antitoxin serum, which I made at intervals of twenty-four hours, and the child made a good recovery. Recently a German author called attention to the irritating effects of peroxide of hydrogen on the mucous membrane. This effect I have found in none of my cases, although this may be due to the fact that in employing this agent I make use of a small addition of bicarbonate of soda, and that I adjust the strength of the solution to the requirements of the case.

Diseases of the ear offer a good field for the use of peroxide of hydrogen. As a non-irritating antiseptic wash it is invaluable, as in the various forms of suppuration, especially when they are accompanied with a disagreeable odor. In diffuse or circumscribed inflammation of the external canal, peroxide of hydrogen is useful after an incision has been made; and in suppurative otitis media, especially in neglected cases, a five- to fifteen-per-cent. solution is of great assistance. In cases complicated by inflammation of the mastoid cells, especially in the suppurative form, the indication for peroxide of hydrogen is clear, although this does not prevent the use of iodoform, aristol, and other antiseptic agents.

In acute cases of purulent otitis media, a five-per-cent. alkaline solution should be used, as strong solutions are not necessary and may be injurious.

MEDICAL BUILDING.

Ectopic Gestation.—Dr. MacMonagle (*Southern California Practitioner*, May, 1896) names the following conditions which may be mistaken for ectopic gestation or for which it may be mistaken: 1. Uterine pregnancy. 2. Retroversion of the gravid uterus. 3. Ovarian tumors. 4. Cysts of the broad ligament; distended Fallopian tubes. 5. Fibro-myoma and fibrocystic tumors of the uterus. 6. Pelvic hamatocele. 7. Pelvic inflammatory exudations. 8. Malignant disease in the abdomen or pelvis. 9. Pregnancy in the rudimentary horn of a malformed uterus. 10. Pregnancy in a well-formed bicornute uterus. 11. Spurious pregnancy. 12. Perforation of the vermiform appendix, with rapid extravasation of fecal matter and shock.

¹ Read at the meeting of the Western Society of Eye, Ear, Throat and Nose Surgeons, April 9, 1896.

Progress of Medical Science.

The Treatment of Inoperable Malignant Tumors by the Toxins of Coley.—Dr. Henry Matagne, of Brussels, reports in the *Gazette Médicale de Liège*, May 14, 1896, a series of fourteen cases of malignant tumors treated by injections of the mixed toxins of erysipelas and bacillus prodigiosus, and states that he obtained one complete cure. The patient was a man, sixty-four years of age, of strong constitution. In January, 1895, he first noticed something abnormal in the floor of his mouth. In February he consulted a physician, who made the diagnosis of an epitheliomatous tumor and advised operative treatment, to which the patient refused to submit. He consulted several other physicians of high authority, who confirmed the diagnosis and advised operation. In the beginning of June, 1895, he consulted Dr. Matagne. The patient at that time presented a tumor consisting of three lobes occupying the floor of the mouth to the left of the frenum of the tongue, the largest lobe being about the size of a nut; the two other lobes extended one to the right side of the frenum, the other toward the base of the tongue. In the left submaxillary region there was a gland the size of a small nut, and under the chin were two other glands, respectively the size of a bean. The tumor was indurated, there was very superficial ulceration without suppuration, and there were lancinating pains radiating toward the left ear. In brief there were all the clinical signs of cancer, and all who had examined the growth agreed that it was an undoubted case of epithelioma. Histological examination of the neoplasm was not made. The fear of jeopardizing the progress of the treatment in opening a gate to secondary infections was reason for not removing a piece for examination. The treatment was begun on the 10th of June; subcutaneous injections were given in the subhyoid region, the initial dose of the toxins being five centigrams. Two hours later the temperature was 38.5° C. On the 16th of June forty centigrammes were injected into the tumor; severe rigors followed one-half hour later; the tongue was greatly swollen for two days. The highest temperature reached during the treatment was 41° C. During the whole febrile period the tumor diminished to a marked degree. This diminution continued after the cessation of the fever, and by the beginning of September no trace of the tumor remained. The second case was one of recurrent sarcoma of the neck, occurring in a woman seventy-eight years of age. The tumor was the size of an egg and located in the sterno-mastoid muscle. There was another tumor the size of a small nut in the region of the masseter, and two small, very hard glands were found underneath the chin. After the treatment had been continued for three and a half months, the injections being given every other day, the large tumor had completely disappeared. The tumor in the region of the masseter was scarcely perceptible. The glands had not entirely disappeared when the treatment was accidentally interrupted. At present, six months after the cessation of the injections, there is a slight recurrence of the trouble; the patient has been advised to renew the injections. In a third case, a recurrent sarcoma of the neck, the size of a fetal head, the patient was treated with the toxins for three months and the tumor had diminished to two-thirds its original size, when the patient, tired of the long duration of the treatment, preferred to consult a surgeon. The operation proved fatal. In a fourth case reported, a recurrent sarcoma of the arm, the injections only temporarily retarded the growth. In the fifth case, a sarcoma of the jaw,

there was no result, except a temporary arrest in the progress of the disease. Case VI. was a deeply ulcerated sarcoma of the neck, occurring in a very feeble man sixty-four years of age. The patient died after five weeks of treatment during a reaction which followed an injection of ten cubic centimetres of the toxins. The tumor had diminished a little in volume. The remaining seven cases were all of epithelioma or carcinoma and there was very little result, except in two cases; in one of these, a case of recurrent carcinoma of the breast, the injections seemed to produce an arrest in the progress of the growth, the latter remaining stationary for several months. In the other case, a cancer of the uterus, there was diminution of the pain and a decrease in the size of the tumor. The improvement lasted for four months.

Ligature of the Innominate Artery.—In the *Boston Medical and Surgical Journal* Dr. Burrell has reported a case of ligation of the innominate artery in which the patient lived one hundred and four days after operation. According to the author this case teaches: 1. That a patient with general arterio-sclerosis and an enlarged and dilated heart may be kept under ether one hour and a half, subjected to a severe operation, and recover with little shock. 2. That while ligation of the innominate artery is not of necessity fatal, yet it will always be an extraordinary operation, fraught with danger from the cutting off of an extensive area of circulation. The removal of the sterno-clavicular articulation, and such a portion of the sternum as may be necessary, makes the performance of the operation more practical and one of relative simplicity and safety. 3. That the absence of pain or marked discomfort following the operation, the complete relief of all the patient's symptoms, and his almost uneventful recovery are remarkable. 4. That the secondary hemorrhages which have occurred in almost all of the recorded cases were undoubtedly due to local sepsis, and that the recovery of this case was due to the accuracy with which it was possible to place the ligatures and to the asepsis. 5. That if the innominate is ligated at all, two ligatures are necessary, one to act as a breakwater by obstructing the constantly recurring waves of blood coming from the aorta. 6. That the collateral circulation was principally established in this case by a downward stream of blood from the right carotid and vertebral arteries into the subclavian artery. That while the fusiform aneurism had shrunk, there was very little clot above the second ligature. This would lead him in another case of fusiform aneurism in this situation to ligature the carotid, if possible the subclavian in its first part, and, if practical, the vertebral. 7. That the unique behavior of the first ligature that was applied to the innominate is perhaps the most interesting fact which we learn from this case. When the innominate artery was tied something in the wall was felt to give way. The ligature gradually cut its way through the coats of the vessel, and this was followed by an inflammation in the organization which prevented a secondary hemorrhage, and finally rested, organized and probably covered with a smooth layer of intima, inside the innominate artery. This places a new factor at our disposal as regards final disposition of the ligature.

Frost Bites.—

R Chloralis ℥ ij.
Zinci oxid. gr. xl.
Pulv. myrrh.,
Pulv. opii āā ℥ ss.
Adipis ℥ i.
M.

—J. R. WOOD, *L'Union Méd. du Canada*.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MÉNIÈRE'S DISEASE AND ITS TREATMENT.

THE complex of symptoms which goes under the name of Ménière's disease often causes the patient a great deal of distress and the physician much anxiety, on account of the painful and obstinate nature of the symptoms. Ménière's disease has been written about to a very great extent, since Ménière himself published his original article in the *Gazette Médicale de Paris*, in 1861. A recent monograph upon the subject, by Dr. Fränkel-Hochwart, contains nearly six pages of bibliography. The result of all this research has been to establish the fact that the vertigo and other accompanying symptoms in Ménière's disease are due to an irritation of the vestibular and cochlear branches of the eighth nerve. This irritation, it has been shown, is due to very different causes. It may be a syphilitic exudate or some other inflammatory process in the internal ear, or, as is more commonly the case, a chronic inflammatory disease of the middle ear with secondary involvement of the labyrinth. Apparently there are cases of Ménière's disease also in which the condition is functional—cases in which no evidence, at least, of real organic disease can be found, and in which the convulsibility of the epileptic constitution shows itself; or cases of neurasthenia, in which the point of least resistance is the eighth nerve. The causes and the pathological changes underlying the symptoms that go by the name of "Ménière's disease" are indeed so various that it is somewhat unfortunate that a specific name has been given to the condition, since neither the periodicity of the attacks nor the progressiveness of the disorder, in fact no symptom aside from the vertigo, may be considered constant in persons who suffer from this malady. This fact is abundantly shown by a study of Hochwart's classification. He tells his readers that there are four different kinds of Ménière's disease, with some nine different subdivisions of these four classes. Thus, we have the epileptiform, due to a sudden hemorrhage into the labyrinth; the traumatic form, in which, perhaps, a fracture or some direct injury of the ear structure occurs. Then we have the progressive form, which develops on the basis of a previous ear disease. This type of Ménière's disease is subdivided in accordance with the location of the ear trouble and in accordance with its chronicity or acuteness. Ménière's disease may develop on the

basis of lesions occurring either in the external ear, on the one hand, or in degenerative diseases, involving the nucleus of the nerve, on the other. Still another form of Ménière's disease is described as occurring as the result of mechanical causes, such as washing out the ear, catheterizations, seasickness, and so on. And, finally, there are attacks of Ménière's disease which are called pseudo-attacks, and which are due to hysterical, epileptic, or migrainous neuroses.

The conclusion which one would most naturally and logically reach, from a survey of the literature on this subject, is that the term "Ménière's disease," had much better be abolished and the term "aural vertigo" be used in its place. The physician then, when a patient presented himself with a history of severe attacks of vertigo, would have to ascertain only if the vertigo were of aural origin; if so, in what part of the ear it was situated, and, finally, what was the nature of the pathological process. This is really the problem that is to be solved in every case, and it is often obscured by the physician feeling anxious to make out a picture which will correspond with so-called Ménière's disease. He should be satisfied with establishing the relationship of the symptoms to the eighth cranial nerve.

These remarks are a somewhat lengthened preliminary to the notice of a practical communication upon the subject, made by Dr. Lemarié, in the *Annales des Maladies de l'Oreille, du Larynx, du Nez, et du Pharynx*. The drugs which have been used in this disease vary, naturally, with the stage and form of the trouble, but the bromide of potassium, salicylate of sodium, the sulphate of quinine, iodide of potassium, and, finally, pilocarpine, have been most frequently recommended.

It is with regard to the efficacy of the last-named remedy that Dr. Lemarié writes. He reports the case of a man of thirty-five, who suffered most severely from attacks of the *syndrome de Ménière*. The attacks developed suddenly on the basis of a chronic middle-ear disease, involving both ears. For a week he was treated in various ways without success, the attacks coming on as usual and the continual vertigo annoying him greatly. At the end of a week, treatment with pilocarpine was begun. He used a solution of ten centigrams of nitrate of pilocarpine in ten grams of distilled water. Injections were given every day, the patient lying in bed during the time, and until after the "sweat crisis," that is to say, for about two hours. The dose at first was four milligrams of the solution, and was increased by one milligram every two days. Besides the physiological action of pilocarpine upon the saliva, the sweating, and the urine, a progressive amelioration in the state of the patient took place. Fifteen days after the beginning of treatment he was able to go about the wards, and in about fifteen days more he left the hospital, practically cured.

Rabies in Pennsylvania.—Rabies has broken out among the cows, dogs, sheep, and hogs in Path Valley, Centre County, Pa., and it is feared that the disease will become general throughout the county.

CATHETERIZATION OF THE URETERS.

SURGICAL treatment of diseases of the kidneys has become so frequent in large hospitals as to make it extremely important to diagnosticate the exact condition of the two organs as nearly as possible before the operation. Such unfortunate occurrences as removal of an only kidney, the other being congenitally absent, or extirpation of a diseased organ when its fellow happened to be in no better condition, had stimulated the ingenuity of surgeons in their search for a safe and effectual means of withdrawing urine secreted by one kidney before it entered the bladder to become mixed with that secreted by the other. By this means it was hoped that not only would knowledge be obtained of the existence of one or both kidneys, but that the amount and condition of the urine would furnish a reliable index to the condition of the respective secreting organ. Obstruction of the ureter by pressure is both difficult of application and uncertain in its result, for one cannot be assured that the flow from that side has been entirely checked. Moreover, cystitis may exist, and the urine from the other kidney on passing into the diseased viscus will then contain morphological elements which may or may not have been furnished by the kidney. This led to attempts to catheterize the ureter through a vesico-vaginal fistula, or even through an artificial opening made for that purpose. The introduction of the incandescent light, whereby cystoscopy was made practical a few years since, led to efforts at catheterization of the ureters through the bladder, and the clinical work of Casper Meyer, Kelly, and others is sufficient testimony of the success which has crowned those efforts.

The urethra being shorter and larger in women, it was to be expected that cystoscopy and catheterization of the ureters would become a practical art in them sooner than in men, and so it did. In a work recently published on the diagnostic value of ureteral catheterization¹ Casper credits Dr. James Brown, of Baltimore, with having first successfully catheterized the male urethra (June 9th, 1893), but with an instrument which was found both uncertain and liable to injure the ureter. He urges the same objections against the Nitze ureter-cystoscope. The catheter leaves the cystoscope at a definite angle, and even if one succeeds in introducing it into the mouth of the ureter, it is liable, on account of the fixity of that angle, to damage the lower ureter, whose course is more or less variable. Moreover, there is difficulty in withdrawing the cystoscope and leaving the catheter in the ureter. Casper overcomes these objections, at least in a degree, by causing the end of the catheter to leave a fenestra whose length can be increased or diminished by a slide. Moving the slide forward shortens the opening and gives the projecting end of the catheter a more acute angle, whereas retraction of the slide lengthens the opening so that the catheter assumes a greater curve and also conforms more readily to the course of the ureter when introduced. By entirely withdrawing the slide or sheath, the catheter can be lifted free from

the cystoscope and allowed to remain while the latter is withdrawn. The ureter-cystoscope has reached that degree of perfection, and its application has been made sufficiently easy in women at least, certainly to render inexcusable at the present time removal of an only kidney, or cutting down upon the healthy organ when it is known that one of the two must be diseased. But up to the present ureteral catheterization has not proven to be so innocuous as to justify indiscriminate application for the purpose either of gaining experience or of guarding the ureter against a mere possibility of injury during operations, for the longer the catheter is allowed to remain in place the more likely it is to excite inflammation or expose to infection. In man, even the introduction of a large sound without marked curve into the bladder is not a trifling procedure, and it is safe to say that if all surgeons should undertake ureteral catheterization, the number of patients not requiring, but rather being damaged by, such practice would exceed the number to whom it could be of benefit. In other words, it would seem that here, for the present, is a field for the cultivation of a specialty within a specialty.

To be of value therapeutically, catheterization of the ureters would in most cases have to be repeated a number of times, which fact of itself would indicate that in this direction its application will be more limited than in diagnosis, yet it has been resorted to for flushing the pelvis of the kidney, dilatation of ureteral stricture, dislodgment of gravel, etc., with advantage.

In ureteritis, Mann, Reynolds, Etheridge, Laphorn Smith, and others say that constitutional treatment, particularly free use of water, is more promising than local applications.

THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.

SINCE extirpation of the enlarged thyroid gland was first practised in 1880 for the relief of the symptoms of exophthalmic goitre the subject of this operation has been a matter of considerable discussion. Some authorities would operate in almost all if not all cases; others would be as sweeping in the limitation of surgical intervention; while still others would be governed by the urgency of the symptoms referable to the thyroid gland—as a result either of pressure or of intoxication due to failure of function. According to the latest dictum the cases most suitable for thyroidectomy are those in which psycho-neurotic symptoms predominate and which have resisted other therapeutic measures. To the not yet large number of cases operated on Berndt¹ adds two more, in one of which a perfect cure was effected, while in the other only improvement resulted.

The successful case occurred in an unmarried woman, sixty-five years old, in whom palpitation of the heart followed emotional disturbances at the age of thirty-five years. Shortly afterward a pulsatile swelling made its appearance on the left side of the

¹ "Die diagnostische Bedeutung des Katheterismus der Ureteren," von Dr. Leopold Casper. Berlin: Oscar Coblentz, 1896.

¹ Archiv für klinische Chirurgie, No. 4, 1896.

neck. Subsequently the diagnosis of exophthalmic goitre was made by a distinguished clinician, despite the absence of exophthalmos. Later in the history of the case the woman suffered from violent attacks of delirium cordis, characterized by tachycardia, with a sense of anxiety and of oppression, and followed by sweating. As time went on, symptoms of melancholia, with suicidal tendencies, made their appearance. Varied treatment had been employed at different times, but without avail. When finally operation was proposed the woman readily assented. Accordingly, the enlarged left lobe of the thyroid gland was removed, together with a nodule of considerable size that was found in the anterior mediastinum. The right lobe of the gland was not enlarged, nor was the trachea compressed or softened. Following the operation the pulse progressively diminished in frequency to the normal and the other symptoms gradually disappeared.

The second case occurred in a married woman, fifty-eight years old, in whom palpitation of the heart developed at the age of twenty-five years in the train of hard work. The patient had always been irritable. In the course of two years swelling of the neck made its appearance. The skin became pigmented and the eyes protruded. The patient complained of sleeplessness, of a sense of fear, of restlessness, of dyspnoea, and sweating. After ten years of unavailing medical treatment an operation was readily agreed to. Both lobes of the thyroid gland were enlarged, the left, however, in greater degree, but the trachea was not affected. The left lobe and a retro-sternal nodule that was found were removed, but failure of the heart necessitated premature termination of the operation. The condition of the patient was greatly improved after the operation, but death resulted a year later from pneumonia complicating influenza.

Berndt looks upon exophthalmic goitre as a reflex neurosis originating in the irritation resulting from the torsion, traction, and compression of the sympathetic nerve endings in the thyroid gland due to the morbid changes in its structure. These conditions are removed by thyroidectomy and with the removal of their cause the symptoms likewise disappear.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending July 25, 1896: July 18th.—Assistant Surgeon L. Morris, detached from Indian Head proving ground, ordered home, and granted one month's leave. July 21st.—Assistant Surgeon F. C. Cook detached from treatment at the New York hospital and ordered to proceed home; Medical Director G. H. Cook detached from special duty at Philadelphia and ordered to take charge of hospital there; Medical Director D. Kindleberger, detached from duty in charge of hospital at Philadelphia, and ordered home to await orders; Medical Inspector W. G. Farwell ordered to special duty at Philadelphia attending officers.

Dr. Edward N. Brush, superintendent of the Shepard Asylum, has been elected professor of psychiatry in the Woman's Medical College of Baltimore.

The American Electro-Therapeutic Association.

—The sixth annual meeting of this association will be held on September 29 and 30 and October 1, 1896, in Allston Hall, Studio Building, on Clarendon Street, near St. James Avenue, Boston, Mass.

The American Pharmaceutical Association will hold its annual meeting in Montreal, August 12th–20th. An attendance of between seven hundred and eight hundred is looked for, and great preparations have been made for their entertainment.

Extreme Heat in the Southwest.—The temperature in Little Rock and Oklahoma during the past two weeks has exceeded that ever known there. At Little Rock, according to a recently issued bulletin of the weather bureau, the maximum temperature during the past twelve days was 102° F. on eleven days, and 104° F. on one day.

The Royal College of Surgeons.—By the election of Sir William MacCormac to the presidency of the Royal College of Surgeons, a St. Thomas Hospital man has been honored for the first time in fourteen years, since the election of Sir Spencer Wells.

Inspection of Charitable Institutions.—The New York State board of charities has appointed Dr. Stephen Smith, of this city, and Enoch V. Stoddard, of Rochester, a committee to inspect the charitable institutions of the State. This is one of the duties imposed by law upon the board.

Second Pan-American Medical Congress.—Dr. Francisco Bastillos, No. 7 Calle de Tacuba, Mexico, is the treasurer of the second Pan-American Medical Congress, to be held in the City of Mexico during the week beginning November 16th. All physicians residing in the United States and Canada who contemplate attending are requested to forward the registration fee of \$5 to him, and at the same time to notify Dr. C. A. L. Reed, of Cincinnati.

Beriberi at Philadelphia.—The Norwegian bark *Canopus*, which reached Philadelphia on July 29th from Mauritius, had on board six severe and several mild cases of beriberi. The former were detained at the quarantine hospital. The disease made its appearance as the vessel was crossing the equator.

An International Congress of Medical Ethics is the latest proposal. According to the *Scalpel* of England, a journal of the same name in Belgium proposes the institution of an International Congress of Deontology and Medical Legislation, and gives the following views as to the programme that should be adopted: "To lay down the fundamental rules of a code of honor, which shall serve as a guide to all practitioners in the multiple contingencies appertaining to a medical career; the relations that should obtain between neighbors, between strangers, between general practitioners and specialists, between the rank

and file of the profession and the staffs of hospitals, between physicians and surgeons, consultants and family attendants, beginners and veterans, men practising in watering-places and those sending patients to undergo the cure, etc."

Dr. John H. Packard has resigned from the surgical staff of the Pennsylvania Hospital, and **Dr. William Barton Hopkins** has been elected his successor.

Spinal Meningitis among Stock.—Spinal meningitis has broken out among a number of horses near Newtown Square, Pa., and five of the animals have died. The disease has been unusually prevalent among the stock in Chester County during the present summer.

Homœopathic Representation on Hospital Medical Boards.—At a special meeting of the managers of the Chester (Pa.) Hospital, on July 28th, an amendment to the by-laws admitting homœopathic physicians to the medical staff was rejected.

The Mississippi Valley Medical Association will hold its meeting at St. Paul, on September 15th, 16th, 17th, and 18th, instead of a month later, as was previously announced. The change is made in order to give the members and their families an opportunity for a tour through the Yellowstone Park. Information concerning this excursion may be obtained by addressing **Dr. C. A. Wheaton**, St. Paul, Minn.

The American Association of Obstetricians and Gynecologists will hold its ninth annual session at the Hotel Jefferson, Richmond, Va., on September 22d, 23d, and 24th. The preliminary programme contains the titles of thirty-five papers.

The Heat in Europe has been excessive thus far this summer, and has caused much suffering as well as many fatalities. Eighteen deaths are reported to have occurred at Königsberg on July 30th and 31st as the result of sunstrokes.

Obituary Notes.—**DR. WILLIAMSON**, of Greenville, Pa., was fatally injured, on July 23d, by being struck by a freight train.—**DR. JOHN DALE DILLON** was killed at Philadelphia, on July 28th, by jumping from the fourth story of his residence while temporarily insane. He was forty years old. He was graduated from Jefferson Medical College in 1877, and served for a term as resident physician in the Philadelphia Hospital.—**DR. JOSEPH M. TONER**, of Washington, died on July 31st. He was widely known not only as a physician but also as a scientist, historian, and philanthropist. He presented to Congress in 1882 a valuable collection of thirty thousand historical and medical works, and for many years he had been engaged in gathering copies of every original letter and paper of George Washington. This forms the largest collection of Washington letters ever put together. It is permanently deposited in the Congress library. **Dr. Toner** was a graduate of the Jefferson Medical College in the class of 1853.—**SIR WILLIAM ROBERT GROVE**, F.R.S., died in London, on August 2d. He was educated for the legal profession, but early turned his attention to the physical sciences, and especially

to electricity, in which he made many discoveries, being the inventor, among other things, of the battery which bears its name.—**DR. LAWRENCE B. CORTELYOU**, of Brooklyn, was instantly killed by falling from a third-story window of his house on August 5th. He had been ill for some time and was delirious at the time the accident occurred.

The National Association of Dental Faculties held its annual meeting in Saratoga, on August 1st, under the presidency of **Dr. S. H. Guilford**, of Philadelphia.

Electricity in Diabetes.—**M. d'Arsonval**, in a recent paper read before the Paris Academy of Sciences, said that he had been trying on two patients the high-frequency currents of Tesla for diabetes, and with excellent results. At the commencement of the treatment, the urine of one patient amounted to twenty-four pints a day and contained over twenty ounces of sugar. After six weeks of the current the quantity had fallen to twelve pints and the sugar to about six ounces.

The Rapacious Plumber.—An Edinburgh plumber recently sued a man for the amount of his bill, one item of which was a guinea for "medical rubbings." The customer, who had rheumatism, so admired the dexterity the plumber displayed in rubbing lead joints in the pipes that he got the man to rub his own joints.

Effective Health Measures in Texas.—A veracious Englishman, living in Texas, wrote as follows to his mother, who lives near Gloucester in England: "I have been much interested in the accounts of the small-pox in your neighborhood. In this free and enlightened country, when it broke out in a town every one was ordered to be vaccinated. Those who objected were held against a wall by one policeman, and another stood opposite with a loaded revolver while the operation was being performed. I should much like to assist in the same way at the vaccination of some of the Stroud people." The letter was printed in a local paper, and now the good people of the place are full of admiration of the way our sanitary laws are enforced.

The "Revista de Ciencias Medicas" of Havana announces in the number for June of this year that its publication must cease. The reason is, of course, the disturbed condition of the island and the dispersion of the physicians, many of the best of whom are in the Cuban army helping to win their country's freedom. The *Revista* was founded eleven years ago and has during that time done much to advance the cause of medicine in Cuba, its pages having contained many valuable contributions relating to tropical diseases. We regret exceedingly the suspension of publication of this good journal and trust that it will be only for a short time, and that the *Revista* will rise again and share in the general prosperity that must follow the triumph of the right in Cuba.

The Pottstown (Pa.) Hospital has been the recipient of \$200, bequeathed to it by the late **Lindley R. Beecher**.

Reviews and Notices.

THE STOMACH: ITS DISORDERS, AND HOW TO CURE THEM. By J. H. KELLOGG, M.D. Illustrated. Modern Medicine Publishing Company. Battle Creek, Mich. 1896.

THIS book embodies, as we copy from the writer's preface, "first, a brief sketch of the processes of digestion; then a consideration of the causes of indigestion, and their bearing upon dietetic and other habits, to which is added a description of the various symptoms present in functional diseases of the stomach, together with the means by which they may be relieved, followed by a consideration of each of the several classes of digestive disorders, and the proper dietetic and other measures necessary for their cure." While the book contains three hundred and fifty-seven printed pages, only one page is given to the subject of "Ulcer of the Stomach" (p. 276) and one to that of "Cancer" (p. 277)! Dr. Kellogg dedicated his book to his patients; he probably foresaw that but few physicians would be inclined to read it.

THE HISTOPATHOLOGY OF THE DISEASES OF THE SKIN. By DR. P. G. UNNA. Translated from the German with the Assistance of the Author by NORMAN WALKER, M.D., F.R.C.P. Ed., Assistant Physician in Dermatology to the Royal Infirmary, Edinburgh. With Double Colored Plate Containing Nineteen Illustrations and Forty-two Additional Illustrations in the Text. Edinburgh: William F. Clay. New York: MacMillan & Co. 1896.

DR. UNNA'S work was too vast and too important not to be placed at the disposal of all dermatologists and those interested in pathology who could not read it readily in the original. It must be confessed that the difficulties of mastering many of the details are by no means small, even when the language in which they are described is that most familiar to the reader. To thoroughly appreciate and understand this treatise one must be or must become familiar with the author's technical methods, and must use his stains and study, with the aid of the book, as he has studied and worked in order to write it.

The translator has undoubtedly been aided by the author's knowledge of English, which all who have heard him speak in international meetings and elsewhere know is quite extensive. The difficulties of expressing with absolute accuracy the author's views in all instances would have been insurmountable, it would seem to us, without such aid. As it is, the work is in many respects an improvement on the original text. Some alterations have been made and illustrations have been added. The translator, having worked for a considerable time in Dr. Unna's laboratory, seems to have been peculiarly fitted for the task which he has undertaken and carried to so successful an issue.

This histopathology will undoubtedly become an era marker in the study of cutaneous pathology, and while all investigators may not accept the author's views and support his claims upon every question, they must admire his energetic work and be stimulated by it to renewed efforts to make the study of the skin what it should be. The volume contains over twelve hundred pages. Each subject is introduced by a short clinical description, but, while treatment finds no place in all these pages, that which perhaps is more important, the indications for proper management, are abundant and evident to the careful reader. No organ or set of organs offers such facilities as the skin for this branch of study and those interested in the advance of science, no less than dermatologists, may congratulate themselves upon so deep a work as that of Dr. Unna and upon so attractive a translation as that which Dr. Walker offers us.

LEHREBUCH DER KINDERKRANKHEITEN FÜR AERZTE UND STUDIRENDE. By PROF. DR. ADOLF BAGINSKY, Director of the Kaiser and Kaiserin Friedrich Children's Hospital, Extraordinary Professor of Diseases of Children at the University of Berlin. Berlin: Friedrich Wreden. 1896.

THIS very well-known text-book makes its welcome appearance as a fifth edition and considerably enlarged.

The general division of the work consists of chapters describing in turn the physiological functions of the organs of circulation, respiration, digestion, and dentition, also of the

umbilicus, skin, nerves, uropoietic system, and of the special senses. Then follows the description of the phenomena of growth and its relation to weight. The chapters on feeding and general nursing are very instructive, giving all necessary details; next follows a very important chapter on how to examine a patient.

In a chapter on general therapeutics the author gives indications and contraindications for treatment by drugs, antipyretic measures, and emetics. The diseases of the newly born are quite exhaustively considered. The septic disorders of the newly born are also given in interesting detail. The chapters on general diseases include acute infectious disorders, scarlet fever, measles, röteln, varioloid, varicella, vaccine, and articles on the combined appearance of various exanthematous eruptions. In the discussion of these subjects the author has called to his aid an amount of personal experience exceptionally great, gained from the vast material at his disposition in the numerous isolated infectious buildings.

The subject of orrhoterapy is thoroughly detailed, and Baginsky lays down the fundamental principles of this new form of treatment so clearly and so positively, basing his statements on the vast amount of material under his personal supervision, that no doubt would seem to exist in his mind as to the value of his deductions.

The most modern methods of arriving at a diagnosis in all the exanthemata, together with bacteriological and histological aids, are given in detail.

The nervous disorders of children, especially those pertaining to the brain and lesions of the spinal cord, are handled in a masterly manner. The digestive disorders, the diseases of the genito-urinary tract, the diseases of the skin and those of the spinal column (orthopaedic) are given in a clear and complete manner. The more recent drugs, their doses, and a large number of prescriptions fittingly conclude this valuable book.

THE STUDENTS' MEDICAL DICTIONARY. Including all the Words and Phrases Generally Used in Medicine, with their Proper Pronunciation and Definitions, Based on Recent Medical Literature. By GEORGE M. GOULD, A.M., M.D., Author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences," "12,000 Medical Words Pronounced and Defined," "The Meaning and the Method of Life," "Borderland Studies;" formerly Editor of "The Medical News;" President, 1893-1894. American Academy of Medicine. With Elaborate Tables of the Bacilli, Micrococci, Leucomains, Ptomains, etc.; of the Arteries, Ganglia, Muscles, and Nerves; of Weights and Measures. Analyses of the Waters of the Mineral Springs of the United States, etc., etc. Tenth Edition, Rewritten and Enlarged. Philadelphia: P. Blakiston, Son & Co. 1896.

WHEN a work has reached its tenth edition the reviewer's task is light, for he has usually but to acquiesce in the popular verdict. It is, however, sometimes interesting to see upon what the approval of the public rests and what there is in the work that has won for it a popularity so far above that of its predecessors or contemporaries. Here also, in the present instance at least, the solution of the problem is easy. The work is popular because it deserves to be; it is compact in form and not so large as to be unwieldy; the type is clear; the definitions are concise but lucid; the method of indicating the pronunciation is simple and free from the diacritical marks which call for a constant reference to a key in another part of the work; the derivations are briefly and accurately stated; and there are very few omissions of words which a student would meet in his reading. The only word, of many of recent coinage, which we have looked for but failed to find is "orrhoterapy," a term which is much to be preferred to its barbarous synonym, "serotherapy." "Opotherapy," of contemporaneous coinage, is given as a synonym of "organotherapy." But we are sorry to note that the author retains the indefensible form, "symphysiotomy," in place of the correct "symphyseotomy." He is, moreover, inconsistent in this (a reproach from which he is usually remarkably free, even in his cacography), for in "epiphyseitis," to which he gives the preference over "epiphysitis," he distinctly recognizes the epsilon in the Greek root. "Symphyseotomy" is supported by the authority of the "International" and the "Century," as well as of the Greeks themselves, who may be presumed to know their own language, and it grieves us to see a learned medical lexicogra-

pher so obstinately sinning against light. An error such as this, however fatal it may be to any claims of last appeal, nevertheless detracts but little from the value of the dictionary as a work of reference for students, and as such we can most conscientiously recommend it. To the practitioner also, while it cannot replace the author's "Illustrated Dictionary" or Foster's "Encyclopædic Dictionary," it will be indispensable in the absence of those larger works. We may add that the editor announces that this is really a new book entirely rewritten, the plates of the older editions having been destroyed.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, at the Fifty-First Annual Meeting, Held in Denver, June 11-13, 1895.

THE papers in this volume, while necessarily of interest chiefly to alienists, contain much that is instructive to the general practitioner as well as to the student of medical jurisprudence.

THE THREE ETHICAL CODES. Detroit: The Illustrated Medical Journal Company.

THIS is an interesting comparison of the three ethical codes of the American Medical Association, the American Institute of Homœopathy, and the National Eclectic Medical Society respectively. In addition this book contains the constitution and by-laws of the American Medical Association. It will be found interesting to those who are concerned in safeguarding the morals of their neighbors.

PHYSICS FOR STUDENTS OF MEDICINE. By ALFRED DANIELL, M.A., LL.B., D.Sc., F.R.S.E., Advocate and Barrister-at-Law; Examiner in Physics to the Royal College of Physicians of Edinburgh; formerly Lecturer on Physics in the School of Medicine, Edinburgh; Author of "A Text-Book of the Principles of Physics." London and New York: Macmillan & Co. 1896.

THIS is a well-arranged little work containing all the essentials of physics for the student of medicine or the practitioner. Indeed it contains much more than medical students, in this country at least, are ordinarily expected to know, except as regards optics and perhaps electricity. The subjects are presented in a manner that renders them intelligible. The book would be specially useful to one who wished to refresh his knowledge of physics, and to learn what advances or changes in theories had been made since his college days.

STATISTICA SANITARIA DELL' ARMATA PER GLI ANNI 1893 e 1894. Roma: G. Bertero. 1896.

THIS is a collection of sanitary statistics of the Italian navy for the two years mentioned.

ANTROPOMETRIA MILITARE. Incaricato della Direzione de Lavori, DR. RIDOLFO LIVI, Capitano Medico. Parte I. Roma: Il Giornale Medico del Regio Esercito. 1896.

THIS is Part I. of a series of statistics concerning anthropometry based upon the sanitary reports of an Italian Army for the year 1859-63. The two volumes in this part deal with anthropological and ethnological data, one being made up of a number of atlases of the anthropological geography of Italy.

BURDETT'S HOSPITALS AND CHARITIES, 1896, Being the Year-Book of Philanthropy. By HENRY C. BURDETT. London: The Scientific Press; New York: Charles C. Scribner's Sons; Boston and Chicago: D. C. Heath & Co.

THIS book of eight hundred and fifty-six closely printed pages contains an enormous amount of information concerning the hospitals and charitable institutions of the English-speaking world, of this country as well as of Great Britain and the colonies. The information regarding institutions in the United States is not so complete as we could wish, but the fault lies with the officers of these institutions, and not with Mr. Burdett, whose requests for information in many cases did not even meet with the courtesy of a reply. We regret this, for if we must suffer from a glut of charitable institutions we ought at least to be able to brag of their number. In addition to the statistical information a considerable portion of the book is devoted to a discussion of topics bearing upon hospital management and the use and abuse of charities. No one interested in charitable institutions and their management can dispense with this invaluable annual.

THE ANATOMY OF THE HUMAN HEAD AND NECK. Graphically Illustrated by Means of Superimposed Plates. With Descriptive Text by DR. SCHMIDT. English Edition by WILLIAM S. FURNEAUX. Author of "Animal Physiology," "The Outdoor World," etc. New York: Thomas Whittaker.

WHITTAKER'S ANATOMICAL MODEL. A Pictorial Representation of the Human Frame and Its Organs. With Descriptive Text by DR. SCHMIDT. English Edition by WILLIAM S. FURNEAUX, Author of "Animal Physiology," "The Outdoor World," etc. Illustrated. New York: Thomas Whittaker.

THESE are two sets of superimposed plates representing sagittal sections at various levels of the head and body, which show very clearly and accurately the relative position of the internal organs and structures. While intended primarily for lay instruction, they ought to prove of service to the student in giving him his first notions of topographical anatomy, and might also be useful to the physician who wished to make clear some point to an intelligent patient.

PHILADELPHIA HOSPITAL REPORTS. Volume III. Edited by GEORGE E. DESCHWEINTZ, A.M., M.D., Member of the Ophthalmic Staff. Philadelphia: Printed by Maurice H. Power. 1896.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Seventh Series. Edited by GEORGE B. SHATTUCK, M.D., W. T. COUNCILMAN, M.D., and HERBERT L. BURRELL, M.D. Boston: Published by the Trustees. 1896.

THESE two reports of two of the leading hospitals in the country contain a number of essays and clinical reports of more than usual interest.

A TREATISE ON APPENDICITIS. By JOHN B. DEAVER, M.D., Surgeon to the German Hospital, Philadelphia. Containing 32 Full-Page Plates and Other Illustrations. Philadelphia: P. Blakiston, Son & Co. 1896.

DR. DEAVER'S work is a timely and valuable contribution to the literature of appendicitis and will be hailed by those who would consign the entire management of the disease to the surgeon as a powerful argument for their side. The author is uncompromisingly in favor of the knife and holds in common with many of his surgical brethren whose lot it seldom is to see the mild and self-healing cases of this disease, that appendicitis should invariably be treated by early operation. It is perhaps for the same reason that the author makes no mention of rheumatism as an etiological factor. The disease is for him one which laughs at treatment, and the only way of removing it is to remove the affected organ. If for any reason resort must be had to non-operative measures, Dr. Deaver gives the preference to laxatives over opium. The work is profusely illustrated with plates, mostly colored. As a rule, the pictures are faithful as regards outlines, but they are too brilliantly colored. The book is one which ought to, and doubtless will, take rank as one of the best treatises in English on appendicitis from a surgical standpoint.

QUAIN'S ELEMENTS OF ANATOMY. Edited by EDWARD ALBERT SCHÄFER, F.R.S., Professor of Physiology and Histology in University College, London, and GEORGE DANCER THANE, Professor of Anatomy in University College, London. Appendix. Tenth Edition. London, New York, and Bombay: Longmans, Green & Co. 1896.

THE appendix to this new edition of "Quain's Anatomy" is devoted to superficial and regional anatomy, and is written by Profs. G. D. Thane and R. J. Godlee. The illustrations, many of which are colored, are twenty-nine in number. As an evidence of the vast amount of information condensed in these sixty-six pages of text, we find an index nearly ten pages in length.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume VIII. Published by the Association. 1896.

THIS is the report of the eighth session of the association, held at Washington, November 12, 13, and 14, 1895. Each succeeding volume of these transactions adds to the high repute enjoyed by this society.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Volume VIII. Philadelphia: William J. Dornan. 1896.

THIS is the report of the eighth annual meeting, held in Chicago, September 24, 25, and 26, 1895, under the presidency of Dr. J. H. Carstens. The book contains the usual number of papers on various subjects belonging to the branches noted in the title of the association.

THE NATIONAL FORMULARY OF UNOFFICIAL PREPARATIONS. Revised Edition. Published by the American Pharmaceutical Association. 1896.

IN this new edition of the "Formulary" the metric system has been adopted in order to make it conform to the last edition of the United States Pharmacopœia. The committee of revision of this edition was composed of Messrs. C. Lewis Diehl, A. B. Stevens, C. T. P. Fennel, and Charles Caspari, Jr. They have done their work well.

HEMORRHOIDS AND OTHER NON-MALIGNANT RECTAL DISEASES: DIAGNOSIS AND TREATMENT. By W. P. AGNEW, M.D. Third Edition. San Francisco: Pacific Press Publishing Company. 1896.

THE author justifies the title of his book by entering at once upon the subject of hemorrhoids, which occupies about seventy-five of the two hundred pages. He is an earnest believer in the treatment of this painful affection by carbolic-acid injections, which he looks upon as all-sufficient for its cure. Following the chapter on hemorrhoids is one upon rectal examination, and after this come the various non-cancerous affections of the rectum. The book is written in a conversational style which makes it easy of comprehension and holds the reader's attention. The illustrations are rather crude.

STERILITY. By ROBERT BELL, M.D., F.F.P.S.G., Senior Physician to the Glasgow Hospital for Diseases Peculiar to Women.

THE author of this little book holds that the most potent if not the sole cause of sterility is endometritis, and consequently the treatment of sterility is that of the uterine disease. The writer states his case clearly, and his book possesses the interest which always attaches to the straightforward expression of an honest opinion, even when this opinion cannot be acquiesced in by the reader.

HANDATLAS DER ANATOMIE DES MENSCHEN in 750 theils farbigen Abbildungen mit Text. Mit Unterstützung von WILHELM HIS, Professor der Anatomie an der Universität Leipzig, bearbeitet von WERNER SPALTEHOLZ, ao. Professor an der Universität Leipzig und Custos der anatomischen Sammlungen. Leipzig: S. Hirzel. 1896.

THIS is the second part of the first volume of a very handsome anatomical atlas. It contains forty-four plates of the joints and a few representing sections of bones made to show their structure, accompanied by descriptive text. The book is a valuable addition to anatomical literature.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the year 1896. Published by the Society. 1896.

THIS volume contains forty-two papers and three addresses presented at the ninetieth annual meeting of the New York State Medical Society, held at Albany, January 28, 29, and 30, 1896, under the presidency of Dr. Roswell Park, of Buffalo.

IN SICKNESS AND IN HEALTH. A Manual of Domestic Medicine and Surgery, Hygiene, Dietetics, and Nursing. Dealing in a Practical Way with the Problems Relating to the Maintenance of Health, the Prevention and Treatment of Disease, and the Most Effective Aid in Emergencies. Edited by J. WEST ROOSEVELT, M.D. New York: D. Appleton & Co. 1896.

IN considering this, in many respects, praiseworthy work, one question recurs most insistently to the mind of the reviewer—a question that asks itself in reference to so many of this species—to what class of the community is it addressed? Turning to the publishers' note we find that it claims to be "a book for household use," addressed to "the unprofessional man and woman." This is a modest claim,

which by no means does justice to the composite nature of a work the first part of which is occupied by a great mass of purely technical matter on anatomy, physiology, psychology, etc. Such information as that "regurgitation into the auricle is prevented by the mitral valve" or that "the organ of Corti is a complex mechanism resting upon one wall of the cochlear canal, the basilar membrane, and extending from the base to the apex of the cochlea," may be the matter-of-course property of every medical student in the land, but surely it is a stumbling-block even to the trained nurse, and to the laity it is foolishness. Then again, while the colored frontispiece of a trained nurse of somewhat appetizing aspect may be in order as an object lesson, there can hardly exist any ordinary citizen so greedy of useless knowledge as to waste time over diagrams of retinal sections and magnified blood corpuscles, or colored plates of anthrax bacillus and the spirillum of Asiatic cholera. As a matter of fact, people in general are coldly indifferent to the shape and size of microbes, or to the theory of germ plasm, while, on the other hand, they love to be reminded that crumbs should not be allowed to accumulate under a helpless invalid and to be admonished to ventilate sick-rooms at night.

Passing on, therefore, to that portion of the book devoted to practical matters, much may be said for its utilitarian value. The chapter on "Hygiene" may be especially noted for its satisfactory covering of much ground in small space, while those on "Physical Training" and the "Care of the Sick" may almost be called conclusive from the non-professional point of view. They possess the unusual virtue of telling those things which should be told, erring, if at all, in the direction of too minute particularization which would seem occasionally to underrate the possible intelligence of the amateur. We note, for instance, in the excellent paragraph on lifting and handling, an admonition not to stick the nails into the patient, followed by the somewhat superfluous comment that "this causes pain and irritation." But small errors of commission may be lightly held in a work where sins of omission are conspicuous by their absence, and were this the only fault we could conscientiously advise the physician to recommend the book to the families under his care. As a rule, the work is fairly free from injudicious prescriptions, yet we cannot approve of suggestions, like that on page 836, that "morphine may also be used in similar doses for sleeplessness," even though it is tempered by the caution that other and less harmful remedies should invariably be tried first. However, if there must be works on domestic medicine, this is perhaps as good as any—it is certainly the latest.

The book is well printed and well bound, the illustrations are interpretative of the text, and the whole is completed by an excellent index.

Changes in the Spinal Cord after Amputation of Extremities.—Dr. Grigoriew investigated two cases of amputation of the arm, two of amputation of the thigh, and one of amputation of the leg. The period elapsing between operation and death varied from twenty years to one year. The results of his investigations agree with those of the greater number of authorities, and are collected by the author in the following summary (*The British Medical Journal*). In all cases excepting that in which one year elapsed before death, deviations from the normal appearance of the cord were noticed; in all cases they were analogous, affected the corresponding portions of the cord, and consisted in a simple atrophy of certain portions of the gray and white substance, differing in the cases only by the degree of development. The simple atrophy of the nervous elements of the cord was greater as the period elapsing between amputation and death was greater, less as it was less; while in the case in which the period was only one year atrophy was completely wanting. With reference to the relative time before the separate paths and portions of the cord became degenerated, the author found his cases in agreement with those of other authors, and with those obtained by experiment on animals, namely, that the atrophic phenomena appear earlier and are more marked in the sensory than the motor areas of the cord.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 8, 1896.

JOHN SLADE ELV, M.D., PRESIDENT.

Malposition of the Kidney.—DR. G. A. TUTTLE presented a kidney which had been situated in the hollow of the sacrum. The renal artery was given off close to the origin of the sacral media artery. This condition, the speaker said, was not extremely uncommon. In rare instances it had been known to interfere with labor. An abscess of the kidney occurring in this abnormal situation would render the diagnosis obscure.

Cystic Kidney.—Dr. Tuttle exhibited a kidney which had been removed from a man forty years of age, who had been brought to the hospital in uræmic coma. At autopsy, the kidney had been found in a state of advanced cystic degeneration. There was practically no kidney tissue remaining. Such kidneys are always bilateral. The principal symptoms in these cases are those of Bright's disease—recurrent attacks of hæmaturia and albuminuria—and the patients always die in uræmic coma. These cystic kidneys are found sometimes enormously developed in the fœtus. Virchow had advanced the theory that this cystic condition in the fœtus was due to imperforate uriniferous tubules.

Tumors of the Kidney.—Dr. Tuttle presented several microscopical specimens of tumors of the kidney. He said that during the last five years, in the pathological laboratory of the Presbyterian Hospital which received pathological material from that hospital and also from St. Luke's Hospital, there had been only ten specimens of primary new growths of the kidney. Six of these had been obtained by autopsy, and five out of the six had been discovered accidentally, having existed without symptoms during life. There was one tumor, a very large metastatic growth, which could not be treated by operation, which caused the death of the patient. Of the remaining four specimens removed by operation, three were from the surgical service of the hospital and one from an outside surgeon. The growths were from one-fourth to one inch in diameter in most instances and situated in the cortex of the kidney. Dr. Tuttle said that the exact origin and classification of primary tumors of the kidney had been a matter of much uncertainty. It was conceivable that tumors might originate in the epithelium of the pelvis, or in the tubules, or the connective tissue between the tubules, or in the blood-vessels. The structure of five of the tumors was as follows: (1) A pure lipoma, one inch in diameter, projecting above the surface of the kidney beneath the capsule. (2) A minute myoma composed of smooth muscle and some small-round cells. (3) A small papillary adenoma consisting of a small cavity lined with cuboidal epithelium. (4 and 5) Two alveolar adenomata consisting of rounded and oval spaces filled with cells resembling gland epithelium, and some of these spaces presenting a distinct lumen. In places these tumors bore a slight resemblance to the tissue of the suprarenal capsule.

In Virchow's *Archiv* was an article on the so-called lipomata of the kidney, in which it was stated that they were not rarely found accidentally at autopsy. The description corresponded with that of adenomata just given. The author considered them to be portions of suprarenal capsule which had become enclosed in the kidney during foetal life. The kidney at this period was more or less lobulated, and

it was possible that portions could be caught in these clefts. In about one thousand autopsies at the Presbyterian Hospital, one case was recorded in which a small fragment of suprarenal tissue was easily recognized under the capsule of the kidney. Under the microscope, in one portion, it was separated from the tubules by a delicate connective-tissue capsule, and in another portion the two tissues had no dividing line. These fragments had been found in many other situations, e.g., in the broad ligament, and in and about the testicles. The speaker said that it was very probable that these nodules did occasionally originate in this way from closed portions of the suprarenal tissue.

Sarcoma of the Kidney.—Dr. Tuttle then presented specimens removed from a man forty-two years of age, who had had for the first time a slight hæmaturia shortly before entering the hospital. The next day there had been difficulty in passing urine, and then pain in the left lumbar region, radiating down to the left testicle and glans penis. After about five days the urine had again become clear and the pain had ceased. About two weeks later there had been a second attack of hæmaturia. A third attack with pain occurred just before his admission. About six weeks before this a tumor had begun to grow from the right shoulder. Examination showed a large hard mass in the left kidney, and the diagnosis was made of renal tumor with metastasis. At the autopsy there was found a dense mass, weighing two pounds eleven ounces, and extending from the spleen to the brim of the pelvis, and from the floating ribs to the right border of the vertebral column on the left side. It was a new growth involving the left kidney. There were numerous metastatic deposits in the liver and lung, varying from one-fourth of an inch to two inches in diameter. Microscopical examination of these tumors showed a stroma of dense connective tissue, forming spaces subdivided into small rounded alveoli. Some of these alveoli were completely filled with cells resembling epithelium, but the larger number showed the opening between the cells filled with blood. It was possible that a hemorrhage into a carcinoma might produce some of these appearances, but, considering that all the metastases showed the same structure, one would be justified in calling this a sarcoma developed from the blood-vessels of the kidney. The tumor and metastatic growths were exhibited under the microscope.

Papilloma of the Kidney.—The next tumor presented was from a male, thirty-six years of age, who had always enjoyed good health with the exception of rather frequent and severe headaches. One week before coming under observation, the urine had been noticed to be of a bright red color from the admixture of blood. There was no pain or ill health. Cystoscopic examination was made with almost negative results on account of the hemorrhage. The blood seemed to come from a point close to the neck of the bladder. Suprapubic cystotomy was then performed. The bladder wall appeared normal except for a small ulcer at the fundus. Blood was seen to issue from the left ureter. No enlargement or tenderness of the left kidney could be detected. The left kidney was removed, but the patient succumbed to the operation. The organ was moderately enlarged, and contained a number of large cystic cavities into which projected an abundance of papillary growths. The trabecular tissue was in part like dense renal tissue, and in part soft and gray. Under the microscope there were long delicate filaments of connective tissue covered with epithelium which closely resembled epithelium of the pelvis of the kidney. The appearance of the tumor seemed to indicate that it started in the pelvis of the kidney.

Endotheliomata (?) of the Kidney.—Dr. Tuttle said that the most interesting specimens were two tumors, one of them brought to the hospital by Dr. Brown from a case reported in the *Boston Medical and Surgical Journal*, of April 18, 1895, by Dr. W. M. Swift, of New Bedford. The patient, a man, forty-seven years of age, after suffering for a short time with night sweats, noticed a tumor in the right side of the abdomen. When examined a few months later he complained of pain in the right groin, a dragging sensation in the testicles, frequent and scanty micturition. A tumor, the size of a small cocoon, was found in the region of the right kidney. It was slightly movable and somewhat tender to pressure. The urine was normal in quantity. The tumor was removed by operation and recovery was perfect. It was situated at the lower end of the kidney and was completely encapsulated. It had apparently developed from the lower and outer part. The minute structure was the same as in the next tumor to be described, which had been removed at St. Luke's Hospital by Dr. Bangs in March, 1895. The tumor consisted of a number of nodules scattered through the kidney. The capsule was extremely vascular. Microscopical examination showed a mass of rather large cells, supported by slight, irregularly branching trabeculae, forming in places fairly complete elongated alveolar spaces, while in other places there was no alveolar arrangement. The trabeculae consisted of minute blood-vessels. In some places small areas of blood were seen surrounded by a very delicate but distinct limiting membrane. The tumor cells were rounded or polygonal with a sharply defined outline. For the most part the cell protoplasm was homogeneous and did not stain well with eosin. The nuclei were of medium size and stained well with hæmatoxylin. The character of these tumors was still doubtful. Similar tumors had been described as carcinomata, or adenomata from the proper cells of the kidney tubules, and as endotheliomata developing from the endothelium of the perivascular lymph spaces. From the great vascularity of these tumors and the relation of the cells to the blood-vessels and the connective-tissue trabeculae, the speaker said it seemed to him that they were more probably developed from the endothelium of the lymph tissue, as recently described by Hildebrandt. The cells of the suprarenal capsule were very liable to undergo fatty degeneration and then would closely resemble the structure found in these tumors, with the exception of the great vascularity. Microscopical sections of these tumors were then exhibited.

THE PRESIDENT said that he could not bring himself to believe that the last specimens were endotheliomata. He was about to present a specimen in which the adenomatous type was very clearly shown.

DR. GEORGE P. BIGGS said that in a specimen recently brought to him by Dr. Alexander for examination there was an encapsulated tumor, about as large as a medium-sized orange, projecting out a considerable distance from the kidney. The microscopical structure of this tumor was quite similar to that shown in the sections of the last tumors exhibited. In some places there was a perfectly regular adenomatous arrangement, and he looked upon his specimen as one of alveolar adenoma.

A Typical Adenoma of the Kidney.—DR. F. TILDEN BROWN presented microscopical specimens of what appeared to be a typical adenoma of the kidney. The growth had been removed from a woman, sixty-two years of age, under the care of Dr. Kammerer. It had existed for eight years. On examination it was found to be about the size of a child's head, very movable, so that there was some doubt as to its being a neoplasm of the kidney. It was not particularly vas-

cular, and was made up wholly of new growth with the exception of a little kidney tissue. The patient recovered well from the operation, but died after an attack of hemiplegia some two or three weeks later. No autopsy was obtained.

Adenoma (?) of the Kidney.—DR. J. S. ELY presented a small portion of a tumor of the kidney, together with microscopical sections of the same. In structure it seemed to him very much like the last two cases presented by Dr. Tuttle. The tumor occupied the upper portion of the kidney, pushing the remainder of this organ downward and inward. It was very distinctly encapsulated and lobulated. The centre of the tumor showed an extensive area of degeneration, but the nature of this degeneration could not be determined. The whole tumor was soft and contained much blood. There was no clinical history.

The speaker said that the most recent and complete article on this subject was by Lubarsch in Virchow's *Archiv* for 1894. He endeavored to prove that they were of suprarenal origin, and he had collected twenty-nine similar cases, in all of which careful microscopical examination had been made. In his opinion they had all developed from inclusions of the suprarenal capsule. The structure was as follows: A fine connective-tissue reticulum, consisting almost entirely of a slight adventitia of blood-vessels; on one side slight endothelial lining and on the other side large cells, for the most part columnar in shape, with rounded ends; very clear protoplasm: rather large, distinctly staining, oval nuclei, and a rather loose intranuclear network. The whole arrangement was distinctly alveolar, and the disposition of the clear, large-bodied cells was in most cases around a distinct lumen. The presence of the blood in these lumina had evidently suggested to Lubarsch that these were angio-sarcomata, but it seemed to the speaker that this could be just as well explained by supposing that it was the result of hemorrhage. Regarding the question whether those growths originated from suprarenal inclusions or were adenomata of the kidney, this observer stated that the points in favor of suprarenal origin were: (1) The clear protoplasm of the cells, which distinctly resembled the protoplasm of the suprarenal body and which was like the granulations found in the cells of the tubular epithelium; and (2) the presence of glycogen in the cell bodies and in the lumina. This, the speaker said, he had found in his specimen. Lubarsch had examined twelve tumors of the kidney and in none of these had he been able to find glycogen. Yet he cited another observer as authority for the statement that the suprarenal body frequently showed the existence of glycogen. The distinct acinus arrangement and the nature of the nuclei of the cells, resembling as they did epithelial cells, would lead him to class this tumor as an adenoma or adeno-carcinoma rather than an endothelioma, although he would admit the possibility of its being an endothelioma originating from the lymphatics. So far as he knew, glycogen was found in secreting cells—epithelial cells—and this offered an obstacle to the theory mentioned. He had on a number of occasions distinctly seen glycogen in the tubular epithelium in cases of Bright's disease—at least the reactions which are supposed to be characteristic of glycogen were readily obtained. It should be stated, however, that this glycogen is not very soluble in water. With iodine it readily stains a deep mahogany-brown, and is digested and made to disappear under the influence of the ferment of saliva. Singularly enough, after treatment with iodine, the glycogen becomes soluble in water, so that the subsequent manipulations of a specimen so treated must be carried on without contact with water.

Dr. Ely said that the difficulty was to define just

what is an endothelial cell. Anatomists were inclined now to make no distinction between epithelial and endothelial cells. Personally, he had seen only what appeared to be undoubted endotheliomata in connection with the pleura and dura mater of the brain. In these cases there appeared to be a definite endothelial structure, and the cells, when teased out, were flat or irregularly shaped, with large nuclei with a loose open reticulum—a distinct endothelial arrangement. He did not think too much stress should be laid upon the shape and size of cells: one should depend rather upon the relation of the cells to the stroma than upon the cells themselves, for pressure alters greatly the shape of cells. It was well known that the cell body might differ very materially in different conditions of degeneration.

The society then went into executive session.

Clinical Department.

REPORT OF A CASE OF APEX CATARRH SIMULATING NASAL TROUBLE.¹

By HOWARD S. STRAIGHT, M.D.,

CLEVELAND, O.

JUNE 11, 1894, a young woman, aged twenty-two years, consulted me as to a nasal difficulty. Until within a short time she had never had any trouble with her nose or throat. For a few weeks she had been troubled with stuffiness in the nose and an inability to breathe through her nose continuously. From a careful inquiry as to her history, little of importance could be obtained. Her pulse and temperature were normal. She insisted that she felt as well as usual, that she had not noticed any diminution of strength or loss of appetite, and scouted the idea that there was anything in her case except the nasal difficulty. She admitted finally that maybe she was a little tired out, but said that she had been working unusually hard in school for the last eight months. While I was suspicious that possibly some constitutional condition might be present, I could not find any symptom that justified my suspicions.

Her complexion seemed to me to be a little sallow, and whether she was slightly anæmic was a question I could not decide. The patient's own belief that it was useless to consider anything except the nasal condition also assisted in quieting my suspicions that there was a possible catarrhal condition of the apex of one or both lungs. I felt certain that an examination of the chest would be looked upon as unnecessary, that it might needlessly alarm the patient, nor could I detect anything in the case to justify a suspicion I always entertain in throat, nose, and ear cases, in patients over ten and under forty years of age. If I had not waited until a later date for an examination of the chest, my error in treating the case might have been avoided. An examination of the upper air passages revealed in the nose a longitudinal deviation of the septum on the right side and a hypertrophy of the left lower turbinate. Having concluded I had a local condition only to deal with, the hypertrophy was cauterized, the patient was given an alkaline wash, and directed to return in three days. Upon her return she seemed to have been more affected than ordinarily as a result of the cauterization. Her pulse was about 90, and her temperature 100° F. While it is not at all unusual to observe such symptoms after any intranasal operation, in my experience a patient with an apex

catarrh is much more apt to present such symptoms than a patient in whom no such condition exists. Still being somewhat suspicious as to the constitutional condition, I gave the patient a prescription of benzosol.

Four days later she returned. Her temperature and pulse were normal, and she seemed as well as at her first visit. These observations deceived me more completely than before. The constitutional treatment was discontinued and the case thereafter treated from the local standpoint only.

The return of the temperature to the normal within four days can be explained only by remembering that the patient had a normal temperature before any local interference. She had a catarrhal process at the left apex at the time of coming under observation, as later developments proved, but, contrary to rule, she had no fever. As a rule, in spite of any treatment, the slight elevation of the evening temperature will persist for weeks in such cases. The deviation was removed from the right side of the septum, and after keeping her under observation for about five weeks—until July 13, 1894—she was discharged as cured.

September 18, 1894, two months after being discharged and three months from the time she first came under observation, she returned. She had been in the country on a vacation. She had not felt well for a number of weeks. She had had a poor appetite, had been nervous, had slept badly, had lost ten pounds of flesh, was sallow and anæmic, had a coated tongue, a temperature of 101° F., and a pulse of 108 in the morning. An examination of her chest revealed at the left apex slight flattening in the left subclavicular region. There was tenderness on percussion in the second interspace next to the sternum, no change in pitch on percussion. Transference of heart sounds, cogwheeled breathing, and slightly shortened inspiration were apparent on auscultation. The following diagnosis was made:

A well-marked simple catarrhal process at the left apex, or a condition of disturbance of function of the mucous membranes of the body, the gastro-intestinal being in the majority of such cases the one of which greatest complaint is made—a condition, however, in which some one or all of the physical signs found in the case reported may be detected at the apices of the lungs, and one which is of much greater importance than a simple unassociated disturbance of the gastro-intestinal mucous membrane, for which the disease called apex catarrh is often mistaken.

My belief is that at her first visit to me in June the patient had a slight developing catarrh at the left apex. This belief is not founded upon this one case. Over and over again have I had a similar experience, although in no case has my experience been as humiliating as in this one. I have recently discharged a patient after four months' constitutional treatment whom I treated altogether locally for the first four weeks she was under my care, and I realized the need of constitutional treatment in the case only after finding marked transference of the heart sounds at the left apex. These experiences have not occurred to me because of carelessness. The possibility of such a condition is considered in the case of every patient under forty years of age and over ten.

I am not qualified to speak as to the occurrence of the condition mentioned in other localities, but in Cleveland apex catarrh—a disturbance of the functions of all the mucous membranes of the body, the disordered functions of the gastro-intestinal mucous membrane often being the one of which the patient makes most complaint, but a condition in which certain definite physical signs at one or both apices of the lungs can be detected—is of very frequent occurrence: and after years of observation and large opportunity in the study of the diseases of the ear and upper air pas-

¹ Read before the American Laryngological, Rhinological, and Otological Society at its second annual meeting in New York City, April 18, 1896.

sages, I believe that this condition—call it what you will—is in Cleveland more important to the throat specialist than all other constitutional conditions combined. The question arises as to whether the subsequent ill health and loss of flesh were not due to the local treatment. It is most natural for the patient to hold this opinion. It is not at all uncommon for patients in perfect constitutional condition to feel depressed for a short time after intranasal treatment and even to lose flesh, but they quickly recuperate and take no such course as the one reported.

If this patient had presented herself to a general practitioner instead of a throat specialist, and he, knowing nothing of the nasal condition, had detected the condition of her left apex and treated her constitutionally with as much success as attended my efforts, when she returned to the city in September what would have been the result as to the local lesion? She probably would have been relieved so much that the local lesion would have caused no more trouble than had been experienced when she was perfectly well. You remember she had had no trouble with her nose until within a few months. The local treatment certainly did no harm, for constitutional treatment would not have remedied or relieved the hypertrophy of the mucous membrane of the left lower turbinated or a deviation of the septum; but the overlooking of the constitutional condition was an error indeed—such an error as brings specialism into merited disrepute. The oversight was made by one fully alive to the importance of looking beyond the local lesion, and one who was a general practitioner for years.

This experience has simply added weight to an opinion long since formed, that the specialist should always seek an explanation of local symptoms in a patient's constitutional condition. It may not always be easy or possible to decide which factor is the more important in a given case. The necessity of studying the patients as a whole is understood by every one. The general practitioner errs ordinarily in paying too little attention to local conditions. The specialist, on the other hand, errs too often in paying too great attention to local conditions. The golden mean is the position all are striving to attain. When the general practitioner more carefully studies the importance and possible influence of local conditions, the specialist will no longer complain of lack of support in his work; and when the specialist more carefully considers the possibilities and bearings of constitutional conditions, he will command more respect and support from the conservative, sensible general practitioner.

Little may have been proven in this report. It is necessarily fragmentary because of the length of time already occupied in the discussion of the case. I know no way of absolutely proving one's opinion in a medical case. The experience added weight to a lesson learned often before and often since.

While the opinion expressed in the report may be such as is not generally held by the profession, it is certainly worthy of consideration, for I am positive that my success in the treatment of the ear and upper air passages has been much greater and much more satisfactory since I properly appreciated that which was the key to the situation in the case reported, and which I have called apex catarrh.

APRIL 13, 1896.

Intestinal Perforation in Typhoid.—There is no complication of enteric fever more dreaded by the physician than perforation. It occurs in about two per cent. of all cases. Its most frequent causes are improper diet, distention of the bowel from any cause, or too early and sudden movements of the patient.—WIGGIN.

THE STRENGTHENING AND STERILIZATION OF CATGUT.

By DONALD B. PRITCHARD, M.D.,

WINONA, MINN.

HAVING seen in some sample journal a two or three line item recommending the preparation of aseptic catgut by first treating it with formalin and then boiling, I thought it worth while to try it. Being much pleased with the result, it would seem but proper that I should bring it more generally to the notice of the profession. After trying various strengths of the formalin, I find the twenty per cent. to be the most satisfactory, leaving the gut immersed in it for three and one-half hours. It should then be at once transferred to boiling water for fifteen minutes or longer, if one so desires, when it will be found in excellent condition. Raw gut that bears a weight of thirty pounds will after the formalin treatment lift twenty-six pounds, and boiling it for fifteen minutes does not weaken it. It is curious that the gut which has been prepared for several weeks seems to become nearly as strong as the original raw article.

If one wishes to boil it on spools, care should be taken to wind it very loosely, as it swells and contracts during boiling and might easily be broken. The better plan is to prepare it before winding on spools; then with aseptic hands it can be made ready for storing away in alcohol for future use.

One day I left some gut in the formalin for eight hours and found it rotten. It would lift but six pounds. After boiling for fifteen minutes I was surprised to find that it would bear a weight of sixteen pounds before breaking. So far as I can ascertain, twelve minutes is the longest time that bacteriologists consider that anthrax spores can resist boiling water. Surely, then, fifteen minutes' boiling ought in every instance to render catgut sterile.

DISINFECTION OF THE HANDS DURING LABOR.

By HARVEY B. BASHORE, M.D.,

WEST FAIRVIEW, PA.

THERE is always a danger that valuable methods in science and art may be neglected on account of their complexity; and this seems to me to be just about the position of hand disinfection during labor. The elaborate methods which are advised in certain quarters will perhaps do well enough in a maternity hospital, but most women are confined at their homes, and what we want is a method for the practitioner which is both effective and at the same time as simple as possible.

It is generally conceded, I believe, that the streptococci, staphylococci, and Escherich's colon bacilli are about the only germs we have to fear during labor. Staphylococci and streptococci are non-spore-bearing, and consequently are easily destroyed. Robert Koch is the authority for the statement that a solution of bichloride, 1 to 1,000, destroys these organisms in a few moments. Escherich's bacillus likewise does not form spores, and is killed by the same solution in a short time, unless the germs are in feces or an albuminoid mixture (Sternberg).

In the light of these bacteriological facts, we can build a method for protection against these germs. This method, which has been widely used, is practically Fürbringer's method of hand disinfection for surgical operations:

(1) We wash our hands for several minutes in soap and water—bichloride, if you wish.

(2) They are then thoroughly rubbed for one minute with several ounces of ether.

(3) They are then scrubbed with a nailbrush for three or four minutes in a solution of bichloride, 1 to 1,000.

(4) Finally, and this is very important, the hand is introduced moist with the solution, without using any lubricant and without coming in contact with the bed-clothes or anything else more than is absolutely necessary.

After disinfecting the hands in this manner, they are practically sterile, so far as the germs mentioned are concerned, and any extraneous bacteria which should happen to drop on them would very likely be incapacitated for any further harm by the action of the bichloride.

Escherich's bacillus, although a near neighbor in all labor cases, cannot grow nor migrate in the acid secretion of the normal vagina; but if the hand of the attending physician was saturated with feces and then introduced to the os, the bacillus would probably find very good pasturage in the alkaline lake at the upper part of the vagina.

Disinfection of the hands in this manner will not take more than six or seven minutes, and with care during the vaginal examination is ample protection against infection. Of course, the hands must be treated in the same manner for each examination, but then we are told to avoid making more examinations than are absolutely necessary. The last case I attended, I think I washed my hands by the method indicated above some six or eight times in the three hours I was present. Perhaps this was rather excessive. Kelly's method of disinfecting the hands with permanganate and oxalic acid has no advantages over Fürbringer's method, while it has several disadvantages.

NEURALGIA OF THE PENIS.

By ROBERT BOYD, M.D.,

GRAND CAYMAN, BRITISH WEST INDIES.

AFTER careful perusal of authorities upon venereal diseases, such as Keyes, Otis, and others, and not having met before with a similar case in my private practice, I am of the belief that the subject of this article is a new malady and not heretofore mentioned by any writer.

The following is the history of a patient who recently consulted me in regard to his complaint:

C. B.—, male, aged twenty-six years, unmarried; occupation, bookkeeper. For the past two days he has been suffering from severe paroxysmal pain of a lancinating nature, occurring about every half-hour, day and night, and which begins at the root of the penis and extends along the shaft on the right side to the glans penis, when it ceases. As the patient expresses it, the pain seems to run along to the head, and, having no farther to go, it escapes. The duration of the pain is about one minute, and has been so severe as to awake him from sound sleep several times during the night. The patient states that he suffered from the same pains about a year ago, but that they were less severe than at present, and that they gradually disappeared without any treatment. The patient is of sedentary habits, neurotic constitution, and suffers occasionally from severe general headache. There is no history of venereal disease, nor is there any history of traumatism of the penis or perineum. The urethra is in a healthy condition: there is no discharge or tendency to stricture (No. 10 American sound passing easily); micturition is free and non-painful. There is a constant desire to micturate, which desire is exaggerated during the paroxysms of pain. Examination of urine gives negative results.

Bowels are regular. Examination of the prostate gland, per rectum, shows it to be normal.

The patient was directed to sleep on a hard bed, to avoid too much bed-clothing, and erections increased the neuralgia, and the following medication prescribed: Monobromate of camphor, ten grains, and bromide of sodium, twenty grains, every three hours during the day, and one-sixth grain of morphine at bedtime.

The pain gradually subsided, and in four days he was free of it.

I have seen the patient lately, two months since the attack, and so far there has been no return of the trouble.

A CASE OF SEPTIC PERITONITIS—OPERATION (PRIMARY AND SECONDARY)—RECOVERY.

By H. E. KENDALL, M.D.,

ST. JOHNS, N. F.

E. V.—, aged fourteen years, suffering from appendicitis, was seen in consultation on the fourth day of the disease. The symptoms then were those of grave peritonitis. An operation was advised and accepted. The abdomen was opened over the appendix: incision at the right border of the rectus. Sero-pus welled up as soon as the peritoneum was incised. The right flank and pelvis were full of fluid. It extended well up under the liver and among the coils of intestine to the left of the spinal column. There were no adhesions. The cavity was mopped out by the dry method and the appendix was removed. It contained an enterolith, was gangrenous and perforated. The intestines were then well sandwiched between strips of gauze put in every direction, according to the McBurney method, and the incision, about five inches long, was left open. The patient did well and on the sixth day the gauze strips were removed, the sinuses being mopped out and gently repacked. On the eighth day, while gently flushing the sinuses, I observed that the fluid did not return well from that which led to the left side of the pelvis. It had a pretty sharp angle where it passed the pelvic brim, which caused some pressure with rupture of adhesions. That night my patient became very ill, and in the morning when I saw him he had again developed all the signs of septic peritonitis. The percussion note in the left flank, which the day before had been tympanitic, was now flat. I accordingly decided to open on the other side, and did so about eighteen hours after the accident had occurred. The cavity on this side was full of serum. It presented about one-fourth the surface of the general peritoneal cavity, and was limited by the adhesions set up by the former operation. The treatment was the same as in the first case, with the exception that the latter side was flushed with normal salt solution. It is, perhaps, worthy of note that this side so treated discharged serum much more profusely and for a longer time than the first side, treated by the dry method. It would seem, likewise, as though irrigation in the first instance would have caused infection of a portion of the cavity which escaped by the method adopted. The patient had a slow convalescence, about ten weeks. A secondary abscess formed, which after a tedious watching opened through the old wound. Recovery has, however, been perfect. This case seems to me to be of interest on account of the secondary infection and the happy result of the secondary operation. Apart from this, I wish to report it in order to get some light on one or two questions arising therefrom.

(1) I simply ligated and excised the appendix. A small faecal fistula followed, which lasted for four

weeks and closed spontaneously. Should I have adopted the invagination method under the existing conditions of sepsis and gangrene?

(2) I left the gauze drains in until they fairly floated out on pus. I thought it a safe method, and had not the confidence to remove them at an earlier date. Is it necessary for the sinuses to suppurate in these cases? Is there any clear criterion which would permit of the gauze being removed at an earlier stage? Are secondary abscesses more likely to occur if the drains are removed earlier?

MALARIAL HÆMATURIA, OR HEMORRHAGIC FEVER.

By W. D. BUSH, M.D.,

LEESBURGH, FLA.

THIS disease is getting to be a very common occurrence in Florida, Georgia, and the Mississippi bottoms, and as I find very little literature on this subject I think every physician in these regions should make himself thoroughly acquainted with the symptoms and treatment of the affection. Hemorrhagic fever attacks those who have previously had some form of malarial fever, as a general rule those who have their systems full of the malarial poison.

Now, as to the pathology, the chief manifestation is the alteration of the blood and the organs that are disposed to congestion and inflammation, such as lungs, bowels, and kidneys, due to a defibrinated condition of the blood.

The symptoms and treatment I will give by referring to some cases that have come under my observation:

CASE I.—Mr. F—, a man of about forty years, who has been in Florida some eight or ten years; very dark complexion and of a bilious temperament. He had hemorrhagic fever in Georgia and came very near dying. I saw him at 1 P.M. He had a temperature of 104° F., and was perspiring very freely. He was deeply jaundiced over the whole surface; the conjunctivæ were of the same color as the skin. He had passed bloody urine three times and a large quantity at each time. He was somewhat nauseated and the tongue had a yellow coat on it. I gave him at once calomel, gr. vi.; aloin, gr. ss.; podophyllin, gr. ½; sodium bicarbonate, gr. vi. I also left another capsule containing the same, to be taken next morning in case this did not operate well. I also left turpentine, to be given in ten-drop doses every three or four hours till the urine cleared up. I told my patient I would call again before night. So about four or five o'clock I saw my partner, Dr. Green, and told him I had a case of hemorrhagic fever and asked him if he would not like to see it. We drove out and on our way he asked me what I was giving my patient. I told him and also remarked that I intended giving quinine next morning. He said that if I did I would be apt to send my patient to the other world, for he had lost enough to convince him of its uselessness before he stopped the use of quinine and had not lost a patient since. So I decided to profit by some older experience in this disease and not give the quinine. Instead I gave the patient Warburg pills, one every three hours, till five were given in one day, using the two-drachm pills with aloes. I saw him next day. The urine was clear. The mercurial had operated well. There was no fever. The skin was clear and the patient was in a good condition.

CASE II.—Mr. K— had the same symptoms, the same treatment was used, and the patient made a good recovery.

CASE III.—Mrs. B— sent for me on Wednesday.

I was out of town, so she waited, as she thought she had a case of intermittent fever. She grew worse and sent again next day. I found her perspiring and showing all the characteristic symptoms of hemorrhagic fever. She had been passing blood for two days and I found she had been taking quinine all the day before. She was very nervous, nauseated, and vomited black bile. I at once put her on a mercurial, and gave turpentine and Warburg pills. She was very bilious, but by repeated doses of calomel she soon recovered.

CASES IV. and V.—Father and son. Two of the worst cases I ever saw. These, like the rest, had previously had intermittent fever. Their systems were full of malarial poison. These I saw with Dr. Green at 3 P.M. The father had taken the day before thirty to forty grains of quinine. When we saw him the father was perspiring freely; the skin and eyes were most deeply jaundiced. Both patients were vomiting every few minutes black bile and decomposed food. They were so nauseated that it was a hard matter to get anything to stay on the stomach. We at once put them on the mercurial and Warburg-pill treatment. We finally got the medicine to operate. The son was soon convalescent, but to our great surprise as soon as the urine of the father cleared up there was a total suppression. Vomiting was troublesome for some time and there was hiccough. There were then involuntary discharges from the bowels, which were only checked by strong astringents. We tried everything that was ever recommended for suppression of urine, but to no use. We kept off uræmic convulsions by giving pilocarpine, but the patient died from suppression and exhaustion.

INTESTINAL OBSTRUCTION: LATERAL ANASTOMOSIS WITH THE MURPHY BUTTON, INTRODUCED THROUGH THE VAGINA.

By JOHN A. PRINCE, M.D.,

SPRINGFIELD, ILL.

MRS. L—, aged thirty-three years, two children. Vaginal hysterectomy was performed October 2, 1895, for chronic ovarian and tubal disease. Hæmorrhage was obtained by clamps, which were removed on the second day. On the fourth day several free movements of the bowels were obtained. Flatus passed freely from the first day. The patient passed flatus on the seventh day, but all efforts to obtain a movement of the bowels after that date failed. Tympanites was present on the eighth day and rapidly increased. On the ninth day, thinking some obstruction might exist within reach of the hand introduced in the rectum, I gave an anæsthetic, and after dilating the sphincter, passed my hand as high as possible, but could detect no trouble. Her condition, bad before the operation, did not encourage the idea of a cœliotomy. On the tenth day I was out of the city and was surprised on returning to find my patient still alive. I suggested to the mother and husband of the patient, who were present, the bare possibility of being able to reach the point of obstruction by breaking up the adhesions at the vaginal vault and exploring the pelvic and abdominal cavities with the hand. After considerable delay, consent was obtained, and after anæsthetizing and cleaning the vagina the fresh adhesions were broken up. The vault was completely closed by omentum, being firmly united to the edges of the vagina. Whether this is always nature's method of closing the vault or not, I am in ignorance. There was no suppuration present, the wound being as fresh and clean as the day it was made.

I could find no obstruction in the pelvis nor as high as I could reach in the abdominal cavity.

While passing my hand back and forth among the distended intestines a loop of collapsed gut got between my fingers, and I brought it down into the vagina. I made efforts to trace it to the point of obstruction, but they were futile.

The thought entered my mind that a Murphy button might be inserted between this loop of collapsed gut and one of the many distended loops, and an anastomosis made which might save this patient's life. The idea was carried into execution at once, though, owing to the limited area in which I had to work, it was only accomplished with much difficulty. A small rent was made above the button, which was closed as well as possible with sutures. Reaction was slow at first, but when it did set in the woman rallied rapidly. Gas and feces passed freely through the natural orifice until the second day, when some fecal discharge appeared in the vagina. This rapidly increased in amount, and soon, nearly the entire contents of the bowel was discharged through the fistulous opening. As this opening contracted, more and more of the discharge passed through the natural opening, until at this writing, December 2d, there is only an occasional discharge from the vagina. The button passed by the anus November 29th. At the present time the patient is entirely well and able to go about as usual.

This procedure would not be the operation of election in cases of obstruction of the bowels, but in the case reported it was the only thing possible to do, aside from making an artificial anus.

PRIMARY CARCINOMA OF INFERIOR TURBINATED BODY.

By BEAMAN DOUGLASS, M.D.,

ASSISTANT SURGEON, MANHATTAN EYE, EAR, AND THROAT HOSPITAL; INSTRUCTOR, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE literature of medicine contains reports of several cases of malignant disease, carcinoma or sarcoma of the nasal passages, but nearly all the reported cases seem deficient either as to the intranasal origin of the growth, or in the diagnosis having been made without the microscope. Data as to the early symptoms of the disease are often wanting also. In looking over the literature of carcinoma of the nose, I find two cases only in which a careful microscopic diagnosis of carcinoma was made and in which the neoplasm clearly began intranasally. In both these cases the disease originated upon the septum. There are no recorded cases in which the lesion began in the turbinated tissues.

The case which is the subject of the following report has a carcinoma beginning with symptoms so few and so slight as hardly to attract serious attention, and yet the history clearly points to the inferior turbinated tissue as the point of origin, and it is only upon this tissue that the disease can be found inside the nose. The consideration of this patient and her history would lead us to believe:

(1) That carcinoma, primary and intranasal, may occur in a form so closely resembling an ordinary rhinitis as to be overlooked, the distinguishing symptoms being pain and the recurrence of nasal hemorrhage.

(2) In all nasal ulcerations of any extent, a careful microscopic examination of a portion of the ulcerated surface is the only accurate means of early diagnosis.

(3) That an early diagnosis affords the only chance of operative interference.

(4) That primary carcinoma of the turbinated is possible and should enter into the differential diagnosis of all nasal ulcerations.

(5) That carcinoma of the inferior turbinated may occur without antrum involvement.

The history obtained as fully as possible from the patient is as follows:

Family History.—The mother is living at the age of seventy-seven years, is in fair health, except for indigestion. The father at twenty-nine years of age was the collector and partner in a grocery business. He developed after a prolonged exposure to cold and wet a discharge from the nose, accompanied by a disagreeable odor. Right-antrum disease developed and the antrum was drained by drilling through a tooth cavity. This antrum disease lasted twenty years, during which time he continued at his business. At the age of forty-nine the right eye became inflamed and an abscess developed over the frontal sinus on that side. This was lanced and a large quantity of pus was removed. The affection of the antrum during this time remained stationary. He then lost flesh and strength rapidly, became bedridden, and after seven months the physician in charge called in consultation Dr. Hodgins, of St. Louis. The frontal sinus was opened, some necrosed bone from the centre of the forehead was removed, and the patient died ten days afterward. There is no history of syphilis, and, except that the patient's two sisters had some slight eye trouble, there is no record of further hereditary taint in the family.

My patient, Mrs. H—, aged thirty-one and a half years, presented herself for examination at the office of Prof. O. B. Douglas, and it is through his kindness that I am able to report the present case. The patient has always been delicate and nervous, and yet well if we except the usual category of children's ailments, all of which she proudly asserts she has had. The nose first troubled her about five years ago, when she complained of a mucous discharge from the left side. The discharge has been at times rather scanty, forming scabs, which when removed were always followed by slight bleeding. One year ago the patient suffered from a severe nasal hemorrhage and this has since been repeated at irregular intervals. There has been pain in the nose only during the last three months. The pain has been neuralgic in character and confined to the left side of the face. She has never suffered headache. One year ago patient noticed the first external deformity. The left side of the nose became slightly swollen and the left nasal orifice was slightly lifted upward. There was no discoloration of the skin. The nose remained in this condition until three months ago, when upon the left nasal bone and the left nasal process of the superior maxillary two small bony lumps appeared, which have gradually merged into one. About this time the skin became discolored and the superficial blood-vessels of the skin became dilated. The left lachrymal duct has been obstructed somewhat for about a year, but the obstruction seemed to vary; at one time the tears would flow freely over the cheek, at other times for several weeks hardly at all. The patient has not failed in flesh much, but is very weak and easily prostrated. She has had one child.

Present Condition — Examination. — The right naris is normal; the pharynx and post-pharynx appear normal; the right side of face presents no deformity. The left ostium narium is slightly retracted upward about one-eighth inch and the ala with it. The intranasal mucous membrane, except for that covering the inferior turbinated bone, presents no change macroscopically. The inferior turbinate is quite innocent in appearance and would perhaps be easily overlooked except for the history of bleeding without any other catarrhal symptoms and the extreme prostration of the patient, together with the external deformity. This left inferior turbinate seems atrophied or at least occupies less space than its opposite. It extends below

nearly to the floor of the nose, but does not lie in contact with it. The surface is superficially ulcerated, is not covered with pus or blood. It bleeds easily when touched. The ulcerated edges are without thickening or induration. The surface of the ulcer is not excavated, but is flush with the surface of the surrounding mucous membrane. This surface has a roughened appearance and looks not unlike an atrophic ulceration from which the scab has been newly removed.

The ulceration begins in front, about one-fourth inch from the anterior end of the inferior turbinate, covers the whole of the turbinate on top, inside, and below, and extends back about one inch; the posterior end is not ulcerated or enlarged. Two pieces of tissue were removed from this ulcer, one corresponding to the lower border of the inferior turbinate and the other from the inner surface. The pathological report, signed by Henry T. Brooks, M.D., pathologist, Post-Graduate Medical School and Hospital, is as follows: "The piece of tissue from mucous membrane of the nose sent me for examination shows all the characteristics of a carcinoma."

The external deformity consists of a hard nodule on the nasal process of the left superior maxillary, about three-fourths of an inch in diameter, not adherent to the skin, but the cutaneous blood-vessels are dilated. There is obstruction of lachrymal duct and tears flow over the cheek. The whole of the left nasal region seems somewhat deformed and the left ala is retracted upward and outward. The conjunctiva is congested at times. There is no exophthalmos and no displacement of orbit.

A few days after the case came under my observation the cellular tissue of the eyelid suddenly swelled till the œdema closed the eye; in the inner corner of the upper eyelid a small nodule appeared and has persisted, tender and swollen, since the subsidence of the œdema.

The case was transilluminated with negative results. Both antra transmitted the light equally. Over the external bony deformity the light was somewhat obstructed, less clear but remaining translucent.

(From case book, May 3, 1896.) "Patient to-day has left nasal cavity filled with a white crust; this is cleaned away with peroxide of hydrogen and an oily spray, showing the meatus clear. The light shines through to the posterior pharynx. There is no discharge, no tumor. The appearance of ulcer on the inferior turbinate same as before. The posterior end of turbinates normal in appearance. The external bony nodule is quite prominent, about three-fourths of an inch in diameter. The swelling at inner canthus on upper lid has nearly subsided. The treatment is cleansing, tonic, and expectant."

Hydrogen Dioxide and Saline Solution.—Dr. Robert T. Morris (*American Medical and Surgical Bulletin*, May 9, 1896) says: "If we fail to destroy pus and septic fluids when opening an appendix abscess, the general peritoneal cavity is likely to become infected. Hydrogen dioxide and physiological saline solution are the sheet anchors of clean appendicitis work, and I would lose a few cases from post-operative septic peritonitis if either one of these resources was omitted. I do not know what surgeons mean when they speak of leaving the free peritoneal cavity unopened, as a rule, in appendicitis abscess work. There are few cases in my practice in which it is not necessary to expose uninfected peritoneum at one or more points. But what is the harm if abscess cavities are properly cleansed with hydrogen dioxide and saline solution? I have so much confidence in our resources to-day, and in the ability of the peritoneum to manage infective processes, that fear of infecting the peritoneum does not enter into my calculations."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE DROUGHT—DANGER OF WATER FAMINE—NEW "NOMENCLATURE OF DISEASES"—BATTLE OF THE CLUBS—MEDICAL-AID COMPANIES—QUACKERY AT GLOUCESTER—GENERAL MEDICAL COUNCIL—COLLEGE OF SURGEONS P. AND V.P.'S.—MEDICAL DEFENCE AND PROTECTION—OPIUM EATING AND SMOKING—AN INDIAN "CRITIQUE ON THE ROYAL COMMISSION"—A KEATS BED AT A HOSPITAL—BURNS CELEBRATION—EDINBURGH DEATH RATE—ROYAL INFIRMARY HOSPITAL SUNDAY FUND—REPORTS OF DR. THORNE AND THE ADULTERATION COMMITTEE—DR. BEALE, F.R.S.

LONDON, July 17, 1896.

A LONG course of fine hot weather has brought about some alarm as to the water supply. The drought has been so pronounced that the grass in the parks has been lighted by the careless throwing of matches among it, thus producing a miniature prairie fire. A number of deaths attributed to the heat have also been recorded in various parts of the country. Mr. Symons, F.R.S., director of the Rainfall Association, feels no alarm at the dryness of the last four or five months, and expresses a belief that there is plenty of time for 1896 to take a place among wet years. Few people are equally sanguine, and in some parts a water famine seems approaching. The East London Water Company has already found it necessary, as a precautionary measure, to cut off the supply from nine o'clock at night till six in the morning, and it is stated that in one part of its district there has been no water distributed for the major part of a week. One of the western companies is also considering the necessity of curtailing their supply, the other companies apparently being satisfied that they will be able to meet the demands upon them. Perhaps these fears of water famine are premature, for in various parts of the country heavy thunder-storms with enormous downfall have already succeeded the great heat, caused by the high barometrical pressure which has now passed by. In London the fall of temperature was equally sudden and welcome.

A third edition of the "Nomenclature of Diseases" has been published, but only a few have received their copies. The treasury has sanctioned a gratuitous issue to every member of the profession, so that in a short time this edition will supplant its predecessor. It has been very carefully revised by the committee of the Royal College of Physicians, appointed four years ago, twenty-four separate sub-committees having occupied themselves with the several sections. The names of diseases are given in English, Latin, French, and German. The column of Italian names has this time been omitted, as they do not materially differ from Latin or French. The list of names follows as closely as possible the terms employed in the office of the registrar-general, so as to avoid the confusion which would necessarily occur if the past statistics of that office were rendered difficult or impossible of comparison with future figures. Accuracy of nomenclature, facility of comparison, and continuity of records are more important in a work of this kind than pathological classification. The English index has been separated from the Latin, the latter being intended rather as a guide to those who do not know English than for other purposes. Nevertheless, it is very full and accurate. It was commenced by the late Dr. Greenhill and has been completed by Dr. Perry. The work, altogether, is certainly equal to its predecessor.

For several months past "the Battle of the Clubs" has been a stereotyped heading in our journals. Under it a series of fights have been recorded, so that "the campaign" or "the war" would be more expressive of the contest which has been going on in many parts of the country between the managers of friendly societies and medical men. The war, which broke out in Cork, and of which I gave you an account at the time, has extended to many towns in England, and unless the clubs listen to reason may become universal: for it is undoubted that the system is everywhere abused. Originally intended to meet the necessities of the poorer members of the working classes, the doctors' fees of these clubs were fixed on a charitable basis. Nevertheless, not only skilled workmen and foremen availed themselves of these terms, but tradesmen, publicans, town councillors, and other well-to-do people joined the clubs as honorary members. Many were too proud to draw the usual sick allowance and so proclaim their meanness to every member of their club, and at once raise the question as to whether it would be right to do so. But the doctor's fee of £2 6s. or £3 6s. per annum having been subscribed, these same persons made their demands on the doctor's time without scruple. This is the fact put forward as the chief reason of the medical revolt; at the same time it must be remembered that in all cases the fees are too small to be remunerative, and, free as all doctors have always been with their charitable help, they cannot but feel aggrieved with those who have larger incomes than their own, but seek to impose on them for assistance.

Other grievances are the increase of cheap dispensaries, the abuse of the out-patient departments at hospitals, and the recent developments of the joint-stock principle in the shape of medical-aid associations. These last engage a medical man to attend all their members in a district, paying him a small salary, and by dint of touting get large numbers to enter as members, thus loading the unfortunate doctor with continual work for the barest pittance and making a profit out of his labors, in which he does not participate. This practice is condemned in all professional circles, and the "sweating" of doctors for the benefit of others must, it is held, be put an end to. The matter has even been brought before the Medical Council, but nothing has been done, though it is expected that outside pressure may eventually lead to some effectual resolution. Many years ago I was paying a long visit in a manufacturing town, where a very large proportion of the population belonged to clubs, and a difficulty had arisen which was met in the following manner: Each of the doctors—there were five in the town—opened a club of his own; that is to say, he entered in a book the names of all patients who had been in any of the clubs of which he had been doctor and who were willing to pay a weekly or monthly sum. In return for this the doctor engaged to attend them as he had previously done under the club system. A collector was engaged to call for subscriptions, and as long as they were paid regularly medical attendance was insured. There were no other rules, and the members were to all intents and purposes on the same footing as private patients, and could, of course, change their doctor whenever they pleased. As each of the doctors attended on the same conditions there was no competition as to prices, and every man could choose his own doctor. This plan gave satisfaction and might now be tried, perhaps, in other places. Something of the kind has, I hear, been done in Coventry, where a kind of medical service has been established in self-defence. As soon as the work of a medical aid association was thrown up, a qualified man was sent into the town to carry it on; and this illustrates the chief difficulty of fighting these trading societies. In some towns the fear of a new man being introduced has

sufficed to prevent union: but even at Coventry I am told the plan has been fairly successful and promises still better results. This shows that it is only necessary for the medical men to act together to defeat the scheme of limited companies absorbing the profits of their labors.

An almost incredible instance of gross quackery is reported from Gloucester, where it appears that during the epidemic an unqualified man, calling himself a hydropathist, started in the town with large professions of curing small-pox and preventing its spread. Patients, as usual, did not fail him, and I hear that not less than twenty-three of his cases were fatal. Where is the coroner? No inquests seem to have been held, and on what authority the deaths have been registered might well be inquired into. The inaction of the coroner lays upon him a grave responsibility.

As I anticipated, the coming election to the General Medical Council has been seized upon by the British Medical Association or some of its leaders in the hope of once more putting in their nominees. Drs. Woodcock and Drage are excellent candidates and could well have afforded to stand alone, but have naturally accepted the advances of the association, which I am sorry to see has again "nobbled" Dr. Glover, whose position, after ten years' work on the council, ought to be so secure as to prevent his accepting extrinsic aid and so far tending to restrict the choice of the electors. Yesterday there was a meeting at the rooms of the Royal Medical and Chirurgical Society, to hear addresses from these three gentlemen. As I have reported, other candidates have declared themselves, but with the wire pulling of the association against them they have scarcely a fair chance. I should like to vote for Dr. Glover, but this union with a great association is so interfering with the freedom of electors that I hesitate, and I know that many others feel the same, and some are really indignant.

At the meeting of the new council of the Royal College of Surgeons, Sir William MacCormack was elected president, and Messrs. Macnamara and Langton vice-presidents, for the ensuing collegiate year.

LONDON, July 24, 1896

THE proposed amalgamation of the Medical Defence Union with the London and Counties Medical Protection Society seems finally to have failed, as the two cannot agree on the name to be registered, each pretending that its own name is valuable as "good will." Some of us would say: "What's in a name?" To register the combination as the "Medical Defence Union, with which is amalgamated the London and Counties Medical Protection Society," and so render that long description the only legal name, certainly seems preposterous and would lead to curious remarks in court. If both names must be expressed, why not reduce it to London and Counties Medical Union? But the question of defence will be further discussed, as the British Medical Association proposes to take it up. For this purpose its memorandum must be altered, and that is rather a serious step, for the necessary legal proceedings are very complex. A special meeting has been held at which it was resolved to initiate the change. Only a handful of members was present, but great differences of opinion were expressed. Another special meeting has been convened, to be held at the Carlisle assembly, when the matter may be fully discussed. There are four or five schemes for carrying out the intention, and a certain degree of interest is exhibited in them. If the association, with its large numbers and great income, can agree upon a practicable scheme and get legal authority and commit the management to an able board, much may be done, and the members would be insured against vex-

ations actions. The two protection societies might, perhaps, be absorbed, and the men who have worked them so well should find places in the executive and be trusted to carry out on a larger scale work for which they have evinced so much talent.

You will remember that the opium commission reported somewhat unexpectedly in favor of rather than against maintaining the present regulations respecting the traffic in India. It was inevitable that this report should excite keen criticism, and the *Indian Medical Record* devoted a series of articles to combating the memorandum of Sir William Roberts, the medical member of the royal commission. These articles have been revised and are now being circulated in pamphlet form. Sir William Roberts' views are subjected by the *Record* to severe criticism, founded on careful examination of the facts. At the outset it is remarked that the qualifications necessary for a medical expert are wanting in Sir William Roberts, that he has fixed opinions on one side, and that the India office was wise in selecting one who was almost certain to express official views. Sir William Roberts attributes a dual character to the opium habit—the medicinal and what he calls the "euphoric." This last term, he says, "means feeling perfectly well and able to bear pain and anxiety easily; but only a select portion of the population are susceptible to the euphoric effects." He takes it for granted that the habit prevails in excess in malarious districts, but this notion is completely exploded by the critique before me, which shows that in Bengal the minimum of consumption is in the most malarious districts, while excess prevails where there is little or no malaria. The real origin of excess seems to correspond with the cultivation of the drug, for wherever it is grown it is eaten, and the more grown the more is eaten. In some districts where it is not grown, but where the habit prevails, the explanation is found in the fact of past cultivation. Further, the distribution and prevalence of the habit has no relation to the medicinal qualities of the drug; but as to its so-called "euphoric" effects it appears that Indian physicians would laugh the idea to scorn. There are many startling statements in the report of the commission, but none, perhaps, more surprising than that the ryots of eastern Bengal use opium as a household remedy, although this statement has been supported by Dr. Crombie. It is, however, shown in the pamphlet mentioned that this is not and cannot be true.

As to the question of a prophylactic influence, Sir William Roberts has revived the exploded notion which attributes antiperiodic properties to anarcotine; but I do not suppose any therapist will be ready to support him, for an efficient dose of this constituent would be accompanied in opium with a dangerous amount of morphine. Our critic apologizes to Bengal physicians "for being obliged to drive the phantom of opium as a prophylactic into the congenial atmosphere of fiction, whence it first emerged." It is startling to find that Sir William Roberts would not interfere with the practice of giving opium to children—a custom for which great responsibility rests on the government of India and which has been so often denounced as cruel and criminal. Another point in reference to this question is the relation of suicide to the opium habit; and here, again, the memorandum of the official expert is shown by his critic to be altogether erroneous. Again, the relation of the habit to food is treated in the report in a very one-sided manner, which the writer of the critique effectually exposes. The views of Drs. Crombie and Cobb, as they appear in the evidence, contradict and so destroy each other, and afford the critic no little merriment.

Smoking opium is a modern habit compared with eating it, and no one has ventured to come forward

in defence of the smoking-dens. The anti-opium agitation really derives its force from the evils of the smoking-habit, which is so rapidly spreading, owing to the regulations of the government on account of its contribution to the Indian exchequer. It is a "social and public vice," says our critic; "hence, more calculated to propagate than the unostentatious and less pernicious habit of opium-eating." When the royal commission was appointed, the smoking-habit in China and the far East was supposed to be the chief subject of inquiry; but it seems that official influence has managed to make this quite secondary and to give the opium-eating habit the most attention. There is a general consensus of opinion that opium-smoking should be abolished, and it is admitted that smokers themselves think so. Even the commissioners admit that "native public opinion condemns the habit as disreputable, and this opinion is shared by the great majority of European witnesses—official and private—including medical practitioners." Nevertheless, Sir William Roberts seems to constitute himself an apologist for this habit.

A blue book on the consumption of opium in India in 1892 reported that the government decided that the total prohibition of smoking-shops was the right policy to follow. The local governments of Bombay and Bengal have, however, managed to prevent this being carried out. New regulations, indeed, were issued, but have failed, and the pamphlet shows that the habit has continued to spread and is likely to do so until the imperial government alters its methods. As an appendix to the pamphlet, the evidence of Dr. Mookerjee, the first native practitioner ever elected to the presidency of the Calcutta Medical Society, is given, and he is supported by the vast majority of Indian physicians. He urges that the vice of opium-smoking should be restricted by legislation, that the preparations used for smoking should not be allowed to be manufactured, and he hopes that the commission on the subject will be followed by one on alcohol, and that England will be induced to deliver India from drunkenness and opium-smoking.

It is proposed to endow a Keats bed at Guy's Hospital, in memory of the great poet who left medicine for the muses. One thousand pounds is wanted for the purpose.

We have just had a Burns celebration, and though we cannot claim him as belonging to the profession, his hatred of shams was expressed in his "Death and Doctor Hornbook," which is one of the most scathing satires on quackery ever penned.

Edinburgh has been rejoicing in a low death rate for several months. For many weeks rates of thirteen and fourteen per thousand have been recorded. For the last three weeks, thirteen, fourteen, and fourteen were the numbers registered.

The Edinburgh Infirmary is to have a new medical pavilion. The architect's plans have been accepted. The estimated cost is £30,300. Plans have also been approved for a new laundry for the infirmary, although Sir Henry Littlejohn pointed out that it was very undesirable to have this laundry in so close proximity to the hospital as on the site selected.

The Hospital Sunday Fund has now reached the sum of £43,200, and some additional donations are expected. Sir S. Crossley has promised a further £1,000.

Dr. Thorne Thorne's third annual report as medical officer to the local government board has just been issued. It is exceptionally instructive and valuable.

The report of the select committee on the sale of foods and drugs has also been issued. It proposes some drastic legislation against adulteration, which if enacted would be a great protection to the public.

Dr. Lionel S. Beale has resigned his professorship at King's College and his physiciancy to the hospital. He held the physiciancy forty years and was a professor rather longer.

"HERMAPHRODISM (?)."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Seeing in the MEDICAL RECORD of July 25th, just received, a report of "A Case of Hermaphrodisism (?)" by Dr. Carl Beck, with four illustrations, the first two of which represent the usual form of spurious hermaphrodisism, viz., imperfect development of the male genital organs, I proceeded to read the article with curiosity to discover wherein this case differed from the numerous instances of this malformation which have come under my observation. I read on without perceiving anything peculiar until I came to the description of the "infundibulum" beneath the arch of the pubes and the discovery of "a canal four inches in length (undoubtedly the vagina) at the end of which a well-developed uterus could be felt."

On reading the above statement, which I quote in the words of the author, I thought that at last a living subject had been found with unquestionably male external sexual organs and with a vagina and uterus (and probably ovaries) representing the internal female sexual organs.

What was my surprise, however, to find absolutely no mention made of the condition of the internal sexual organs when the abdomen was opened for the removal of the mysterious abdominal tumor, which, as might have been expected, proved to be the right testicle and (although the author does not distinctly say so) probably the left testicle also. I naturally expected to see the upper portion of the "well-developed uterus" which had been felt through the canal, four inches in length, "undoubtedly the vagina," mentioned, and perhaps (*mirabile dictu!*) the uterine appendages. But the author appears to have entirely overlooked the glorious opportunity offered him (which I regret to say has never been tendered me) of verifying through an abdominal incision the presumptive diagnosis of true hermaphrodisism. The case as he reports it is simply one of the very common congenital malformations of the external male generative organs (of which I have seen several dozen at least), with small but erectile hypospadiac penis, blind perineal pouch (sometimes three to four inches in depth), thick bilateral scrotal folds, simulating labia majora, and testicles either in the scrotal folds or in the inguinal canal, besides fairly distinctive general male habit.

The only interesting feature in the case seems to me to be the sarcomatous degeneration of the intra-abdominal testicles. The title of "Hermaphrodisism (?)" therefore is not justified even with the interrogation mark, for the case was simply one of hypospadiac male with undescended sarcomatous testicles.

I think the author owes us an explanation of his diagnosis of the "well-developed uterus" which he felt through the "canal" ("undoubtedly the vagina"), and I shall look with interest for the reasons which induced so careful an observer and expert an operator to omit the demonstration of the very point which would have made his case remarkable, if not unique.

PAUL F. MUNDÉ.

NEW YORK, July 27, 1896.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Referring to Dr. Beck's article in the MEDICAL RECORD of July 25th, it seems to me a pity that the report should be so vague, especially on a subject concerning which sufficiently attested cases are much needed.

Judging from the report, the patient seems to have been a female with an enlarged clitoris. His (?) voice, face, form, mammae, and, if I may judge from the photograph, arrangement of the pubic hair were feminine. Was the pubic hair continued up to the umbilicus, as in the male, or did it stop short at the mons veneris, as in the female? The groove on the ventral surface of the penis (?) may have been simply a continuation of the female vestibule, and the cutaneous prominences remains of a female frænum. The urethra and introitus vaginae, hymen, vagina, and uterus were female in character, the two lateral openings probably openings of Bartholin's glands (could their secretion be examined?). These glands empty themselves during sexual excitement in women, and an enlarged clitoris might admit of coitus after the fashion of the male.

Was it the tumor which Dr. Beck removed which he describes as having been recognized as the right testicle, and why was it so recognized? Fig. 3 looks like an ovary, not a testicle, and no report is given of its structure; and if Fig. 4 be the so-called testicle, was testicular tissue recognized microscopically?

Altogether, as a reader, I would point out that Dr. Beck's case as reported is utterly valueless to the collector of statistics, when surely careful microscopic search for ovarian or testicular rudiments might have made it of the utmost consequence to teratologists. Fuller examination of the specimens might make the case one of great value.

WILLIAM KEILLER, F.R.C.S. Ed.,

Professor of Anatomy, University of Texas.

THE APPENDICITIS CONTROVERSY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Years ago I was called in consultation to see a bright young physician who had appendicitis. He had a high fever, up to 103° F., and severe pains for forty-eight hours, but the symptoms were subsiding when I saw him; the next day his temperature was only 99° F., and nearly all the symptoms had disappeared. I told him there was no question about his getting over this attack; that an operation could be talked about later. I was obliged to leave the city, and twenty-four hours after he had a sudden change for the worse, with high fever, chill, and severe pain, and when I returned twelve hours later he was *in articulo mortis* and an operation was of no benefit. With every case of appendicitis, there arises before my mind the picture of that bright young doctor and his poor, six-months-pregnant wife.

Every case of appendicitis must be operated upon immediately; to-morrow it may be too late. I seldom, if ever, meet with a refusal; the patients always say yes. After years of experience, I never varied from this rule until two months ago, when I had a case in which the symptoms had all subsided, and I thought the patient would recover without operation. I waited until the next morning. I found that the pulse had increased in frequency, although the temperature was only 99° F. I operated and found a gangrenous appendix surrounded by pus. Fortunately the patient recovered, but by deviating from my rule and hesitating a life was nearly lost.

I have had general practitioners tell me that they see a good many cases of appendicitis and the patients all get well without an operation; but those very same physicians have cases within the next six months in which the patients die. I know a number of such cases in which two or three patients have died in the hands of these men. That has cured them; they now advocate early operation. Having seen a few cases which recovered, they thought they all recover. We,

who operate a great deal and see the terrible results of waiting, naturally become radical. We insist that the only safe way is to operate in every case promptly. We admit that in ten or fifteen per cent. of our cases the patient would recover without an operation and without recurrence, but in the present state of our knowledge we cannot pick out the one from the other. We must, as the boys say, go it blind. But we do know that in a hundred consecutive cases operated on promptly our mortality would be very low, while out of a hundred consecutive cases treated without operation the mortality would be large; and those who would recover would be subject to two, three, and many more attacks, and with every recurrent attack ten or fifteen per cent. would die. They would not only be in constant danger, but would have the constant worry and the dread of recurring attacks; no peace day or night, summer or winter; at home or travelling about, the sword of Damocles will always hang over them; while, if we operate on them and cure them, the mind will be at peace and they can enjoy life.

Dr. MacArtney, who started this controversy, takes a somewhat different stand. He simply claims that cases occurring in the country, away from skilled operators, should rather be trusted to the *vis medicatrix nature*. To this we all agree. Such cases need but seldom occur. It is wonderful how easily the patient can be removed one hundred or two hundred miles on a stretcher, taken from the train to an ambulance, transferred to a well-equipped hospital, and operated on by an experienced man. And if the patient cannot be moved on short notice, an experienced man can be got in almost any part of the country within a very few hours.

I admit the force of the argument of the fee, which seems to be the *bête noir* of some general practitioners, yet I have known experienced men to travel fifty or one hundred miles and operate, in order to help some fellow practitioner, for a merely nominal sum, when the patient could not be brought to a hospital. Many hundred such cases are operated upon gratuitously. Surgeons sometimes get large fees, but these are few and far between. Some general practitioners claim that if they give up the patient the specialist gets the fees. Those simply betray selfishness.

I would conclude, then, by saying that since appendicitis is a treacherous disease, changing from an apparently mild case to a most virulent one within a few hours, the only safe treatment is prompt operation. It does absolutely no harm, nor does it increase the danger when performed by an experienced surgeon with aseptic surroundings. Secondly, when such cases cannot be moved to a hospital, an experienced surgeon can be obtained, within a very short time, in any part of the country. The question of fee does not enter into the controversy at all and is unworthy of being mentioned by an honorable practitioner.

J. H. CARSTENS, M.D.

DETROIT, MICH.

Incontinence of Urine.—

R Neutral sulphate of atropine in two-per-cent. solution..... 3 iss.
Muriate of strychnine in one-per-cent. solution..... gtt. iv.
Syr. aurantii amari..... 5 viss.

M. S. From five to sixty drops every evening on going to bed.

Commence with five drops (one thirty-second grain), and increase by five drops every fourth evening until thirty drops per diem are administered.—MACALISTER, *La Semaine Méd.*

New Instruments.

SOME NEW INSTRUMENTS FOR THE TREATMENT OF RECTAL DISEASES.

By SAMUEL T. EARLE, M.D.,

PROFESSOR OF DISEASES OF THE RECTUM AT THE BALTIMORE MEDICAL COLLEGE.

IN the treatment of internal incomplete fistulæ with their openings just between or over the sphincter muscles, also abscess pockets formed between the columns of Morgagni, I have heretofore found great difficulty in getting the ordinary curved bistoury into these openings, and it suggested itself to me that a bistoury with



FIG. 1.

the complete curve, or, what might be better understood, a hawk-bill bistoury, would meet the difficulty successfully. I accordingly had one made, the cut of which is here submitted (Fig. 1). I have found it to answer the purpose admirably, and would recommend it to those working in this line.

Since the time that I began to devote special attention to rectal work, more than eleven years ago, I have found the rectal specula that I have tried (and they have been many and of various patterns) most unsatisfactory, either in not fulfilling the object for which they were designed or in being painful to introduce. Some four years ago, when in search of a satisfactory rectal retractor, which I have yet been unable to find, a gynecological friend suggested and gave to me for trial a Neugebauer's vaginal speculum; while I found it entirely unsuitable for the purpose of a retractor, it proved itself by far the most efficient and satisfactory rectal speculum that I have ever seen. It is here necessary to explain that only one blade of this instrument is used for this purpose, its use in vaginal work requiring the double blade. I found the curve and the point exactly adapted to the conformation of the parts, so that it can be introduced with less pain to the patient than any rectal speculum I have ever seen. The principle on which it acts is exactly similar to Sims' vaginal speculum.

With the hips slightly elevated in Sims' position, the instrument merely dilates the sphincter with the greatest possible ease; the air, rushing in, distends the rectal wall, giving an unobstructed view. The original instrument did not have a satisfactory handle for rectal work; so, after proving its practicability for four years, I then designed my present speculum, retaining entirely the original model of Neugebauer's speculum, as herein given (see Fig. 2), which represents the instrument closed, one-third size, merely adding a convenient handle, which is attached to the blade by a hinge, permitting it to be folded into a small space. There are two sizes, one for children and one for adults.

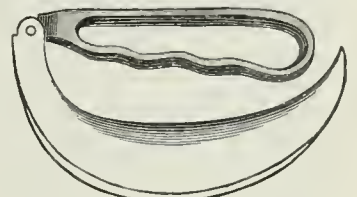


FIG. 2.

I would heartily recommend the trial of this instrument to physicians, feeling confident that it will prove entirely satisfactory.

A NEAT SPHERICAL GAUZE SPONGE.

By G. W. PERKINS, M.D.,

OGDEN, UTAH.

SINCE the general use of heat for sterilization, gauze has largely replaced marine sponges in surgical work. Flat pads made up of several layers of gauze, and spherical sponges made by enclosing masses of loose gauze or absorbent cotton in an envelope of gauze, are the forms in which it is usually employed.

The flat pads are easily folded in such a way as to place all raw edges of the fabric in the inside of the pad, and a few long stitches serve to keep them there. The spherical sponges which I have seen described and figured have been made by simply tying the enveloping layer of gauze and cutting off the excess a short distance beyond the ligature, thus leaving this cut surface with threads of the gauze projecting. This seems to me undesirable, because some portions of these threads might become detached and be left in the wound or cavity in which the sponge had been used.

In casting about for a way to obviate this disadvantage, I first made the sponge as above described, but went one step farther by carrying around the projecting stump a circular purse-string suture, and in tying this pushed the stump into the centre of the sponge, thus burying it out of sight. This answered very well, but left a hard lump at one side of the sponge, which sometimes interfered with grasping it in a sponge-holder. I next tried the following manœuvre, by which I succeeded in making as neat and satisfactory a sponge as one could wish for. Instead of ligating the pedicle of the envelope of gauze, I twisted it once or twice and grasped it with a small hæmostatic clamp; then cut away the excess close to the outer side of the clamp and placed my purse-string circular suture about half an inch distant from the stump, and as I tied it pushed the clamp holding the stump of the pedicle into the sponge, disengaging and withdrawing the clamp just before the suture was drawn tight.

The result is a symmetrical, sub-spherical mass of loose gauze, without raw edges on its surface and without hard lumps in its substance, which has in my hands admirably answered its purpose.

This is merely an adaptation of the Dawbarn method of inverting the unligated stump of the appendix into the cæcum, and I dare say has been used before by other surgeons; but as I have never seen it in print, I offer the suggestion for what it is worth.

The Spermatic Fluid in Secondary Syphilis.—

According to Dr. Rochon there may exist in the secondary period of syphilis, either in the seminiferous tubes or in the spermatic cord, manifestations capable of contaminating the semen and making it infective. These manifestations are aided by inflammations of any kind, and in particular by gonorrhœa, the pus of which thus becomes doubly dangerous. All acute or chronic non-syphilitic affections of the prostate and ureter may, in the secondary stage, mingle virulent blood with the semen, and thus render it inoculable. This added virulence of the semen may manifest itself by chancres of the integuments accessible to examination, and also by intra-cervical or intra-uterine chancres, especially if the intercourse at which infection takes place is followed by conception. There is thus no longer a relation of cause and effect between conception and syphilis; but there remains, nevertheless, a close link of necessary coincidence, owing to the modifications of the uterine mucosa at the time favorable to fecundation. This link is close enough to justify the retention of the term syphilis by conception.—*La Médecine Moderne.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 1, 1896:

	Cases.	Deaths.
Tuberculosis.....	216	99
Typhoid fever.....	15	7
Scarlet fever.....	45	3
Cerebro-spinal meningitis.....	4	6
Measles.....	98	7
Diphtheria.....	159	24
Small-pox.....	0	0

Pathological Society of Philadelphia.—At the stated meeting of the Pathological Society of Philadelphia, held on May 28th, in conjunction with the Philadelphia Neurological Society, an exceedingly interesting and instructive programme was carried out. An initial report of the work of the neurological laboratory of the Philadelphia Polyclinic was presented. In a communication entitled "Lesions of the Nervous System in Acute Yellow Atrophy of the Liver," by Drs. C. W. Burr and A. O. J. Kelly, degenerative changes were described in the cells of the cerebral cortex comparable with those observed in other intoxication processes, experimental and pathological. Dr. A. O. J. Kelly presented sections of the cord from a case of paraplegia in an old man, showing thickening of the blood-vessels and increase of the neuroglia of the cord; and also sections of a cord presenting the classic changes secondary to fracture of the vertebræ. Dr. J. H. W. Rhein related a case of ataxic paraplegia and presented sections of the cord, showing the usual sclerosis of the posterior and lateral columns of the cord. Dr. H. D. Boyer reported a case of Pott's disease and demonstrated sections showing myelitis with ascending and descending degeneration. Dr. Mary A. Schively described with much detail the histological changes found in a case of syphilis of the brain and presented many illustrative photographs and sketches. Drs. F. White and W. G. Spiller showed brains from two cases of infantile cerebral paralysis. One was from a hemiplegic child, the other from a diplegic. The former presented the lesions of vascular occlusion, the latter the condition of defective development (microcephalus), with secondary changes in the cord. Dr. Spiller also exhibited a specimen treated with Weigert's new neuroglia stain, showing only the cells and the fibres of the supporting structure of the cord. Dr. H. M. Fisher reported a case of caries of the lumbar vertebræ with myelitis and ascending degeneration, and presented histologic sections. By invitation Dr. Woods Hutchinson, professor of comparative pathology in the University of Buffalo, made some remarks on that subject. Dr. B. F. Stahl reported a fatal case of diphtheria of the uterus. Dr. D. Riesman presented specimens of Charcot-Leyden crystals from a case of bronchitis, and spoke of the theories offered in explanation of their origin and discussed their relationship to other similar crystals found in the body. A resolution was unanimously adopted protesting against the passage by Congress of a bill restricting vivisection in the District of Columbia.

Wanted, Another Doctor.—"If I was pa an' ma," said Willie, "I'd hire another doctor. The baby we got last time wasn't finished. It hadn't a tooth or a hair."

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Original Articles.

THE DISORDERS OF THE MUSCULAR SYSTEM IN INSANITY.¹

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INSANITY, viewed in its broadest clinical relations, may be defined as a reflex psycho-somatic manifestation of a diseased nervous system.

In the vast majority of cases it will be found that the presidial functions of the entire nervous system, as regards internal organs, the muscular system, circulation, respiration, digestion, and secondary metabolism, are all involved in the symptom complex of insanity.

One of the practical means of advance in psychiatry therefore lies in the faithful study of the bodily phenomena of insanity. In pursuance of this idea, and as the continuation of a series of articles already published on the somatic symptoms of mental disease, viz., on "Disorders of Speech," "Modifications of Respiration," "Pneumogastric Disorders," and on "The Pulse in Insanity," this present paper on "The Disorders of the Muscular System in Insanity" is now presented for the consideration of my hearers.

Attention will be directed first to the striped muscles, constituting the voluntary muscular system, which serves all purposes of adaptation to external relations, and then to the unstriated muscles, those of organic life, as found in the viscera and vascular supplies of the organism.

In the first place, then, it is well to recall for one moment the main anatomical and physiological points in the nervous mechanism which presides over the innervation of the voluntary muscular system. The prime source of motor innervation for the voluntary muscles is the cortex of the brain. The motor impulses originating in cortical areas are conveyed downward by the nervous fibres which converge to form the pyramidal tracts and by the latter to the motor cells of the anterior cornua of the spinal cord, and from thence by the anterior roots to the motor nerves and to their peripheral distribution in the voluntary muscles. Thus, the local pathology of the disorders of the voluntary muscular system may be, as will appear more fully later on, disease of the brain cortex, as in the degeneration of cortical areas in general paresis; solution of continuity of the fibres which go to form the pyramidal tracts, as in internal capsular lesions in organic dementia; morbid changes in motor cells of the anterior cornua of the spinal cord, as in the sclerotic processes of alcoholic dementia; or disease of the peripheral nerves, as in the multiple neuritis of toxic insanity.

The above are the main points of localization in the morbid anatomy of the muscular disorders to be mentioned. Some of these disorders, however, are of unknown pathology throughout their entire course,

¹ Read before the American Medico-Psychological Association, at Boston, May 28, 1896.

and still others, like the paralysis of hysterical insanity, though functional at first, through prolonged vasomotor and trophic changes finally pass into the category of affections having distinct organic lesions.

The description of these muscular disorders will now proceed somewhat in the order of the frequency with which they are encountered in actual clinical practice, and the first one to receive attention is atrophy.

Atrophy of voluntary muscles is much more frequent in insanity than is supposed, and careful measurements and tests as to muscular dimensions should form a part of the daily clinical study of insane patients. The general loss of bodily weight, which is almost universal in all acute stages of insanity, is largely due to general atrophic changes in the voluntary muscular system. Even in the chronic stages of mental disease the malnutrition of striated muscles may proceed so far as to amount to a tropho-neurosis, which is only a part of the more general neurosis of which the insanity is the expression.

The most rapid atrophy of muscles takes place in delirium acutum, whole groups of muscles wasting in an incredibly short time. There are recalled in this connection cases of typhomania (which, by the way, seems to be less common than formerly)—instances of large and powerful men in whom at the end of some days, and in spite of every effort to sustain nutrition, the atrophy was so great that, as an attendant once well expressed it, "the muscles seemed to have all melted away."

In various acute toxic insanities muscular atrophy may result from lesions of trophic centres, and in alcoholic dementia especially it is common from sclerotic degeneration of the motor cells of the anterior cornua of the spinal cord. In the diathetic insanities muscular atrophy is a not infrequent symptom. Thus, there is arthritic atrophy in cases with gout and rheumatism; atrophy from focal or disseminated lesions of nervous centres in syphilitic insanity; atrophy in cancerous or tuberculous cases from disease of joints or bones or deep-seated burrowing abscesses which evacuate pus, which passes into the sheaths of muscles and by long-continued contact excites fibrillary atrophy. In the scorbutic diathesis from changes in the blood and extensive intramuscular hemorrhages atrophy may result, just as it may be a sequel in post-febrile insanity from rupture, hemorrhage, and abscess in degenerated muscles. And in this connection it is apropos to call attention to the great frequency of deep and diffused abscesses among the insane from diathetic, toxic, traumatic, and other causes, and to suggest the early and thorough evacuation and antiseptic washing out of the same in order to avoid the possibility of muscular atrophy as well as other disagreeable sequels.

Incidentally it is here to be noted that inflammation of muscles, though a rare affection, is relatively frequent in rheumatic and syphilitic and in other forms of insanity. It may be due to accidental traumatic injuries or to toxic influences. It may have a chronic and subacute form, manifested by repeated lumbago, torticollis, and pain and soreness of the muscles of the extremities on slight exposure to cold or dampness or

on unusual fatigue. This myositis may also have an acute and severe course, followed by deep-seated abscesses, and then it may be mistaken for phlegmonous erysipelas or cellulitis. The skin over the inflamed muscle will be œdematous and red, and blood and serum will be effused on section; but pus will not be evacuated, but will gravitate diffusely in muscular sheaths, according to the position of the limb, and may finally become a cause of atrophy.

Again, muscular atrophy in general paresis and alcoholic dementia follows polyneuritis, just as it is the result of the multiple neuritis of the various toxic insanities. Space will permit only the passing mention of the common existence of muscular atrophies in idiocy, imbecility, and cretinous insanity. In senile dementia there is sometimes premature muscular atrophy with actual neuritic degenerations, and a point of practical clinical importance in these cases is that there is a corresponding cutaneous atrophy. Through muscular wasting the skin is in close apposition with bony prominences, and such is its tenuity that on slight manual pressure there is danger that extensive abrasions may arise.

Muscular atrophy may also be of traumatic origin. Through accidental falls or blows, such as seem more or less inevitable among the insane, there arise severe contusions, which may be attended with so much swelling and loss of motion as to suggest fracture at first. The patients from advice or choice remain in bed and inhibit all motion of the injured part, to avoid pain at first, but finally out of mere habit or delusion, and the result is atrophy.

Among demented, stuporous, and bedridden cases of insanity atrophy often comes from simple disuse. These supine and helpless patients when left to the natural course of muscular events sink into fixed attitudes of flexion and adduction, and in course of time loss of motor function and atrophy of muscles result. The prophylaxis of this form of atrophy is friction and passive movements of limbs and the avoidance of permanent postures in this class of patients.

Another disorder of the muscular system in insanity which is very common, and has a varied pathology, is tremor. These tremors may be coarse or fine, they may be partial or general, they may be constant or interrupted, they may be present only on intentional effort; and whatever may be their clinical character, they almost invariably cease during hours of repose.

In general paresis there are three kinds of tremor which are to be distinguished from ataxic disorder and from fibrillary twitchings of muscles. In the first place there is a fine and rapid tremor having a probable average of ten oscillations per second, which is present much of the time, though it may escape superficial inspection, and which exists independently of purposive muscular movements. It is found chiefly in advanced stages of general paresis, and is doubtless due to widespread organic lesions of nervous centres. The second kind of tremor is coarser and belongs rather to the class of intention tremors, or at least is most evident on intentional muscular efforts, and it will be readily observed as the patient extends the hands and separates the fingers. The third kind of tremor is still coarser than the one just mentioned. It may be described as a grossly exaggerated tremor, and, though it may not be positively and exclusively of psychic origin, it is apt to be most manifest in the hands of the patient during movements of great emotional excitement.

Space will not permit a discussion of the various tremors present in alcoholic insanity. They assume a variety of interesting forms, and when permanently present they are of unfavorable prognostic import, as pointing to disseminated organic lesions of cerebro-spinal nervous centres. The various toxic insanities

have tremors differing somewhat in type, that of hydrargyria being especially pronounced in character, though that of nicotinism may be almost equally well marked. One youth under my charge, who was insane from great excess in cigarette smoking, had a fine tremor which was almost constant, while in another case of like origin the tremor was notable only during movements requiring special co-ordination.

The insanity of auto-intoxications also may be accompanied by tremor increased under strong emotion or on intentional efforts.

In the tremor of senile dementia the head as well as the hands is often involved, and this is a symptom which augurs ill for the recovery of the patient.

There is another class of tremors found in the functional psychoses, and most frequently in debilitated, ill-nourished, or neurasthenic cases, due solely to the failure of cortical motor cells to furnish the physiological quantum of continuous efferent motor impulses, and a similar tremor from defect of cortical innervation may occasionally occur in very youthful subjects in the insanity of childhood and in states of arrested mental development. It is of interest to note that this tremor in some degree keeps pace with the general rhythm of psychic processes, and it will be found accordingly more rapid in mania than in melancholia. Emotional tremors so frequent in insanity are too well known to call for special description here.

Hastening on, with a mere allusion to the tremor of tabetic types of insanity, to the tremor of cases with paralysis agitans or with disseminated cerebro-spinal sclerosis, to the tremor of organic dementia with descending degeneration of the pyramidal tracts, and to the tremors of sudden brain anæmia from vasomotor spasm, there next comes under consideration a much grosser disorder of the muscular system known as contracture.

Contractures are so common among insane patients that a lengthy description of their familiar features is hardly necessary, and attention will be directed here more especially to their etiology. One of the most common causes of contracture in dementia, stupor, or melancholia is the fact that in these states the flexors act in excess of the extensors, and through delusion or entire lack of spontaneity on the part of patients their limbs remain in permanently flexed positions. Now, if no correction of this flexed posture habit is made it will not be long before the physician will be called upon to recognize the pathological fact that the muscles of limbs continuously flexed and disused undergo first shortening, then degenerative tissue changes, and finally permanent contractures. If the patient has been long bedridden the foot will be found flexed on the leg, the leg flexed on the thigh, and the thigh flexed on the abdomen, and sometimes nothing but a severe operation—anaesthesia, the free use of the tenotomy knife, and the overcoming of ankylosed joints—will relieve the contractures; so that "an ounce of prevention is worth more than a pound of cure" with these subjects whose physical condition often will not justify the severity of the operation necessary for their relief. Another familiar example in this same category is referable to the forearm group of muscles, and in this instance by permanent contracture of the digital flexors the finger tips are fairly buried in the palms of the hands and there is almost invariably a simultaneous forearm flexion. The posture habit of crossed knees sometimes causes contracture in a way not wholly parallel to the above, as there is superadded the influence of pressure partially interrupting circulation and nervous innervation.

The etiology of another class of contractures is to be sought in the central nervous system. In organic dementia the early and late rigidity of paralyzed limbs

is followed by structural contractures from descending degenerations of the motor tracts, and they occur likewise in syphilitic, alcoholic, or epileptic and paretic insanity, from disease of the pyramidal tracts, and it is probable that the permanent contractures of hysterical insanity are due to a like cause. In the above forms of insanity there are also exceptionally observed a variety of spastic conditions of the muscles due to sclerotic changes in the lateral columns of the cord. In alcoholic insanity also, as in other toxic forms, contracture may be the sequel of multiple neuritis. In idiocy contractures are very common as the result of early encephalitic processes. In rheumatic insanity contracture at times follows the arthritic affection, just as in general paresis it may be secondary to arthritis deformans.

Another muscular disorder which the alienist often encounters among his patients is spasm, which may be clonic or tonic, and which for want of a better term will here be extended to embrace a variety of allied affections common among the insane. One of the most notable forms of spasm is that which causes the familiar symptom of the grinding of the teeth, which may be thus almost completely worn away, and the tongue and buccal mucous membranes may be severely bitten, more especially in the final stage of general paresis. This is a bilateral masticatory spasm of muscles supplied by the motor branch of the trigeminal nerve. It is found also in phthisical insanity with basilar meningitis, in delirium acutum, in idiocy, in hemiplegic dementia, and in syphilitic insanity with basal gummata. It is well to know that there may be actual paralysis of this motor branch of the trigeminal nerve in the terminal stage of general paresis, and that the inability to masticate in these cases is due to this fact and is not merely ataxic in nature.

There are frequently observed, among the neurasthenic insane more especially, fibrillary spasms, which consist in the independent clonic action of the separate fibres or strands of muscles. These fibrillary spasms occur usually in the orbicular, facial, or forearm muscles and often recur at more or less rhythmic intervals of a few seconds or moments during all the waking hours of the day for weeks or months together. Their pathology is probably local irritation of cortical cells in motor areas representing the muscles affected, and it might be considered as so proven should they be reported in a case of insanity from trauma capitis with lesions of motor cortical regions and with spasmodic muscles exactly corresponding to our knowledge of the crossed innervation of the brain cortex, and of localization of motor centres.

Another kind of spasm of some interest, though of superficial importance, because usually artificially provoked in origin, is met with in patients under the tension of persistent delusions or emotions, as in melancholia attonita and like states. When such a subject is urged to speak or otherwise aroused, the only response may be a series of spasms of one or several muscles of the face, neck, or pharynx. The condition of these patients is one of extreme mental inhibition, and when it is suddenly interrupted there is a spasmodic liberation of motor impulses, chiefly in the regions of the mimic facial muscles. Permanent forms of unilateral convulsive tics of face and neck muscles are not infrequent and also bilateral spasms of clonic form, especially of the eyelids, as in facial habit chorea, only greatly exaggerated in character. Nictitation is more common than nystagmus. Typical blepharospasm may exist for weeks or months together.

A man insane from alcoholic excess came under my care with clonic unilateral spasm of the right sterno-cleido-mastoid accompanied by a loud inarticulate noise. The noisy part of this phenomenon was regarded as an instance of vocal-impulse tic engrafted

on a spasmodic muscular tic, as in my observation of the insane the conjunction of psychic tics and of convulsive tics occasionally occurs. Echolalia and coprolalia may coexist with this muscular disorder, the patient repeating what is spoken in his presence or uttering some profane or obscene word at the instant of the spasmodic movement. There are also slow rhythmic tics and a variety of athetoid movements in which the fingers move slowly or briskly even in the same case, according to the amount of emotion present. The sudden twitching of muscles or groups of muscles known as subsultus tendinum, which in its simple form is wont to occur on the verge of sleep, often becomes a very troublesome symptom among the insane, recurring throughout the day and preventing sleep at night, the patient being awakened with a spasmodic start almost like an electric shock.

Confirmed clonic spasm of the muscles supplied by the external branch of the spinal accessory nerve is sometimes found in hysterical and epileptic insanity, and other muscles of the neck and arm may become involved. Clonic spasm of the diaphragm is met with in hysterical and hypochondriacal cases very often, and in my observation it has occurred also as a persistent anteletal symptom in both organic dementia and general paresis. Clonic lingual spasm is not a very rare symptom in general paresis, and it may somewhat interfere with speech or mastication, the tongue sometimes being severely bitten.

The clonic spasmodic disorders of choreic insanity are to be named here also, though want of space will not permit their special description, but it is important to state the general principle that the younger the patient the more apt is the insanity to reveal itself through the medium of the muscular system, and it is safe to estimate that in the insanity of childhood disorders of the muscular system exist in seventy-five per cent. of all cases.

There is a whole chapter of spasmodic clonic affections in general paresis. Some of them occur during any of the stages without loss of consciousness, and others during the paretic seizures with loss of consciousness. In the latter case the clonic spasm begins usually in the face and extends to the arm and then to the leg. This customary order of protospasms is often interrupted in general paretic seizures, however, the spasms skipping from one side to another and from one muscle to another, in ocular, facial, brachial, and crural regions, in a most remarkable manner. There is no certainty in these seizures that the conjugate deviation of the eyes will be toward the side of the lesion. Nystagmoid motions often precede any other spasmodic ocular movements in these seizures.

The tonic spasms of insanity, in contradistinction to the clonic ones above described, are very numerous. One of the most common is spasm of the orbicularis palpebrarum, which may persist for days or weeks together. Tonic spasm of the sterno-cleido-mastoid and trapezius muscles is a common symptom, especially in its milder forms, usually spoken of by patients as stiff neck. Tonic œsophageal spasm and pharyngeal spasm are not very rare, and the latter in hysterical insanity may be so severe and continuous as to interfere seriously with the alimentation of the patient, and in these cases also œsophagismus and gastric spasms may cause obstinately repeated emesis. In ascending cases of general paresis these pharyngeal spasms may be very annoying. Laryngeal spasms also occur, and some years ago, in my article on "Laryngeal Hyperkineses," read before the New York Neurological Society, a case was recorded of laryngeal spasm continuous for two years as a premonitory symptom of general paresis, which finally terminated fatally in typical form. There are also to be enumerated here diaphragmatic

and abdominal spasm, intestinal and gastric spasm, phantom tumors from muscular spasm, prolonged chasmus and aphthongia.

Strabismus in its various forms must also receive a word of notice. It is common in all types of insanity with severe organic brain lesions, and it is my impression that permanent divergent squint especially is of unfavorable prognostic import.

Cramps of all kinds are among the muscular anomalies to be noticed, the gastrocnemius being perhaps the most frequent site of the disorder, which may be very painful or a persistent cause of insomnia, especially in neurasthenic and alcoholic insanity. There are, moreover, in alcoholic and in other toxic cases, spastic states of the muscles of the legs, more particularly due to the sclerotic degenerations of the spinal cord. There are also the various cataleptoid and tetanoid states of muscles, requiring more space for description than can be accorded in the brief limits of this article. Suffice it to mention the tetanoid rigidity of muscles in post-hemiplegic insanity, the tonic and spasmodic pedal extensions in alcoholic dementia, the catalepsia spuria of hysterical and pubescent insanity, the "flexibilitas cerea" of stuporous and epileptic cases, the tetanoid seizures of the final stage of general paresis, and the saltatory cramps of acute delirious mania.

To complete this pathological array of symptoms of the voluntary muscular system in insanity, there remains finally to be described the group of pareses and paralyses. The differential diagnosis of these pareses and paralyses is a complete test of the physician's knowledge of neurological pathology, as the utmost skill is required to determine whether the source of the muscular disorder is in lesions of cortical motor regions, efferent conducting fibres, internal capsule, pyramidal decussation, spinal motor cells, anterior nerve roots, or in the spinal nerves or in their peripheral distributions. These muscular disorders may occur in syphilitic dementia at any of the points mentioned. In arrested mental development they arise from encephalitis; in general paresis they are chiefly cortical; in all the toxic insanities they may proceed from spinal cellular degenerations or from peripheral neuritis; in organic dementia from thrombotic or embolic softening and internal capsular lesions; in senile dementia from vascular atheroma and atrophy of brain cortex; and in alcoholic dementia from sclerotic interruptions of the fibres of the pyramidal tracts or from the pressure caused by subarachnoid or intraventricular effusions; and they will be found to be sometimes functional, or at least of undeterminable morbid anatomy.

These pareses and paralyses may assume every variety of form, such as hemiplegia, paraplegia, crural or brachial monoplegia, or loss of motion in facial, ocular, orbicular, and sphincter muscles.

The paralysis of muscles supplied by cranial nerves is especially common in syphilitic dementia, the monoplegias are frequent in organic dementia, the paraplegias are wont to occur in hysterical and alcoholic insanity, while hemiplegia appears in epileptic dementia; and a combination of these affections is to be witnessed in the various types of general paresis. It will be found on closer study, however, that the paralyses of general paresis are more apparent than real—that the muscles have not lost power to act singly but in co-ordination with one another, and that it is ataxia and not true paralysis which gives the impression of loss of voluntary motion. The disorder of the muscular mechanism of speech in general paresis is also essentially ataxic, proceeding first from disease of cortical cells, and later from bulbar lesions of the facial and hypoglossal nuclei and of nerves of innervation of lips, tongue, and vocal organs. In typical paresis the

gait also is ataxic throughout, but in ascending cases it is tabetic at an early stage, and in occasional instances of sclerotic lesions of the lateral columns the gait becomes markedly spastic, just as in alcoholic dementia. It is possible in the same case of general paresis to have these three typical anomalies of locomotion illustrated—first, the true paretic gait from disease of cortical motor cells; second, the tabetic gait from lesions of the posterior spinal columns; and third, the spastic gait from sclerosis of lateral columns. The clinical fact, however, is that in fully developed general paresis the defects of gait vary considerably from time to time, and bear an intimate relation to the nature and number of the convulsive seizures. There are to be mentioned here, also, certain remarkable cases of insanity, in which there is static ataxia as well as complete locomotor inco-ordination. These patients cannot stand or walk alone, and on trying to do so they have violent random movements of arms and legs and of head, neck, and body, and if not firmly held by the hands of nurses they are apt to suffer severe falls or injuries.

The pareses of insanity have a diversified etiology. They may spring from failure of exhausted cortical centres to evolve sufficient motor impulses, or of efferent nerve fibres to conduct them, or they may be the sole result of mental inhibition in melancholic states with great mental tension. They appear in various forms of insanity, and may affect any or all of the muscles. They are less apt to escape diagnosis in the extremities than in some other muscles, and attention is directed here to their frequency in the levator and tensor palati muscles, in the pharyngeal constrictors, in the œsophageal muscles, and in the tensors of the vocal cords. Prolapsed or deviated palate, various forms of dysphagia, and marked changes in vocal tone are very common from this cause. In hypochondriacal and neurasthenic insanity these pareses are often the outcome of delusion, and may be very persistent, affecting, as a rule, only one extremity; but in hysterical insanity they may be interchangeable, involving one or both upper or lower limbs, and in almost any imaginable order. The paresis of the muscular organs of speech is occasionally very pronounced in neurasthenic cases and in states of brain exhaustion from overwork, and the ignorance of this fact has led many a physician into gross error in mistaking these functional speech defects for those which spring from organic brain lesions. There may be paresis of speech muscles in the hypochondriacal insane, not alone from strong prepossession by an idea or an emotion, but from force of imitation also, just as stuttering may be likewise acquired by sane persons. Muscular disorders from force of imitation are to be witnessed, especially in epileptic insanity, and St. Vitus' dance, tarantulum, and spasmodic muscular disturbances have always been prominent phenomena of historic epidemics of insanity. Again, there are intention pareses as well as intention tremors among the insane.

There remain to be brought to notice a few functional abnormalities and some sensory disorders of the muscular system. One of the decided anomalies in muscular functions is the inco-ordination so common in many forms of insanity. It is by no means confined to tabetic, paretic, senile, or toxic cases of mental disease, in which well-known cerebro-spinal lesions may act causatively. Inco-ordination in the functional psychoses may be associated with cortical anæmia from vasomotor spasm, or with stomachal, aural, or cardiac vertigo, or with powerful mental inhibition, or with loss of the muscular sense. The symptom is none the less real, however uncertain its etiopathology may be. This inco-ordination may show itself in neurasthenic insanity, for instance, in gait, speech, handwriting, or any of the highly specialized acts. It is

also to be seen even as static ataxia, as a modified form of Romberg's symptom, or it may present itself as pseudo-astasia abasia. Another functional change in muscles is their abnormal reaction to external stimuli. The mechanical muscular excitability may be shown by slight blows over muscles to be sometimes increased and at other times diminished in epileptic, hysterical, and parietic cases; and in phthisical insanity a slight tap on the body of muscles may provoke a tonic contraction for a very perceptible period. In the acute stages of certain forms of mental disease the reflex irritability may be increased to the degree of general convulsibility. The electro-muscular reactions are not infrequently abnormal in insanity, both as regards the use of the faradic and of the galvanic current, and the reaction of degeneration is occasionally to be witnessed. The electro-muscular contractility is diminished in idiocy and in profound dementia, and the electro-muscular sensibility may be lost in hysterical and in some other forms of insanity.

In health the muscles of the body in repose are not completely relaxed, but they are in a permanent state of tonicity, which is known as the "tonus muscularis."

In insanity this physiological muscular tone may be increased, diminished, or lost.

As a general rule, the tonus muscularis is increased in states of exaltation and diminished in states of depression, and in deep melancholy and stupor and in the final stage of general paresis it is lost. The lack of all expression in the face of some insane patients is due partly to this absence of normal tone of facial muscles.

A careful study of the muscular system among the insane will often reveal to the expert eye certain permanent signs of neurotic degeneration. These muscular stigmata degenerationis consist in asymmetrical lateral development of the muscles of the face, limbs, or body. In addition to this inequality in the size of muscles, there is often inequality in the innervation of the same on the two sides of the body, and this disparity in facial muscles causes an asymmetry of expression characteristic of the insane physiognomy.

A final abnormality in the functional activity of the whole voluntary muscular system may be termed the automatism of insanity. The largely reflex and mechanical nature of the semeiology of mental disease has never yet been sufficiently expounded. Additional light would be thrown on that which is to be said did space here permit some explanation of the psychic automatism of insanity, but this must be reserved for a separate article, and muscular automatism alone will be here briefly noticed.

The fixed attitudes of the demented in whom, through predominant action of flexor and pronator groups of muscles, the extremities are flexed, the body inclined, and the head bent forward on the chest, and other characteristic postures retained for weeks, months, or years, at first possibly in obedience to delusions but finally mechanically, constitute permanent examples of passive automatism. This passivity may be so great that positively no movement of hand, foot, or head is spontaneously initiated, and the passive automatism becomes absolute. On the other hand, the repetition of the selfsame aimless movements for months and years together is characteristic of active automatism. The head, body, or limbs may be constantly moved to and fro, or from side to side, or rotated, during all the waking hours, the monotonous motions ceasing only during sleep, and reappearing at the earliest moment of awakening, just as in the automatism of idiocy. These automatic acts may be simple, complicated, or rhythmical, and they exist in great variety. In the first instance they may originate in some motive or delusion, but eventually they become insignificant of any idea, and simply represent

the automatic escape through motor channels of such nervous energy as is daily evolved in cerebro-spinal centres. The constant swinging of the foot with crossed knees, the incessant friction of some part of the clothing, the stationary rocking from one foot to another, the shuffling in one position, walking in a circle, stereotyped movements of the head with humming or strange noises, rhythmical stroking of the head or face, rubbing of the hands together, measured time-beating with hand or foot—all these are instances of active automatism. In a somewhat unique case under my observation, the automatic rotary friction of one thumb nail on the other had resulted in epithelial hypertrophy, so that the nail had attained several times its natural size both in length and thickness. The most complicated automatic acts form a part of the symptomatology of epileptic insanity. In fact, post-epileptic automatism reveals an astonishing variety of highly co-ordinated and even most skilful acts unconsciously performed. In mania, also, with acute exacerbations and entire loss of mental inhibition, both acts and ideation become largely automatic, and the efferent peripheral and sensorial stimuli play upon the central psychomotor mechanism of the patient as upon an instrument. All ideas and feelings tend to issue at once through muscular channels, and by intense cortical irritation tumultuous emotions are spasmodically liberated and are expressed in incoherent and disorderly movements or in automatic laughing and crying. In some demented and with insane children the inco-ordinate and aimless muscular movements are more nearly to be compared with those which arise automatically during the early months of infancy. The ceaseless and purposeless muscular activity of certain idiots and imbeciles is also nearly allied to the spontaneous hyperkinesis of infancy.

The sensory disorders of the muscular system in insanity must be briefly noticed.

There is physiological proof that man has six senses. The muscular or kinæsthetic sense, like the others, has cortical representation, possibly in Rolandic areas, as it conveys to consciousness impressions of the resistance of external objects, and of the muscular effort essential to overcome the resistance, and also of the relative position of the limbs in space. The loss of the kinæsthetic sense in general paresis accounts in some cases for the pseudo-astasia abasia, and also for the fact that paretics often fail to know the position of their arms or legs in bed, and that they cannot estimate the force required to lift things. In hysterical insanity with paralysis the muscular sense is lost, and it is generally impaired in epileptic insanity.

Muscular anæsthesia is not infrequent in epileptic and parietic cases, and muscular analgesia is so marked among some insane patients that the infliction of injuries and even the most extensive self-mutilations may be painless.

Muscular hyperæsthesia is also to be found in neurasthenic insanity, causing exaggerated muscular reflexes and giving rise to delusions as to the size of the body and limbs. It also accounts in some acutely hypochondriacal and melancholic cases for the sense of weight and soreness of the muscles. The extreme restlessness and the "anxietas tibiæ" of melancholia agitata is in part due to muscular hyperæsthesia.

Myalgia in its various forms is very common among the insane, who complain of stiffness, soreness, and pains in the muscles of the arms, legs, neck, and back.

Lumbago and pleurodynia are not so common as temporal, frontal, and occipital muscular pain, and the nuchal muscles of all others seem to be the most frequent seat of this sensory disorder. In occasional cases of hypochondriacal insanity myodinia is the most constant symptom.

In conclusion, there remain to be mentioned the

disorders of the involuntary muscular system of organic life.

The pathological variations of vasomotor innervation of the muscular coat of arteries in insanity account for many important symptoms. Thus there may be increased or diminished intravascular blood-pressure and many rhythmic variations in pulse character, best determined by sphygmographic tracings, as described in my paper on "The Pulse in Insanity," read before the American Neurological Society last year.

The tonic spasm of the arterial muscular coat is most marked in melancholia and in certain phases of epileptic and paretic insanity. The increased "turgor vitalis" of mania and the angioparetic symptoms of various forms of insanity are to be mentioned in this connection.

According to recent reports of careful post-mortem examinations in one hundred and twenty-three cases of dementia by Wulff—a German investigator—the heart, as the most important muscle in the body, is diminished in total weight in chronic insanity.

It is well known that the muscular structures of the intestinal tract, of the bladder, of the rectum, and of the reproductive organs are innervated in a reflex way by spinal centres, and that they are all under a certain voluntary control through nervous fibres, which place the spinal reflex centres in connection with cortical inhibitory centres.

Irritative or destructive lesions of these centres or nerve fibres in insanity may occasion a great variety of muscular disorders in the parts above named. Thus, through paresis of the intestinal muscular coat arises obstinate constipation and troublesome and even dangerous impaction of fecal masses in the large intestine. Or there may be spastic muscular conditions and greatly increased peristalsis, with pseudo-diarrhoea and pseudo-dysentery and borborygmi and false tympanites, through spasm of abdominal muscles. In some cases of insanity there is spasmodic retention or evacuation of the bladder or rectum, and in other cases paralysis of the same and involuntary and even unconscious escape of their contents, as in general paresis and other forms. The delusions of the insane, so often referable, especially in women, to the reproductive organs, may in some instances be connected with real disorders of the muscular structures of these parts.

To make an exhaustive study of all the symptoms which occur in insanity from disorders of the unstriated muscular system of internal organs would far exceed the intended limits of this article.

The whole question of muscular reflexes and pupillary reactions in insanity, though naturally a part of our subject, has been purposely omitted, because it has already been adequately treated by other writers.

The final summation of conclusions deemed to be legitimately drawn from this paper is as follows:

The organic lesions of the cortical, bulbar, or spinal centres and of the peripheral nerves in insanity cause frequent disorders of the muscular system.

Functional diseases of cerebro-spinal nerve centres in insanity are likewise attended by functional muscular disorders.

The incoherence, excitement, and general psychic disorder of insanity are reflected directly through the voluntary muscular system.

The deep derangement of vital functions and of internal organs in insanity is accompanied by disorders of the muscular system of organic life.

All these muscular disorders constitute a most essential part of the somatic symptomatology of insanity, and as they are of the greatest value both in the diagnosis and prognosis of mental disease they deserve a more complete clinical study than they have hitherto received.

THE DAWN OF REASON.

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SOME animals, exceedingly low in the scale of life, give evidences of the possession of a ratiocinative faculty, ay, of a reasoning faculty, the same in kind though not in degree as that possessed by man. The following experiment, one that I have performed time and again, will demonstrate this. The natural habitat or dwelling-place of *æthalia*, a minute, microscopic animalcule of very low organization, is sawdust. If these creatures be taken from sawdust and placed in a watch crystal in which there is water, they will confine themselves to it; but if the glass be placed on sawdust they will leave it, crawling over its sides in order to get into more congenial surroundings—the sawdust. This shows conclusively that they recognize the dust through the transparent glass, and that they also remember and regard it as a more desirable home. Memory, conscious determination, and the fundamental principles of reason are, in this instance, clearly demonstrated. On one occasion, while examining a water louse through a large low-power lens, I saw it approach a polyp, gnaw off one of its buds, and then retreat to some distance, where it hid itself behind a particle of mud and proceeded to devour its victim. After a while it left its sheltering lump of mud and again swam to the polyp, which it immediately deprived of another of its young. It then swam back to the same little mud heap and there resumed its meal. This louse showed, in this instance, that it knew that the polyp was good for food; that it remembered the road to and from its source of food supply; and that to avoid interruption it hid itself while eating.

A wasp, of the variety commonly called "mud-dauber," last summer built her nest on the ceiling of my room in one corner. The windows of this room remained open night and day during the hot summer months, so her nest was easy of access. One day, while the wasp was busy about her home, I closed all of the windows and awaited developments. At length she flew toward a window, against which she landed with a thump which for a moment or two completely dazed her. The wasp soon discovered that she was barred from the outer world by some transparent, translucent substance; she then proceeded on a voyage of discovery, flying around the room and searching here and there and everywhere for an exit. She finally found a small hole in the window casing which communicated with the outside; through this she made her escape from the room. Upon opening the window I saw her examining the passage through which she had come, going through it repeatedly. She finally flew away, but shortly returned with a pellet of mud. Notwithstanding the fact that all of the windows were then open, the wasp went at once to the hole in the casing through which she made her way into the room and thence to her nest on the ceiling. She never again, so far as I was able to ascertain, made an exit or an entrance through the windows, but always made use of the hole in the casing. This little creature undoubtedly gave unmistakable evidences of ratiocination; she found that a transparent barrier had been placed in her way—a barrier so translucent and transparent that she could not see it until she actually felt it. She therefore concluded that she would never again risk injury by flying through the windows. What is most remarkable about this instance is that this insect derived her knowledge from a single experience and at once profited thereby. All wasps, however, are not so intelligent as was the one just mentioned, for it required several lessons to teach a ground wasp some-

thing similar. A ground wasp once built her nest beneath the brick pavement in front of my door. The entrance of the nest was situated in the little sulcus or ditch between two bricks. While the wasp was absent I stopped the entrance with a pellet of paper, and when the little housekeeper returned she was nonplussed for a moment or two, when she discovered that her doorway had been closed. The wasp, after examining the pellet of paper, seized it with her jaws and tried to pull it away; but, since she stood on a brick and pulled backward (toward herself), the edge of the brick interposed and she could not dislodge the obstacle. Finally, the wasp got down into the little gully between the two bricks and pulled the pellet away from the opening of the nest without any further trouble. Three times I performed the experiment, the wasp going through like performances each time. At the fourth time, however, she went at once into the little space between the bricks and then removed the wad of paper without difficulty. I stopped the hole five or six times after this, but she had learned her lesson; she always got into the sulcus between the bricks before attempting to remove the paper. She had discovered the fact that she could not remove it when she stood upon the surfaces of the bricks, owing to the interposition of their sides, and that she could drag it away if she got down into the little ditch and pulled the paper in a direction where nothing opposed.

Fleas have, comparatively speaking, highly developed minds. There are many people alive to-day probably who saw the trained fleas which were on exhibition in the large cities of the United States some thirty or forty years ago. These insects had been taught to go through certain evolutions at the command or signal of their owner and trainer. The mere fact that they possessed memory enough to learn, retain, and remember their lessons is not proof positive of reason; but the fact of their having restrained their natural tendency and desire to escape when they could so easily gratify such a desire or tendency is a potent factor in an argument for their possession of the ratiocinative faculty. Their teacher explained that he "brought them to reason" by keeping them at first in a glass vessel, where they jumped and bumped their heads to no purpose against the transparent walls of their prison. Thus their vaulting ambition was held in check and they learned to reason from cause and effect.

On one occasion I saw a flea show an evident gratification in a bit of malicious sport. I was observing a sleeping flea among the short hairs on a dog's leg, when another flea made her appearance beneath the lens. This flea soon discovered her sleeping sister, stopped short, and seemed to be in deep thought for a second or so. She then crept slowly up to within an inch of the recumbent flea, gave a little bound, and landed squarely upon her back. She clasped the astonished slumberer in her hindlegs and proceeded to vigorously "tousle her hair" with her forelegs; then, springing to one side, she hurried away, closely pursued by the thoroughly aroused and evidently angry victim of her sport, and was soon lost to sight among the long hairs of the dog's back. I have seen like scenes time and again, in which human beings instead of fleas were the actors.

When we come to study the higher animals, evidences of their possession of reason crowd thick and fast upon us, and were I so minded, I could fill ream upon ream of paper with authentic anecdotes of their ratiocinative powers. I purpose, however, to give instances of ratiocination in animals that have occurred under my own observation or that have been witnessed by people whom I know and for whose probity and truthfulness I can vouch.

The ant is generally classed among the lower animals by observers, but a careful study of its cerebral anatomy and of its psychology leads me to place it among the higher animals, especially in point of mentality. When we take into consideration the fact that an ant's brain has gray matter analogous to the gray matter found in the cortex of the human brain, we should not feel surprised when we find striking evidences of ratiocination in these little creatures. The better creatures are able to communicate ideation or thought, the stronger and more frequent are the evidences of their possession of reason. Ants can undoubtedly communicate; how and in what manner, it is not generally agreed. Some time ago I crushed an ant in the path usually taken by the inhabitants of a nest (which was situated in a hollow tree) in their journeys to and fro. A soldier ant came along presently, and, smelling the blood of her murdered companion, was seized with a sudden terror and fled away into the nest. She soon returned, however, with thirteen other soldier ants, and made a careful examination of the body and its surroundings. Her companions also examined the corpse, and, having satisfied themselves that their comrade was dead and that her murderer was not to be found, returned to the nest. Soon afterward a large worker ant, guarded by two soldier ants, came out, and, proceeding to the body, picked it up, carried it down the tree and away beneath the grass, where I lost sight of them. In this instance there is every evidence of complex reasoning; the discoverer of the murder hurried away into the nest, where she gave the alarm; the police of the community, the soldier ants, went immediately to the scene of the tragedy, made an examination, and then returned and gave in their report; the undertaker, in the shape of the large worker ant, then went out, got the body, carried it away and buried it: the two soldier ants followed the body to the grave, in order to protect it from cannibal ants.

It has been my good fortune to have witnessed several pitched battles between large bodies of ants. In a battle between some black ants and some yellow antagonists of another species, I saw many evidences of intelligent communication. The yellow ants had a commissariat and an ambulance corps, and I frequently saw them drop to the rear during the battle and partake of refreshments or have their wounds attended to. The blacks, which composed the attacking army, were in light marching order and had neither of these conveniences and necessary adjuncts. The yellow ants frequently sent back to their village for reinforcements; those of them that had been out on hunting expeditions when the battle was joined were notified as soon as they arrived at the nest, and immediately hurried out to join in the fray. The blacks had discovered a herd of aphides belonging to the yellows, and had sought to surprise the guards and steal the herd: hence the battle. I am glad to report that the black horde was defeated by the brave yellow warriors and had to decamp, leaving many of its number dead upon the field of battle. On another occasion I saw an army of red ants besieging a colony of small black ants. The object of the red ants was the theft of the pupæ or young of the black ants. These pupæ they take to their own nests and rear as slaves, the enslaved ants to all appearances becoming entirely satisfied with their condition and working for their masters willingly and without demur. The besieged ants evinced a high degree of reason and forethought, for, as soon as the presence of the besiegers was noticed, strong guards were posted in all of the approaches to the nest, both front and rear. The red ants sent a detachment to surprise the colony from the rear, but they found that surprise was impossible, for they were met by a strong party of their

gallant foes, which vigorously opposed them. The red ants were, however, eventually victorious and sacked the town, carrying away with them a large number of pupæ or young. I cheerfully bear witness to the fact that the great naturalist, Huber, was correct in his description of his experiment with these black slaves and their masters. Like Huber, I put some red ants into a glass jar in which I placed an abundance of food. Notwithstanding the fact that this food was of easy access, being, in fact, immediately beneath their jaws, they would not touch it. I then placed a black slave in the jar; she at once went to her masters, and, after thoroughly cleansing them with her tongue, gave them food, of which they ravenously partook. These red ants would have starved to death in the midst of plenty if they had been left to themselves. So utterly subservient had they become to the ministrations of their slaves that they had even lost the faculty of feeding themselves! Here we have an example of degeneration in the mentality of animals, incident to the enervating influence of slavery. Sir John Lubbock's remarks anent the four genera of slave-making ants are so interesting that I may be pardoned for introducing them.

Says he: "These four genera" [*formica sanguinea*, *polyergus*, *strongylognathus*, and *anergates*] "offer us every gradation from lawless violence to contemptible parasitism. *Formica sanguinea*, which may be assumed to have comparatively recently taken to slave-making, has not as yet been materially affected.

"*Polyergus*, on the contrary, already illustrates the lowering tendency of slavery. They have lost their knowledge of art, their natural affection for their young, and even the instinct of feeding! They are, however, bold and powerful marauders.

"In *strongylognathus* the enervating influence of slavery has gone further, and told even on the bodily strength. They are no longer able to capture their slaves in fair and open warfare. Still, they retain a semblance of authority, and when aroused will fight bravely, though in vain.

"In *anergates*, finally, we come to the last scene of this sad history. We may safely conclude that in distant times their ancestors lived, as so many ants do now, partly by hunting, partly on honey; that by degrees they became bold marauders, and gradually took to keeping slaves; that for a time they maintained their strength and agility, though losing by degrees their real independence, their arts, and many of their instincts; that gradually even their bodily force dwindled away under the enervating influence to which they had subjected themselves, until they sank to their present degraded condition—weak in body and mind, few in numbers, and apparently nearly extinct, the miserable representatives of far superior ancestors, maintaining a precarious existence as contemptible parasites of their former slaves."

During the summer of 1887 I spent several weeks in New Mexico, and while there had the great good fortune to discover a colony of honey-making ants. I found this colony in a little valley debouching out of Nuerfuanos Park, a government reservation, if I remember correctly, at that time. I made a very careful study of the habits of these interesting little creatures, and witnessed many evidences of true ratiocination in their mental operations. In order to make clear one or two instances in which they evinced true reason, a short description of this colony and its inhabitants will be necessary. The nest was situated on the sandy shore of a little creek, and was a perfect square of three or four feet, from which all grass, weeds, etc., had been carefully removed. Around three sides of this square, viz., north, east, and west, a column of black soldier ants continually patrolled night and day. Near the southeast corner of this open space the en-

trance to the nest was situated. The south side of the square was not guarded, but was left open for the entrance and exit of the hundreds of dark yellow workers, which were always engaged in bringing food to the village. This food they carried to the centre of the square and then deposited. No sooner was it put down than it was seized by black workers, which then carried it into the nest. At no time did I ever see a black worker bringing in food to the centre of the square, nor did I ever see a yellow worker carrying food into the nest; the blacks and the yellows never interfered with one another's particular duties. To test the reasoning powers of these ants, I partially disabled a centipede and threw it into the square a short distance from the patrol line. For a moment or so the line was broken by the warriors hurrying out to do battle with the squirming intruder. But only for a moment, for orders were issued by some one in authority; the line was re-established, though somewhat thinned by absent soldiers; a messenger was dispatched to headquarters and reinforcements were sent out, and soon the line was as strong as ever, though hundreds of soldiers were battling with the centipede. This latter animal was soon killed and its body removed piecemeal by yellow workers, which carried it far outside the boundaries of the square. Again, with my hunting knife I dug a deep trench across the border of one side of the square. The ants seemed dazed at first, but rapidly adapted themselves to their new surroundings. They extended their patrol line until it embraced the entire trench; then a countless horde of yellow workers went to work, and in a day's time filled up the trench level with the surrounding surface. The patrol was then established along the old line as though nothing had occurred to interrupt the ordinary routine of the colony. Before leaving the valley I dug up the nest and examined the peculiar individuals whose enforced habits give these interesting ants the name of "honey-makers." Each one of these curious creatures was confined in a separate cell, the entrance to which was very small. Here they lived in total seclusion, being fed by the black workers with pollen, the nectar of flowers, tender herbs, etc. They had no anal orifices, these passages having been artificially obliterated, I am convinced, by the other ants, which probably bit them, thus producing an inflammation which resulted in the growing together of the parts. These imprisoned honey-makers were merely animated bags of honey and were kept solely for the purpose of furnishing a never-failing supply of sweet and wholesome food. I tasted the honey and found it delicious; its flavor was distinctly winy and aromatic.

When we come to examine the mentality of the higher animals, such as the dog, the cat, the horse, the monkey, etc., we find that the evidences of ratiocination increase and become stronger as we approach the highest of the higher animals—man. Yet in the very lowest of the lower animals, the germs, the fundamental principles of true reason are in evidence; and the more we study the habits of these creatures and place ourselves as far as is possible on their levels, the more must we become convinced that instinct, while it does undoubtedly account for the greater portion of the psychical manifestations to be observed in the lower animals, does not, by any manner of means, account for all. Reason puts in an appearance very low, indeed, in the scale of animal life.

Retro-Pharyngeal Abscess.—Dr. Ambler (*Cleveland Med. Gazette*, March, 1896) says this affection is more commonly met with in children than in adult life, and when occurring in the former is generally associated with the strumous diathesis.

ON THE VALUE OF THE OPHTHALMOSCOPE AS AN AID TO THE DIAGNOSIS OF CEREBRAL DISEASE IN PURULENT AFFECTIONS OF THE MIDDLE EAR.¹

By THOMAS R. POOLEY, M.D.,

NEW YORK.

THE purpose of this paper is briefly to consider the value of the ophthalmoscope as an aid in the diagnosis of those cerebral complications which occur in purulent affections of the middle ear. It has been thought by the writer that to discuss this subject in such a society as this, largely made up of those who have not made use of the ophthalmoscope in their researches, might be of some service in calling their attention to an additional factor in determining whether cerebral implications may be present, and induce those who do not use this instrument to add a knowledge of its use to their accomplishments or refer their patients to an oculist for examination.

It is only within recent years that the importance of examining the fundus oculi in cerebral affections has attracted attention. Dr. Kipp, of Newark, was the first to call attention to the value and importance of such examination in the class of cases we are considering, and probably deserves, as Dr. Knapp says, the priority, although it would appear that several publications appeared about the same time; that of Albutt² was the first, in which he reported two cases of otitis media purulenta with optic neuritis, in which recovery took place. Dr. Kipp's³ paper was published some time after, in which he reported two cases of optic neuritis, in otitis media purulenta, in which recovery took place. Following these papers, Zaufall⁴ also recorded the case of a student, aged sixteen, with purulent otitis media and optic neuritis, which latter condition was observed to recede rapidly after the mastoid was opened, and the patient made a good recovery. Since these cases, which are cited only to bring out the names of those to whom belongs the credit of first calling the attention of the profession to them, many others have been published and the value of their observations thus confirmed. It is not my intention, however, even to attempt an enumeration of the papers which have been published on this subject, or of the cases of otitis media purulenta and its complications in which optic neuritis has been observed. It will suffice for my purpose to enumerate some of them and to report a single case of my own.

In 1883, Dr. J. A. Andrews read a most interesting paper on this subject before the American Otological Society, which, like all other communications from his pen, deals with the subject in the most comprehensive and masterly manner. He reports four cases, and, as they embrace all that is essential in the observations of those who wrote before, I will briefly refer to three of them.

CASE I.—Otitis media purulenta chronica, abscess of middle lobe of cerebrum. Death. This patient, aged twenty-four, had had otorrhœa on both sides since an attack of scarlet fever when twelve years old. Ten years thereafter pain developed suddenly in the right ear and corresponding side of head. During the night he vomited. Next day vomiting continued and he was dizzy. His physician's attention was attracted to the right eye, because of pain referred to it. Temperature, 103° F.; pulse, 130; respiration, 30. When

seen by Andrews three days later, he was conscious and talked intelligently. Right ear, hearing for watch and voice very much impaired, slight purulent discharge, small perforation in antero-inferior part of membrana tympani, swelling of wall of auditory canal; left ear, no active disease. Double optic neuritis. Right eye, counts fingers at 6'; left eye, vision, $\frac{2}{10}$. The patient died four days later in coma. No paralysis, no convulsions. At the autopsy an encapsulated abscess of the middle lobe of the cerebrum was found, extending from the tympanic portion of the Glaserian fissure outward into the external auditory canal for four millimetres, but not involving the ossicles. The bone was ulcerated. The communication with the brain was made at this point through a small fissure in the centre of the ulcerated bone. The dura over the diseased bone was also ulcerated and separated from the same by foul pus. The pia was congested. The middle and anterior fossæ contained pus. The brain was normal in consistence. The sinuses and inner ear were normal. These conditions refer to the right side of the brain; the left was normal.

CASE II.—Chronic purulent otitis media, optic neuritis, phlebitis of the right lateral sinus, meningitis of the convexity. Death. The patient, aged forty-two, had had otorrhœa for eight years, which had not been treated. Three years ago there seems to have been an acute exacerbation and he was treated for inflammation of the brain, but his ears received no attention. He said he had enjoyed good health since, but he had had, since the attack referred to, slight headaches. When seen by Andrews he had been confined to the house for two weeks, was very irritable and had severe pains in the head, sometimes diffused, at times referred to the right side. There had been no paralysis nor convulsions, but he had vomited during the first week of his present attack. For the first two days of attack he had illusions and delirium. Temperature had not been above 100.5° F. On the occasion of Andrew's first visit there was severe diffuse pain in the head, purulent discharge from the right ear, removal of which showed the bottom of the canal filled with granulation tissue. Right optic neuritis; left disc hazy; veins large and dark colored but not tortuous. Right vision, $\frac{2}{10}$; left vision, $\frac{2}{10}$. There was intensely sensitive induration extending in the course of the right jugular. He was under Andrews' care five days. The third day the right mastoid was opened with temporary relief, but he died on the fifth day in coma under the usual symptoms of sinus thrombosis. At the autopsy phlebitis of the right superior petrosal and lateral sinus was found. The right internal jugular contained a disintegrated thrombus. The dura covering the tegmen tympani and adjacent bone was congested and showed points of hemorrhage. There was purulent meningitis of the convexity of the cerebral hemisphere and the upper surface of the cerebellum, most abundant on the right side.

CASE III.—Otitis media purulenta chronica, meningitis, optic neuritis. Recovery. Patient, aged nineteen, had otorrhœa of left side for eighteen months. The discharge was profuse until about one week before he was seen by Andrews, when it became scanty. He came under his care six days after threatening symptoms began. The left ear contained a large polypus springing from the superior surface of auditory canal at the junction of its bony and cartilaginous part. Removal of the polypus showed the bone beneath exposed and rough. There were also two polypi springing from the tympanic cavity, which revealed pulsation at the bottom of the canal. After repeated efforts air was blown in the membrane corresponding to the point where pulsation was noted, but there was a perforation which could not be seen owing to swelling in the canal. The left membrana

¹ Read before the American Laryngological, Rhinological, and Otological Society, April 17, 1896.

² Albutt: "On the Use of the Ophthalmoscope," 1871, pp. 322-324. Appendix.

³ Archives of Ophth. and Otol., vol. vii., p. 148.

⁴ Wiener Medical Press, 1881, No. 46, p. 1,452.

tympani was incised, the mastoid red and painful. Severe headache was general, but at times more severe on the left side and in the forehead. Temperature, 101° F.; pulse, 85. The patient was restless and vomited. Left eye, marked optic neuritis; right eye, retinal veins enlarged, disc very red but not œdematous. There was no other change in the fundus. Incision over the mastoid showed the bone inflamed but firm.

Thirty-six hours later the mastoid was opened by trephine. A small amount of blood and a trace of pus escaped. The cortical plate was thick; free communication between the opening in the mastoid and auditory was established and there was immediate improvement. There was from this time on a continuous improvement, loss of pain, lowering of temperature, and free discharge from the mastoid. The eyes were not examined the day following the operation, but on the morning of the fourth day thereafter. The left disc was less œdematous, the veins were not so full or dark looking, but the improvement was not striking. The patient was under Dr. Andrews' care for about two and one-half months. At the expiration of this time the left optic disc was hyperæmic, and the veins were much smaller than when last examined, about two weeks previous. The opening in the mastoid was closed, but there was still discharge from the ear; the right nerve was somewhat obscured.

Three months later the patient returned. The discharge had ceased. The left disc appeared to be normal and the right slightly hyperæmic. Right vision, $\frac{20}{20}$; left vision, $\frac{20}{20}$; right vision field normal, left vision field contracted.

The patient was seen again one year after the attack. There was no abnormal change in either fundus, but the visual field of the left eye, therefore on the same side as the affected ear, was slightly contracted.

In this case the diagnosis of cerebral complication was believed to have been confirmed by the ophthalmoscopic examination.

Before reporting my own case I wish briefly to report one published by Dr. C. J. Kipp,¹ of Newark, because of its great interest as demonstrating the value of repeated examinations of the eye with the ophthalmoscope in cases of otitis media purulenta, and also because it is one of the earliest development of optic neuritis from the ear trouble.

A case of acute purulent inflammation of the middle ear; a double optic neuritis, but without tenderness or swelling of or spontaneous pain in the mastoid process, in which the opening in the mastoid cells was followed by a rapid subsidence of the optic neuritis and cure of the ear disease.

The patient, a woman, aged thirty-five, consulted Kipp July 7, 1891. She complained of pain and throbbing in the right ear, from which she had been suffering for about six weeks. A month before the ear became affected she had influenza, which left her debilitated. The physician who attended her when she was first attacked by the ear disease punctured the membrana tympani, which gave some relief. Since then she had been syringing the ear, etc. She was not suffering much from earache then, but had a constant throbbing in the head and ears. Hearing was impaired for watch and voice. The tuning fork was better heard through bone than air, and when placed on the vertex best in the diseased ear. There was but little pus in the external canal. The walls were somewhat red and swollen. The membrana tympani was of a deep-red color, swollen, and much thickened. In its upper anterior quadrant there was a small perforation, through which air but no secretion passed during the Valsalvian experiment. The parts behind and

in front of the auricle were neither red, swollen, nor tender on pressure. Examination of the eyes with the ophthalmoscope showed them to be entirely normal. The opening in the membrana tympani was enlarged, and this was followed by syringing with warm salt solution and politizerization once a day. She improved for two weeks; then the opening in the drumhead had nearly closed, the walls of the canal were but little swollen, and throbbing in the ear was not so bad.

July 22d he enlarged the opening in drumhead, and again washed out the tympanic cavity with warm salt solution by means of a middle-ear syringe. The soft parts over the mastoid were perfectly normal, and there was no pain on pressure.

Patient was not seen again for a month. Her physician had continued the treatment advised by Kipp. On August 29th he made another examination of the ear and found it in about the same condition as at her first visit. The mastoid process was neither œdematous nor red. The ophthalmoscope revealed, however, a remarkable change in the eyes—a well-marked optic neuritis in both. Vision was not at all impaired in either eye. Her general condition had grown worse. The throbbing in head and ear was more pronounced. She felt very weak in her lower limbs, her gait was somewhat staggering, and she had occasional attacks of dizziness. She was listless and drowsy, her appetite poor; she had had neither nausea nor vomiting. Temperature, 99° F.; pulse, 72. She had had no chills nor fever.

On September 2d the mastoid was opened by Schwartze's method. After the removal of the cortex, which was about the average thickness, a cavity of about the size of a hazelnut was reached. It was filled with foul pus and granulating tissue. The cavity was thoroughly cleaned out with a sharp spoon and the mastoid antrum reached without difficulty. Free communication through the external auditory canal and mastoid wound was established. The wound was dressed in usual way. No reaction followed, and the patient then gradually improved.

A month or so after the operation there was more or less discharge through the wound, but it was never profuse. After that time it ceased entirely. A silver drainage tube was kept in the wound for three weeks, and then it was allowed to close. The otorrhœa ceased four days after the operation, and soon after the operation the perforation was found closed. The optic neuritis remained stationary for about a week after the operation, then began to subside gradually, and at the date of her discharge from the hospital, September 26th, the optic discs were almost normal in appearance.

For six months following she was seen occasionally, and when last examined she was in perfect health, having a normal drum membrane of grayish color, and in its upper anterior quadrant a scar. The opening in the mastoid was firmly closed. The ophthalmoscope showed the optic disc to be pale; otherwise it was normal. The fundus oculi was perfectly healthy in both eyes. The vision was normal.

My own case is as follows:

Patient, aged twelve, male, admitted to the New Amsterdam Eye and Ear Hospital, July 20, 1892. Otitis media purulenta, mastoid periostitis, mastoiditis interna, abscess of cerebrum, thrombosis of lateral sinus, meningitis, optic neuritis. Death.

History: The patient complained of discharge from the ear for many years. Wilde's incision was made six years previous to the patient being seen by us, by a surgeon connected with a hospital at Buda-Pest. Following the operation he had severe pain, etc., in head and ear, which in a great measure subsided but continued as a subacute condition until the time of his appearance at our clinic. His condition at that time

¹ Transactions of American Otological Society, vol. v., p. 216.

was as follows: There was a large, firm swelling over left mastoid region, which was reddened and very tender, and a slight discharge of pus from the external auditory canal. Temperature, 102.5° F.; pulse, 128. Wilde's incision was made, and three hours after operation pain was absent and temperature had dropped to 100° F.

On the evening of the day following the operation his temperature went up to 103° F., accompanied by severe pain in the ear.

On the following afternoon a mastoid operation was resorted to by method of Schwartze, accompanied by an escape of a considerable quantity of pus. By means of Volkmann's spoon about a drachm of foul-smelling caseous material was removed from the antrum, and irrigation by means of a one-half-per-cent. solution of carbolic acid was employed. During the operation a considerable surface of the dura over the lateral sinus was exposed and could be seen in the posterior part of the wound. The wound was lightly packed with gauze and absorbent dressings were applied.

As the discharge from the external auditory canal was slight, on the following day a paracentesis of the membrana tympani was resorted to. Two hours following this patient was taken with severe chills. Temperature rose to 104.5° F. The day after the temperature declined to 102.5° F., and the patient was more comfortable. The next day he had severe pain in head and eyes. Pupils contracted. Ophthalmoscopic examination revealed choked disc, left side.

For twenty days the patient continued in a precarious condition, temperature oscillating between 101.5° and 105.5° F. and pulse behaving badly. At intervals he complained of severe pain in ear and head, the latter toward the last being severe and constant in character. He was much perturbed in mind and at times maniacal.

On the thirty-first day of his entrance into the hospital patient was found to be blind in the right eye, apparently over the entire field. Ophthalmoscopic examination was *nil*.

On the following day the ophthalmoscope revealed slight venous hyperæmia on the right side and violent choked disc on the left side.

Two days later patient was afflicted with more paralysis on the right side, lapsed into a typhoid condition, became comatose, continued so for twenty-four hours, and on the forty-first day of his entrance into the hospital he died.

An autopsy was made and brought to view the following conditions: The vessels of the dura were found to be intensely engorged and lifted up. On opening the dura a layer of foul-smelling thick pus, about one-fourth inch thick, bathed the entire left hemisphere, dipping down into the longitudinal fissure and up as far as the convexity on the right hemisphere, and extending some distance over the upper parietal lobe. On lifting the frontal lobes the pia was seen to be intensely engorged. The entire base was found to be bathed in pus. The optic nerves were swollen and the sheaths distended. The cerebellum was normal; its upper portion, however, was surrounded by pus. A large encapsulated abscess was found in the anterior portion of the occipital lobe on the left side, around which the brain was softened, with considerable purulent collection, especially external to it. A cut section of brain showed the abscess cavity to be about one and one-half inches antero-posteriorly and one inch laterally. The ventricles and other portions of brain were normal. The right hemisphere was found to be normal, except for pus collections dipping down into the sulci from the longitudinal fissure.

Ear: There was extensive thrombosis of the lateral sinus, extending to the torcular Herophili. The dura was not perforated during the operation for opening

the mastoid, but at time of autopsy an opening through the temporal bone from the mastoid cells along the lateral sinus was found. The opening extended along the lateral sinus for about eight millimetres, and was about four and one-half millimetres wide. Around this the dura was adherent, and the bone at its posterior and inner border was found to be carious.

No evidence could be found of purulent infection through any of the nerve or venous canals of the petrous portion of the temporal bone. The tegmen tympani was chiselled away and the ossicles and membrana tympani were found to be absent. Communication between mastoid cells, antrum, and middle ear was found to be free.

Deductions.—From a consideration of these cases and many others in literature the following conclusions are drawn:

1. That the ophthalmoscope is of value in arriving at a diagnosis of the presence of cerebral disease—in some instances by confirming the evidence which is given by other symptoms, in others by being the principal if not the only reliable evidence of the existence of brain disease.

2. The subsidence of the optic neuritis after operation, which gives a favorable turn to the ear disease, is shown by the recovery of the eyes and their restoration to normal vision. In this connection the case of Kipp's is particularly interesting and instructive, because there were wanting positive evidences of either mastoid disease or cerebral extension until the ophthalmoscopic examination detected double optic neuritis, upon which indication alone the operation was determined upon.

3. The percentage of cases in which the lesion under consideration is found is small, as, indeed, are brain complications. Kipp thinks that in most cases where meningitis is present there is some degree of optic neuritis. This seemed to have been the consensus of opinion in the discussion which followed the reading of the paper in the American Otological Society and was participated in by a large number of members present. This may be accounted for in a large measure, I think, by the neglect to look at the eyes—an omission which I for one confess to in many of my cases. Again, the attention is frequently not directed to the eyes, because, as is well known to ophthalmologists, vision is often unimpaired even in the most pronounced inflammation of the optic nerve.

4. The intra-ocular end of the nerve is never inflamed when the disease remains limited to the middle ear and mastoid, but is a certain evidence of brain disease. If, therefore, optic neuritis is found, the diagnosis of extension to the brain is certain, no matter whether other evidence exists or not.

5. The form of optic neuritis which exists is always of the kind seen in affections of the brain, viz., choked disc; but this may vary in degree from simple venous stasis, hyperæmia of the disc, œdema of the disc and surrounding retina, to, as in my case, the most pronounced choked disc. In my opinion the various forms described are only different grades of this form of neuritis. The eye trouble and impaired vision are most marked on the side where the ear disease is.

6. The presence of optic neuritis is unfortunately no aid in a solution of the difficult dilemma of locating the situation or even the nature of the disease, although, as we shall see under another head, the latter may be inferred from its more frequent occurrence in some of these affections than in others.

7. Optic neuritis occurs more frequently in cases of otitis media purulenta chronica than in acute cases, in which, indeed, its occurrence is very rare, the case of Kipp's in this respect being the earliest example of its occurrence after the onset of the ear affection. I have found that most of those I have looked

up were observed in cases of otorrhœa of long standing, in many instances a number of years.

8. The list of brain lesions from otitis media purulenta in which optic neuritis has been observed, verified by autopsies, embraces nearly if not all those observed, *i.e.*, abscesses of brain and cerebellum, meningitis, and sinus thrombosis.

9. The occurrence of optic neuritis in a case of otitis media chronica with implication of the mastoid, with a history of long-standing otorrhœa, is by inference very apt to be due to a cerebral abscess, although it must not be lost sight of that all of the lesions enumerated may be found in the one case—as in mine, where there was an abscess, meningitis, and sinus thrombosis.

10. The extent to which the presence of slight œdema of the optic disc should influence us in determining upon an operation on the mastoid is, in the absence of other sufficient evidences, necessarily an open question. But I think we may safely accept the conclusion arrived at by Dr. Andrews, a sound one, that "as the operation when intelligently performed is not a dangerous one, without waiting for pronounced neuritis we may accept the condition of œdema of the optic disc in the case under consideration as an indication for the opening of the mastoid; and if not with the expectation of liberating pus, at least to establish free drainage from the middle ear. The procedure is certainly consistent with a good surgical principle, and is not likely to add to the pre-existing mischief." In regard to the presence of a marked neuritis alone or in connection with other symptoms being an indication to open the mastoid, no doubt can exist. Another indication of great value is pointed out by Knapp, who has been guided by the recession of the ocular symptoms in arriving at a decision when to let the opening in the mastoid (after operating) close. It is not necessary, he says, to keep up the syringing and drainage from the mastoid cavity until the suppuration has completely ceased, and it is just in these cases that the use of the ophthalmoscope has been of advantage.

11. The existence of optic neuritis as an indication for a more serious operative procedure than opening the mastoid, of the nature of an exploration of the brain for intracranial disease, can be considered only in connection with other symptoms which would go to render so grave a procedure justifiable. So far as it goes, however, it serves to make the presence of intracranial disease more certain.

A Barbarous Exhibition.—A correspondent of the *British Medical Journal* describes an exhibition of hanging which is attracting large crowds of morbid spectators in Paris: "A man is attached by a cord to the ceiling. He is dressed in a blouse, with a red muffler round his neck. His head is bent toward his chest. His face is thin and bony and appears convulsed, his eyes are almost shut, his veins are swollen, and the complexion is ashen. The arms drop down at a little distance from the body; his hands are contracted, the fingers bent. The veins are so swollen that they seem on the point of bursting. The legs hang straight and stiff. This barbarous spectacle is served up with an accompaniment of music. It is observed that when the music strikes up the hanging man is seized with painful convulsions. In this position he will remain thirteen days; after that trial he will remain buried three hundred and sixty-five, and will then take his place among the living. The rest the man takes in this hanging position consists of leaning against a ladder, which is placed in a position to permit him to doze without in the least changing his attitude. During this time he is rubbed with a sedative lotion and inhales ether. No food of any kind is taken."

BACTERIURIA.¹

By HERMANN GOLDENBURG, M.D.,

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THE subject of bacteriuria, judging from the limited number of cases reported, is one quite novel in medical literature. It was first described by Roberts in 1881 and has seldom been referred to by American writers. Much of what we now know on the subject was brought out by Ultzmann in his lectures, which I had the opportunity of listening to and which were published after his death by his former assistant, Dr. Brik. In recent French literature a paper, "*Sur la Bactériurie*," has been published by Krogins, wherein he reports eight cases in which a thorough bacteriological examination had been made.

I am of the opinion, however, that the disease is more frequent than would be inferred from the scant literature on the subject and that many cases recognized as cystitis are really types of bacteriuria.

Bacteriuria is characterized, as the name implies, by bacteria in the urine. But not every case with bacteria in the urine can be classified under this term. *Sensu stricto*, the latter applies only to those cases in which the freshly voided urine contains a large number of bacteria. The urine is always cloudy, opalescent, and has a peculiarly disagreeable odor. The reaction is acid or neutral, and, if it is alkaline, there is some other cause at work. The cloudiness does not disappear on boiling nor after the addition of a mineral acid. The urine does not become clear on filtering with the ordinary filtering paper, but it does so after passing it through a Pasteur filter or by shaking it with calcined magnesia (Salkowski) or carbonate of barium (Ultzmann). When the urine is properly filtered, it does not become opalescent either on boiling or on addition of an acid, if the case is not complicated by bladder or kidney trouble. For microscopical examination a drop of aniline violet is to be added to a drop of urine on a slide, heated for a short time, allowed to cool, and afterward examined with oil immersion. Examination will then reveal an abundance of micro-organisms of different shapes and sizes, such as the ordinary bacterium termo, the bacteria of intestinal fermentation, cocci, and bacilli. In eight cases Krogins found the bacterium coli commune in pure cultures, and it seems that this bacillus is the most common cause of the disease. Formed elements are absent if the bacteriuria is not complicated by an affection of the urethra, bladder, or kidneys.

As to the symptomatology of the disease very little is to be said, as the subjective symptoms are generally absent. The peculiar odor is often the only thing that draws the attention of the patient to his ailment. The latter is in most cases exceedingly obstinate: it shows a tendency to chronicity and relapses, and sometimes no permanent cure can be obtained.

Etiology.—The bacteria being those of fermentation and identical with those found in the intestinal tract of the healthy individual, in the contaminated air, in the normal urethra, under the prepuce, on the vulva, and in the vagina, it is surprising indeed that cases of bacteriuria are not more frequently found, especially in women, in whom there is a good chance for the bacteria to enter the bladder from the vulva and vagina through the short urethra.

A question which is of the utmost importance in the etiology of the disease is: "How do the bacteria enter the urine?" The answer is, either through infection or through auto-infection.

Infection.—Ultzmann states—and his statement is copied by later authors—that bacteriuria is found in patients with malaria and in physicians who work in

¹ Read before the genito-urinary section of the New York Academy of Medicine, May 12, 1896.

dissecting-rooms, where the infection takes place through the respiratory organs. Some years ago I treated a patient with bacteriuria complicated by hæmaturia of renal origin, general malaise, and emaciation, due to malarial infection. The patient rapidly improved under quinine and salol.

More frequent are the cases in which the bacteria enter the bladder per urethram through the introduction of instruments, especially of unclean catheters.

Auto-Infection takes place from the intestines either directly through contiguity, or indirectly through absorption.

As to the direct auto-infection, perforation of a prostatic abscess either into the rectum and urethra or into the rectum alone may be the cause of bacteriuria. In the former case the bacteria are directly transported from the rectum into the posterior urethra and the bladder; if the abscess open only into the rectum, the bacteria of the intestines enter the urethra through the prostatic duct.

There is, however, another way for the intestinal bacteria, viz., through the lymphatics.

Wreden demonstrated in the laboratory of Professor Nencki that after a slight artificial traumatism in the rectum of male rabbits the bacteria coli could be found in the urine of the animals. By producing an artificial loss of epithelium in the region of the prostatic gland, or higher up, a cystitis was caused and the intestinal bacteria, as well as those which, *experimenta causa*, were introduced into the rectum, could be found in the urine. Wreden claimed that the bacteria enter the bladder directly, *per contiguitatem*, through the lymphatics which connect bladder and rectum, and was able to demonstrate that in rabbits after a superficial erosion of the rectal epithelium fatty substances, such as oil or vaseline, which were introduced into the rectum, were found in the urine.

Looking over the text-books of human anatomy I do not find a statement that in man the lymphatics of the bladder communicate with those of the rectum. Quain says: "The lymphatics of the bladder are few and small and their course and termination are not sufficiently known;" and of the lymphatics of the rectum: "Some of them pass through small glands which lie contiguous to it [*i.e.*, rectum] and finally they enter the lymphatics situated in the hollow of the sacrum."

Sappey states that the lymphatics of the bladder, although conceded by most authors, have never been demonstrated: "One sees, it is true, lymphatics on the outer surface of the bladder, but all those come from the seminal vesicles or from the prostatic gland, both of which have an abundance of lymphatics."

From these anatomical facts it seems that the infection takes place through the lymphatics of the prostatic gland or of the seminal vesicles to the peritoneal covering of the bladder and through the walls of that organ to the bladder itself.

The last mode of entrance of the bacteria into the urinary tract from the intestines is by excretion of the absorbed bacteria through the kidneys. It has been known for a long time that the kidneys are not a perfect filter, but that particles which are not dissolved in the blood, such as cinnabar, fat, etc., can pass through them.

Grawitz, Schweizer, Baumgarten, and others demonstrated that even living elements can be eliminated through the kidneys. Recently Biedl and Kraus have shown that micro-organisms which circulate in the blood can be excreted through the absolutely intact kidneys. They chloroformed dogs, fixed a sterilized cannula into the vena jugularis or femoralis, performed laparotomy on the animals, inserted cannulas into the ureters, and examined the urine thus obtained under all the necessary precautions, after having injected the staphylococcus pyogenes aureus, the bacte-

rium coli commune, and anthrax bacillus into the veins. Cultures made from the urine showed the micro-organisms which had been injected, examination of the urine was negative as to blood or albumin. They concluded that the normal kidney through its physiological function is able to excrete the micro-organisms.

Posner demonstrated the bacterium coli commune in the blood of the heart, in the kidneys, and in the urine of rabbits in which he had ligated the ureters and had caused a prolapse of the rectum and had occluded the prolapsed part with a ligature.

Treatment depends entirely on the cause of the bacteriuria. It is obvious that the therapeutics is different in cases due to an infection from without from that in cases due to an infection from within. The sceptical views of some authors as to the curability of the trouble are partly due to a too schematic therapeutic procedure. If the bacteria are introduced into the bladder through instrumentation, irrigations of the bladder and of the entire urethra with a solution of nitrate of silver, 1 to 2,000 or 1 to 1,000, are probably the most efficacious. Of internal remedies salol in doses of fifteen grains or oil of gaultheria are to be recommended. When there is a distended bladder and a disturbed contractility of this organ, the patient is to void his urine at shorter and regular intervals, as the distention of the bladder facilitates the decomposing action of the bacteria. If the bacteriuria is due to a perforated abscess of the prostatic gland and if there is no more direct communication between rectum and bladder, it is advisable to use massage to empty the prostatic gland of the bacteria which are deposited in that organ. After the massage the patient should pass his urine, and then the empty bladder and the entire urethra are to be irrigated with antiseptic solutions.

Much more difficult will be the treatment when we have to deal with bacteriuria due to an auto-infection from the intestines. Theoretically the indication is to prevent increased decomposition and fermentation *in loco nascendi* by means of intestinal antiseptics, or, if the fermentation is not abnormal, to prevent the absorption of the bacteria which under normal conditions inhabit the intestines.

The number of internal remedies recommended for intestinal antiseptics is legion and their value is inversely proportional to their number.

According to Albu intestinal antiseptics is illusory: "A great number of experimental observations have demonstrated that it is impossible to suppress the putrefactive processes in the intestines by means of internal antiseptic remedies. Nature, however, accomplishes this task by producing a diarrhœa."

Following this suggestion in the case I am about to report, I produced an artificial diarrhœa by administering laxatives, but did not find any marked effect on the bacteriuria. As this case offers some especially interesting features I may be permitted to report it at length.

The patient, thirty-three years of age, was seen by me in consultation with Dr. Manges on November 15, 1894, on account of a chronic urethritis of twelve years' standing with occasional acute exacerbations. When I saw him the profuse discharge with which he came under the doctor's care had disappeared under the usual treatment. Examination of the urine voided after irrigating the anterior urethra showed clear urine with a moderate amount of small shreds from the posterior urethra. Urine passed after massage of the seminal vesicles, which were found enlarged, of a doughy consistence, and tender to the touch, contained an abundance of pus cells, spermatozoa, detritus, and epithelia. Endoscopy showed a normal anterior urethra, a few granulations here and there in the posterior part of the canal, and hypertrophy of the colliculus seminalis.

Diagnosis: Chronic vesiculitis seminalis, mild urethritis posterior.

The treatment suggested by me and carried out by Dr. Manges, viz.: massage of the seminal vesicles, rectal cooling sound, irrigation of the urethra with nitrate-of-silver solution, caused a marked improvement, so that Dr. Manges notes on December 24th: "Urine very good, only a few shreds in first portion. The patient has had connection without any injurious effect." Treatment was discontinued, as the patient considered himself cured. He enjoyed perfect health until June, 1895, when he came again to Dr. Manges with a relapse of the same nature as before. Although while under the old treatment a marked improvement took place, a perfect cure could not be obtained. The discharge, to be sure, was very slight, but the urine, which before had been perfectly clear, became cloudy and offensive about the middle of September and remained so in spite of all treatment.

The patient, therefore, was sent to me for the second time for consultation on October 7, 1895. The diagnosis of bacteriuria which Dr. Manges had made, both clinically and microscopically, was confirmed. In order to clear up the question how and where the bacteria entered the urinary organs, a catheter was introduced into the empty bladder and the latter was irrigated with a mild boric-acid solution. On this occasion it was found that the bladder was considerably distended; the patient was able to hold an unusually large quantity of liquid without feeling a desire to urinate. The irrigation of the bladder was continued until the liquid came out perfectly clear; the catheter was then left in the bladder a sufficiently long time to receive the urine as it entered the bladder from the kidneys. This was found perfectly clear and normal, so that the renal origin of the bacteriuria could be excluded. The bladder then was filled again with boric-acid solution and in withdrawing the catheter the entire urethra was irrigated with the same liquid. The patient then passed part of the contents of the bladder and this was found clear. The seminal vesicles were then thoroughly stripped. He then passed the balance of the urine, or rather of the boric-acid solution previously injected into the bladder. This liquid was turbid and offensive, the color and odor being of the same character as the urine filled with bacteria. Microscopically, bacteria, spermatozoa, pus cells, and epithelia were found.

It thus was clearly demonstrated that the *fons et origo morbi* was situated in the seminal vesicles, wherefrom the bacteria, probably the bacterium coli commune—I regret to say that a bacteriological examination was omitted—entered the posterior urethra. It was deemed advisable to strip the seminal vesicles in order to rid them of the bacteria, which by the massage were emptied into the urethra and bladder, where they could be attacked with suitable remedies, in the form of irrigations and instillations.

For the next four weeks these suggestions were faithfully carried out by Dr. Manges, but without success. Besides massage and local treatment, applied every other day, salol, methylene blue, turpentine, oil of gaultheria, and benzoic acid were given internally. Per rectum, ichthyol suppositories were added; per urethram, AgNO₃, potassium permanganate, and ichthyol were applied, but the treatment had no effect.

In the beginning of January, 1896, Dr. Manges, to whom I am indebted for his notes of the case, kindly transferred the patient to me, but I was unable to see in what way I could be more successful in the treatment, as everything was done that I had suggested. The failure of all therapeutic procedures proved to me that the continuation of the symptomatic treatment—for such it was—was useless.

Clearly the bacteria originated in the intestines and

the indication was either to prevent their excessive formation—the patient stated that he was occasionally troubled with flatulence and constipation—or to prevent their absorption.

Close inquiry into the previous history did not reveal anything pointing to the patient having had an abscess of the seminal vesicles or of the prostatic gland. A direct communication could be excluded, from the fact that a solution of methylene blue injected into the rectum did not appear in the urine until twelve hours afterward, when it had been absorbed and excreted through the kidneys. The patient, who had watched the condition of his urine very closely, was instructed to note particularly if the bacteriuria was the same at all times of the day. His attention having been drawn to this, he noticed that when he had had an evacuation of the bowels in the early morning upon rising the urine passed between nine and twelve o'clock was fairly clear, but that it was cloudy again at subsequent urinations in the afternoon. All local and internal treatment was then discontinued, natural Carlsbad salt was ordered to be taken every morning, and the patient instructed to abstain from everything in his diet that was apt to increase the intestinal fermentation. The Carlsbad salt moved the bowels freely, but the bacteriuria remained unchanged. The patient was then advised to take enemata of soapsuds with borax, one tablespoonful of the latter to two quarts of the soap emulsion. This was carried out for one week, once daily, and at the same time the patient took enteric pills of corrosive sublimate, $\frac{1}{100}$ grain, t. i. d., purposely prepared so that they should not dissolve until reaching the intestines. While the enemata produced a free evacuation of the bowels in the morning and the urine cleared up for the first few hours after the evacuation, it was full of bacteria in the afternoon and evening. Once only, on a Sunday, when the patient could arrange to irrigate twice with soapsuds, viz., at 9 A.M. and 3 P.M., the urine was clear during the entire day, but the first urine passed the next morning was as cloudy as before.

He then consented to take two enemata regularly every day, one upon rising, the other before retiring. Under this treatment within one week the condition improved to such an extent that when he presented himself again after the lapse of the week the urine was found clear in all its portions at all times of the day. For the sake of completeness, however, I must state that for the first four days of that week the patient had taken creosote, three minims, t. i. d., in the form of enteric pills, of which twelve had been prescribed.

From my experience with the multitude of other internal medicines which the patient had been taking, I can hardly think that the cure can in any way be attributed to the twelve capsules of creosote. The enemata were continued twice daily until the beginning of March, when the patient used them only once daily until March 10th. He then discarded them entirely. The condition has not changed, the urine has remained absolutely clear and normal, and as a sufficiently long time has elapsed since all treatment was discontinued the patient can safely be considered cured.

Without any hesitation I attribute the cure to the rectal irrigations with soap and water, the excellent disinfecting properties of which have long been known and have lately been again experimentally demonstrated by Max Jolles, particularly in their relation to the bacterium coli commune.

As to the etiology of this case of bacteriuria, the clinical observation and the therapeutic result clearly point to an intestinal origin. I am inclined to believe that through the different rectal manipulations (cooling sound and massage) a superficial loss of epithelium was produced, thereby facilitating the absorp-

tion of the millions of bacteria which were in the fæces, in the glands, and in the follicles of a subject in whom the possibility was an unusually good one on account of the constipation and the increased intestinal fermentation. The infection which took place was most likely analogous to the one experimentally produced by Wreden, viz., through the lymphatics.

As stated before, there is an abundance of lymphatics going to the prostatic gland and seminal vesicles, and it is easy to understand this mode of infection.

The development of the bacteriuria was furthermore facilitated through the distention of the bladder, caused by the habit of sometimes not urinating more than twice or three times within twenty-four hours. If we consider that the normal urethra is the habitat of a great many microbes and that a thorough disinfection of the urethra is well-nigh impossible (*cf.* Petit and Wasserman), we must assume that the *vis medicatrix nature* plays an important part, inasmuch as the bladder through regular urination rids itself of the microbes introduced by instrumentation before any decomposition of the urine has taken place.

Krogus reports among his eight cases one in which a patient who had had a number of gonorrhœas developed bacteriuria, due to the bacterium coli commune. He states that in spite of all irrigations of the bladder and instillations into the posterior urethra and bladder of two-per-cent. solutions of nitrate of silver, no cure could be obtained. I believe that this case resembles rather closely in its obstinacy in the concomitant symptoms, such as increased intestinal fermentation, the one which I have just reported.

22 EAST SIXTY-THIRD STREET.

A STUDY OF HYDRAMNIOS AND SOME OF ITS COMPLICATIONS, WITH REPORT OF A CASE.

By A. P. STONER, M.D.,

CAINSVILLE, MO.

HYDRAMNIOS, or dropsy of the amnion, is an excessive accumulation of liquor amnii. It is only when the amount of liquid exceeds four pints that the term hydramnios is eligible. Its occurrence is not rare; however, the literature is not so prolific on the subject as one might be led to suppose, and I dare say that many physicians have passed their first decade in practice and not had the opportunity of studying a case at the bedside. A great deal of discussion has taken place in regard to the etiology of this anomaly, and I doubt if the cause is to be found in any one morbid condition.

On the one hand, the theory of fœtal origin has found favor with many observers, notably with Sallinger, who injected liquid into the umbilical vein and found that it transuded readily into the amniotic sac, governed as to rapidity by the amount of pressure exerted and the size of the cord. Jungbluth and Levi-son have found that a capillary network is connected with the vessels of the umbilical cord and closely interwoven beneath the amnion in that part of the chorion covering the placenta during the early part of pregnancy, but does not persist to the end in a normal case.

Between these vessels and the internal surface of the amnion there exist canalicular spaces, furnishing a number of communicating passages. Now, in cases of hepatic obstruction or of cardiac or pulmonary disease, which might clog the umbilical vessels, a transudation from this network would take place, provided it existed at the time.

On the other hand, cases have been reported in

which overproduction of the fluid was due to inflammation of the amnion itself. According to Landois, the amniotic fluid is due to fœtal origin, and is, perhaps, a transudation through the fetal membranes; and, inasmuch as it occurs in birds, this fact throws a great weight to the fœtal origin of hydramnios.

Symptoms.—The uterine distention usually begins slowly; however, a rapid increase may take place, occupying only a few days, and Sentex has reported a case occurring in a single night. The expansion soon produces discomfort in breathing, owing to the encroachment on the diaphragm. This lengthens into actual pain, by the stretching of the abdominal walls and viscera. Actual dyspnœa and palpitation of the heart occur in consequence, and the urine may become scanty and loaded with albumin. (Edema and ascites follow, a result of obstruction to the portal circulation and pelvic and abdominal vessels. Vomiting from reflex irritation takes place, and may become incessant. The patient may find locomotion difficult or even impossible.

Pregnancy rarely reaches its normal termination in cases of hydramnios. When it exists to a marked degree it produces death of the fœtus, even though pregnancy should advance to full term.

Complications.—As before mentioned, cardiac embarrassment through the pressure of the diaphragm, and nephritic obstruction from the direct pressure upon the kidneys, are produced. Should there be a tendency to organic disease in either of these organs, it is liable to become permanent; the heart is overworked, compressed, the blood vitiated from the improper oxygenation, the kidneys cease to respond to their natural duties, blood becomes dammed up, albumin passes through the filters with the other waste products, and the result is a permanent impairment. Portal circulation may suffer to a less degree. At the precipitation of labor the child may occupy any position; the occiput, breech, shoulder, or face may present: and, last but not least of the complications, may be mentioned post-partum hemorrhage.

A few cases have been reported in which congenital hydrocephalus was present, as was found in my own case. A. N. Whitam reports a case accompanied by spina bifida and enlargement of the head.

Diagnosis is usually easily made out. It may be mistaken for twin pregnancy, which is generally easily excluded by palpation, digital examination, and absence of the fœtal heart sound. Hydramnios may resemble ovarian tumor, which may be differentiated by the history of the case and the duration of the trouble, but it must not be forgotten that both disorders may be present in the same case. Ovarian tumor and pregnancy may exist at the same time, and be mistaken for hydramnios.

The Prognosis for the child is nearly always fatal; not more than twenty per cent. survive, the high mortality of the fœtus being in a great measure due to malformations and faulty presentations.

Treatment.—An abdominal binder may be worn and the patient be made to refrain from active exercise. Should grave cardiac or renal disease appear, abortion should be produced. Porak concludes that it is not desirable to rupture the membrane too early in cases of hydramnios, lest the placenta be detached and the child lost. It may also lead to post-partum hemorrhage. Lusk advises not to puncture the membrane during uterine contraction, as it would be liable to change the position of the child. Post-partum hemorrhage must be treated according to the methods laid down for the management of those accidents.

The following case, which occurred in my own practice in 1894, may be of interest: November 7th of that year I was summoned to see Mrs. A—, who was threatened with a miscarriage. She was the wife of a

farmer, fleshy and robust, thirty-five years old; had given birth to three children at full term, all of whom were now living. The youngest, two years of age, has congenital rachitis. The patient stated that she had been unable to do her housework for several weeks past, and more recently had found locomotion next to impossible; hence she had spent most of her time in bed or in an easy rocker.

Examination showed the abdomen to be enormously distended, and it was impossible to map out any part of the child by external palpation or detect the fetal heart beat by auscultation. The integument over the abdomen was sallow, glistening, and tense. Pulse irregular, respiration shallow and somewhat augmented, extremities swollen and cold. On examining the uterus per vaginam the cervix was found soft and dilatable. Passing my finger cautiously up to the sac, it was ascertained that there was a limb presenting; by gently tapping the same with the finger-tip, the child was made to bound entirely out of reach and produce a perceptible oscillation of the liquid within.

I judged from the evidence before me that I had to deal with a case of hydramnios with foot presentation. Uterine contractions were now regular and strong. The patient was bathed with soap and water, and afterward sponged with a solution of bichloride of mercury, 1 to 800, as is my custom in preparing patients for confinement. The patient was placed on a couch with clean sheets, etc. At the end of six hours, the uterus having dilated sufficiently, chloroform was cautiously administered by an assistant. The membranes were ruptured, at which time the fluid gushed out with powerful force, passing over the foot of the couch and striking the wall beyond. The flow was suddenly checked by the descent of the child. Both feet being brought down, the uterus continued to dilate regularly and rapidly, and the progress was uninterrupted until the head became engaged in the lower segment of the uterus, when it ceased to advance. Suspecting that the arms had been misplaced upward by the side of the head during the sudden descent of the child, I examined, but found them snugly folded on its breast. After cautious performance of the ordinary manipulations by traction on the body of the child, the pains being frequent and exceptionally strong, it occurred to me that there was a complication of hydrocephalus, there being no progress whatever to expulsion. Accordingly, a puncture was made in the dorsal vertebra, and an elastic catheter passed into the cranial cavity, from which about one quart of fluid was withdrawn, after which the head was readily delivered, at which time another gush of amniotic fluid poured out, thoroughly saturating the bedding and trickling through on to the floor. It was estimated that about thirty pounds of fluid were evacuated in all.

Turning my attention now to what I feared most, post-partum hemorrhage, I at once injected hypodermically one-half drachm of ergotol; but before it could have time to act, the blood began to pour forth. I quickly thrust my hands into a hot five-per-cent. creolin solution, and passed my right hand into the uterine cavity, which stimulated it to contraction; that portion of the placenta not already detached was readily loosened by a sweeping movement of my hand and forced out before it, when the hemorrhage ceased.

The head measured, when fully distended, twenty-two inches in circumference; the sutures were widely separated; the fontanelles were of large diameter; the eyes bulged and presented a hideous sight; otherwise the child was well formed and presented the appearance of a fetus at the seventh or eighth month.

The mother made a protracted but perfect recovery.

In conclusion, I would make the following suggestions:

(1) That cases of hydramnios are frequently compli-

cated with cardiac or renal disease, in which case the life of the fetus must take secondary consideration.

(2) That faulty presentations frequently accompany this anomaly and should be sought out early.

(3) That malformations of the fetus may exist and obstruct the progress to delivery.

(4) That the danger to post-partum hemorrhage is great and should be carefully guarded against.

(5) That an antiseptic management is a prerequisite to the successful treatment of these cases.

Progress of Medical Science.

Venesection in a Case of Hemorrhage into the Pons.—At a recent meeting of the Clinical Society of London, a report of which appears in *The Lancet*, Dr. F. L. Benham read the details of a case of hemorrhage into the pons Varolii in which venesection was followed by recovery. The case was that of a widow, aged fifty-three, whose mother had died from apoplexy followed by hemiplegia, at the age of fifty-five. She was a healthy woman, rather stout in build. She bore the marks of old scrofulous abscesses in the neck, but was otherwise free from organic disease. She had had two attacks of influenza in the last three years. The present illness began without any premonitory symptoms. She was suddenly seized while dressing one morning with apoplexy attended by epileptiform convulsions, chiefly on the left side, and complete unconsciousness. The eyes were shut; the head, eyeballs, and mouth were all drawn to the right side; and the pupils were much contracted, the left being rather the smaller. Respiration was much embarrassed. There was foaming at the mouth, but the tongue was not bitten. The surface of the body was pale and dusky, with a clammy sweat. Within three-quarters of an hour from the onset of the attack she was bled from the right median cephalic vein. Forty-eight ounces of blood were withdrawn. When this was done the convulsions ceased and breathing became easy; the pupils were larger and the conjugate deviation of the eyes and head was less marked. The skin was pale but less dusky. Consciousness had not returned. Five grains of calomel were administered, in addition to croton oil. There was no return of the convulsions at all; the eyes, head, and limbs moved more freely and spontaneously, but there was found to be some weakness of the right side, and later distinct anæsthesia was detected in the right arm and leg. Sensibility and consciousness gradually returned, but complete consciousness and memory did not return for twelve days, the patient describing this interval afterward as an absolute blank. There was slight aphasia during recovery. The paralysis of the left side of the face and right limbs lasted only a short time, but traces of anæsthesia in certain fingers and toes persisted for some weeks. Retention of urine occurred immediately after the apoplexy, which caused cystitis. There was obstinate constipation all along. The patient steadily recovered. In a month's time she was able to walk about the room, and in six weeks from the onset she went out of doors for a walk. She had remained in excellent health up to the time of the report, eleven months after.

Sterilization of Catgut.—Boil in a mixture of eighty-five parts of ethyl alcohol, five parts of phenic acid, and ten parts of water. Five minutes' boiling suffices for the sterilization with a temperature reaching 78° C. Without the water the process is not so complete nor so rapid.—SAUL.

MEDICAL RECORD:

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ACUTE DISSEMINATED SCLEROSIS WITH NEURITIS IN THE SEQUENCE OF DIPHTHERIA.

THE modern toxic theories of disease processes, arising out of a knowledge of the biologic activity of micro-organisms, may be viewed as a kind of reversion to the ancient humoral pathology, with the distinction, however, that the latter-day views are based more securely upon data furnished by scientific observation, rather than upon mere inductive reasoning, however rigid. As a rule, infectious processes give rise primarily to local lesions only, the constitutional manifestations resulting from the circulation in the blood of the soluble poisons generated at the primary focus, and the secondary lesions and complications occurring through metastasis or through independent or associated secondary infections.

Diphtheria is perhaps the most demonstrative and the most convincing illustration of the foregoing remarks. Primarily a purely local process, it becomes general through the absorption of the toxic products of the reaction between the invading bacteria and the tissues, and through the activity of complicating infections, especially those due to the presence of the streptococcus pyogenes. The resulting intoxication makes itself especially manifest by the most varied symptoms, referred to the nervous system as one part or another is brought under the influence of the noxious agent. In the preponderance of cases these symptoms are referable to neuro-muscular apparatus.

The motor disabilities arising in the sequence of diphtheria vary in clinical character in accordance with the structures affected and the pathological alterations that take place. Most commonly the peripheral nerves undergo inflammation or degeneration, especially the motor nerves, although the sensory nerves do not always escape. In some instances the muscles themselves are involved in the degenerative process. In a third group of cases destructive changes take place in the ganglion cells of the anterior horns of the spinal cord. Finally cerebral hemorrhage or embolism may occur and give rise to hemiplegia of apoplectic onset.

An observation recently recorded by Henschen (*Fortschritte der Medicin*, November 14, 1896) illustrates an unusual nervous sequel of diphtheria and throws some light upon the etiology of disseminated

cerebro-spinal sclerosis. A girl, fourteen years old, previously healthy, was seized, together with a number of other persons, with an acute affection of the throat of mild type, on the second day of which she was compelled to go to bed. On the fifth day a sense of pricking and formication was referred to the lower extremities, which were tremulous and weak. On the sixth day the patient was unable to walk, and retention of urine occurred. A day later she was scarcely able to support herself on her feet. The palsy of the legs grew gradually complete, and sensibility was lost as high as the costal arch. Later the right arm became paretic and the anæsthesia extended still farther upward. The knee jerks were now increased, although subsequently abolished. The mental state remained unaltered. The cranial nerves were uninvolved, except that visual acuity was impaired on the left and the eyelids could not be readily elevated. The pupils were large and of sluggish reaction.

In the further progress of the case the left arm also became paretic; the ptosis increased; hyperæsthesia appeared in the lower portion of the face and in the right arm; the voice became nasal, the right vocal band being less active than the left; and the muscles of the throat failed in their functions. The electric irritability of the paralyzed muscles was diminished and the contractions were sluggish. The sphincter ani also became anæsthetic and a thrombus formed in the right leg. After the illness had thus continued for more than a month, improvement in the motor and sensory symptoms began to set in, but a bed sore formed, the patient wasted greatly, and broncho-pneumonia brought death. Upon post-mortem examination numerous disseminated sclerotic areas were found throughout the length of the spinal cord. These were few and small in the cervical region, where the postero-median columns had undergone degeneration. The areas of sclerosis were greater in number and extent in the dorsal region, in the lower portion of which the postero-median columns were especially affected; but elsewhere the distribution of the sclerosis was general, though smallest in the pyramidal tracts. In places the gray matter of the cord was invaded. In the affected areas the nerve fibres were more or less completely degenerated; the axis cylinders were best preserved. The separation of healthy from diseased structure was rarely defined sharply. The neuroglia of the white matter appeared increased and contained many nuclei. In the areas in the gray matter the large ganglion cells presented varying degrees of degeneration and the tissues contained numerous small glia cells, as well as fibrils. Diphtheria bacilli were looked for but not found. Degenerative changes were also present in the nerve roots. The vessels were surrounded by an abundant round-cell infiltration; the walls of the vessels, had, as a rule, undergone but little change. The nerves of the lower extremities were degenerated and those of the upper also, though in slighter degree. The brain was not examined.

While the case as reported pursued the clinical course of diphtheria, it is to be regretted that the diagnosis was not confirmed by the discovery of the bacillus of Loeffler. Accepting the diagnosis as cor-

rect, however, the observation is exceedingly interesting, as illustrating a hitherto unnoted sequel of diphtheria and as showing further that disseminated sclerosis is histologically an inflammatory process.

NIGHT TERRORS.

DR. J. A. COUTTS some time ago gave an interesting review of our present knowledge regarding the above subject, and contributes some of the results of his own experience and reflection. He says that systematic writers have not paid as much attention to this topic as its frequency and importance demand. He thinks that the descriptions given by English writers are incomplete and unsatisfactory. The American additions to the literature of the complaint, though not numerous, are of extreme value, and he refers particularly to the writings of Lyman, Wood, and Putnam. The disorder known as "night terrors" is attributable to a very wide range of causes. The list includes digestive irritation,—always the most popular one,—adenoids of the pharynx, enlarged tonsils, rheumatism, epileptic tendencies, and hysteria. Dr. Coutts thinks that there are two classes of cases, of which the common symptom is "terror" arising during sleep, and it is because of these different classes that the etiology is so variously given. In the first class there come cases of a reflex character, due to abdominal or nasal trouble. In the second class there come cases of comparative infrequency, in which the malady arises from central cerebral disturbances. For the first class of cases Dr. Coutts prefers the name of "nightmare," and would reserve that of "night terrors" for the second class only, in which the malady is of central origin. This separation has been made before, as Dr. Coutts admits, in correspondence with a classification of night terrors into symptomatic and idiopathic. The main question is, How can the physician tell when the patient is suffering from the symptomatic or idiopathic form? Dr. Coutts is of the opinion that the diagnostic points are these in true night terrors: it is essential that the patient should see visions, or, in other words, have hallucinations. In nightmare, it is sufficient that he merely dream dreams. Night terrors, he adds, seldom occur in children under the age of two or above that of eight years. In nightmare, there are no such limits of age. In night terrors there is a history of neuroses, such as epilepsy or hysteria in other members of the family, and sometimes infantile convulsions have preceded the night terrors in the history of the patient. In night terrors the attack comes on when the child is in the best of health, and is quite sudden in its onset, while children who suffer from nightmare are usually subjects of indigestion or nasal trouble, and in rather poor general health. In the course of the night there is usually but a single attack of night terrors, but there may be several of nightmare. Nightmare occurs in a child often at the end of a number of hours of restless sleep, while night terrors frequently show themselves in the form of a sudden violent explosion, so to speak. If the physician has been able to distinguish the case,

as between a serious neurosis and a dyspeptic or other reflex disturbance, the treatment is simple enough. For pavor nocturnus bromide of potassium or some similar drug is absolutely necessary, while in the nightmare of children it is necessary to regulate the diet, look after the throat and nose, and improve the general health of the patient.

THE BRITISH MEDICAL ASSOCIATION.

THE meeting of the British Medical Association in Carlisle the last week in July, a special report of which will be found elsewhere in this issue, seems to have been up to the usual average of such gatherings.

The attendance was expected to be between seven hundred and eight hundred, which is the figure usually reached at the provincial meetings, but on the afternoon of the third day only six hundred and fifty members had registered. The addresses at the general sessions were not of a very high order, and will hardly rank among the best efforts of their authors. The most suggestive was perhaps that of Sir Dyce Duckworth, on "Prognosis in Disease." The non-scientific proceedings of the last session were very stormy and the record of them was ordered to be suppressed for various reasons. The nature of the discussion can be imagined from the subject, which was "Ethics in Advertising." During the past year several men high in the councils of the association have been thought to favor, for their own use, rather unethical methods of keeping themselves before the public, while they were at the same time more or less scandalized by the employment of apparently no more reprehensible methods of obtaining the same results by their less eminent brethren. Some of these latter had an opportunity to express themselves at this meeting.

The acceptance by the association of the invitation from the Montreal branch to meet in that city next year is interesting. We believe the Canadian branch of the British Medical Association has been in existence only since 1893, and that it now feels competent to entertain the parent body next August is an evidence of healthy growth. The selection of Dr. Roddick, of Montreal, to preside at the meeting will be gratifying not only to his compatriots but to all his friends in this country as well. Doubtless many Americans will assist as spectators at the meeting in Montreal, and New Yorkers at all events will have the pleasure of meeting old acquaintances and of forming new ones among those coming to the meeting from Great Britain and Ireland. While, therefore, our Canadian brethren only have an official concern in this action of the British Medical Association, all of us, as Americans, are pleased to know that its members are coming to our side of the Atlantic.

But there is another matter of interest in connection with this move, and that is the effect it will have upon the attendance of English-speaking physicians at the Moscow congress. No one would think of attending two meetings within one month in places so remote from each other as Moscow and Montreal, if indeed the interval of time between the two conventions

would suffice for the journey. It is safe to assume, therefore, that no Canadians and but few British will go to Moscow, while the attendance of Americans would be small in any case. So doubtless the English language will be heard but rarely, notwithstanding its tardy recognition as an official tongue by the organizing committee. Whether or not the leaders of the British Medical Association intended any slight by turning their backs upon the International Congress we are unable to guess, but their action might easily bear that construction.

News of the Week.

The Heat Mortality.—The excessive heat from which we have been suffering since the 4th of this month, and from which we have only just now obtained a slight measure of relief, is almost unprecedented in the records of the weather bureau. No such long period of unbroken high temperature has been experienced, in this city at least, since 1872, even the centennial year, the miseries of which are not yet effaced from memory, having had no single term of such length of unrelenting high temperature. Fortunately, the heat was tempered part of the time by a rather low humidity. The number of deaths reported as from sunstroke in New York City alone in eight days was two hundred and eighty-eight, and doubtless these figures would be doubled were all the deaths included which could justly be attributed to the effects of the heat. The number of cases of prostration of which the police and health authorities had cognizance was over sixteen hundred and fifty in the metropolitan district. The greatest number of deaths from insolation on any one day was one hundred and twelve, the next greatest being sixty-five. The highest temperature recorded at the signal station in the city was 94° F., but this station is located some three hundred feet above the level of the streets, where the mercury ranged several degrees higher. During one of the least torrid days of the period, a thermometer placed in the sun registered 113° F.

Cholera in Egypt.—The official cholera returns from Cairo show that on August 9th and 10th there were throughout Egypt 322 deaths from cholera. Since the outbreak of the disease this year there have been 13,986 deaths.

Pennsylvania State Medical Examinations.—It is announced that of the 381 applicants recently examined for license to practise medicine in the State of Pennsylvania 340, 89.24 per cent., were successful.

Delaware County (Pa.) Medical Society.—At the regular monthly meeting of the Delaware County Medical Society, held at Elwyn on July 24th, Dr. A. A. Eshner, of Philadelphia, read a paper entitled "Some Considerations on the Treatment of Typhoid Fever;" Dr. H. W. Cattell, of the University of Pennsylvania, demonstrated Roentgen photography and exhibited a number of interesting lantern slides.

Kentucky School of Medicine.—At a recent meeting of the faculty of this school, the following lecturers were appointed: Drs. Louis Frank, clinical and operative gynecology; Henry E. Tuley, obstetrics; Carl Weidner, physiology; W. E. Grant, anatomy; Ewing Marshall, physical diagnosis; T. C. Evans, ophthalmology, otology, and laryngology.

Lehigh Valley (Pa.) Medical Association.—The sixteenth annual meeting of the Lehigh Valley Medical Association was held at Wilkesbarre on August 6th, with a large attendance. Twenty-four new members were elected, including Dr. George M. Gould, of Philadelphia, and Dr. Roswell Park, of Buffalo. Dr. Gould read by invitation a paper entitled "Some Curiosities of Medical and Surgical Practice." The following officers were elected for the ensuing year: *President*, Dr. J. R. Bucher, of Lebanon; *Vice-Presidents*, Drs. Mary Greenwalt, of Stroudsburg, G. T. Fox, of Allentown, O. F. Harvey, of Wilkesbarre, C. J. Deaver, of Reading; *Secretary*, Dr. Charles McIntire, of Easton; *Assistant Secretary*, Dr. W. S. Stewart, of Wilkesbarre; *Treasurer*, Dr. A. Stout, of Bethlehem. The executive board was constituted as follows: Drs. J. Reisser, of Berks County; A. M. Cooper, of Bucks; W. E. Seipel, of Carbon; O. H. Sproul, of Hunterdon, N. J.; J. W. Keath, of Lebanon; M. E. Hornbeck, of Lehigh; C. P. Knapp, of Luzerne; W. E. Gregory, of Monroe; J. W. Groff, of Montgomery; N. Ziegenfuss, of Northampton; Montetius, of Northumberland; and P. Hermany, of Schuylkill.

Bucks County (Pa.) Medical Society.—At the regular quarterly meeting of the Bucks County Medical Society, held at Bristol on August 5th, Dr. Edwin Rosenthal, of Philadelphia, read a paper on "Intubation for Diphtheria," exhibiting the instruments employed and demonstrating their mode of application.

Guarding against Yellow Fever and Small Pox.—Dr. Doty, health officer of the port of New York, has gone to Havana, to institute measures there for the prevention, as far as may be, of the exportation of small-pox and yellow fever on steamers coming to this city.

Dr. Bismarck.—The German universities have exhausted their supply of honorary degrees in their desire to express their appreciation of Prince Bismarck. He was already a doctor of laws, of theology, of philosophy, and of political science, and now Jena has made him a doctor of medicine. We welcome our distinguished colleague.

Physician to the Shah of Persia.—It is reported that the Shah of Persia has selected as his family physician Dr. William S. Vanneman, a graduate of the University of Pennsylvania in 1888 and formerly a resident physician in the Philadelphia Hospital.

Fees for Insurance Examinations.—One of the life-insurance companies in this city has returned to its former uniform rate of \$5 for the medical examination of an applicant, no matter what the amount of the insurance which is to be taken.

Obituary Notes.—DR. ROBERT M. BOYD died on August 6th, in Springfield, Mo., of typhoid fever. He was twenty-seven years old, and the son of the late S. H. Boyd, minister to Siam under the Harrison administration.—DR. CHARLES H. WEINHOLTZ died at his home in this city on August 7th, from the effects of some narcotic poison taken accidentally in overdose for the purpose of inducing sleep. He had been unusually busy and was suffering from insomnia. He was born in Richmond, Va., of German parents, and came to this city at an early age. He was a graduate of the University Medical College in 1883.—DR. J. A. S. GRANT BEY, of Cairo, Egypt, died suddenly on July 28th, while *en route* to attend the meeting of the British Medical Association in Carlisle.

Viewing the Internal Organs.—At the International Psychological Congress, held early this month at Munich, there was an exhibition of the "X" rays which fairly eclipsed all previous ones. The body of a man was submitted to the action of the rays through an apparatus of special design, which enabled the spectators to clearly observe the action of the diaphragm, heart, and stomach. The experiment was entirely successful.

Professor Mendel, the alienist of Berlin, was recently called to St. Petersburg to see a patient in consultation with the local physicians. Some excitement was occasioned by a rumor that it was the Tsar whom he was to examine, but this has been contradicted, although the sufferer is still supposed to be a member of the imperial family.

Suicide appears to be epidemic in Austria at present. Vienna had two hundred and seven suicides during the first six months of the year, which is double the average for the last ten years. At Lemberg, in the same period, seven soldiers in the thirtieth infantry regiment killed themselves. Quite recently a shoemaker in Vienna adopted a spectacular mode of exit. He joined a party of English tourists visiting the steeple of St. Stephen's Cathedral. When they had reached the platform from which Count Starckenberg watched the Turks during the siege of 1683, he jumped off, landing on his neck on the roof below.

Unwarranted Liberties with Medical Thought Cases.—In a certain shop in Carlisle, during the recent meeting of the British Medical Association, there was shown in the window a contrivance for taking the shape of the head when one desired a new hat. It was labelled: "Shapes of heads taken with the 'Conformateur.' Local doctors." Here followed, spread out in the window, some twelve or fifteen pieces of cord, each labelled with the name and address of the medical man whose head the cord was shaped to represent. Among those whose names and addresses were given was Dr. Barnes, Portland Square, the president of the association. *The Lancet* published quite a list of these names, innocently remarking that "of course, these gentlemen are quite ignorant of the use that is being made of their names and will take care that it is not continued."

The Health Board Sustained.—The board of health of this city has been looking into the condition of rear tenement houses and condemning all such as it deemed insanitary. An owner of one of these houses recently made application to enjoin the board from evicting his tenants, which it was doing preliminary to tearing the house down as detrimental to the public health. The petitioner did not attack the constitutionality of the law under which these rear tenements are being condemned and removed, but he denied the right of the board to order the tenants to get out before a judicial decision had been given condemning the rear tenement. Justice Stover, of the Supreme Court, denied the application, saying that under the statute the board of health is constituted the authority to pass upon the condition of the property and to determine its sanitary condition. In doing this it is performing a judicial act, and that act ought not to be interfered with by the injunction of the court, unless it should clearly appear that the board was without jurisdiction. He thought the board was acting within its rights, and although some of the features of the law appeared to be arbitrary and the proceeding summary, yet with the provision for compensation and with the rights of the property owners so well guarded, no lasting or irreparable detriment could come to the property owner. The public health demands that the provisions of the law should, in all cases in which it is once determined that they apply, be summarily and rigidly enforced. If, however, an appeal to the court is to be taken in each instance, the court becomes the arbiter of the question and the object of the statute is defeated. It was the intention of the statute to place all responsibility of the inspection and adjudication as to the condition of the premises with the board of health; and, so long as the board had facts sufficient to give jurisdiction, the court would not interfere.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending August 8, 1896: August 4th.—Passed Assistant Surgeon G. H. Barber, detached from the *New York*, ordered home, and granted two months' leave; Passed Assistant Surgeon V. C. B. Means, detached from the *Maine* and ordered to the *New York*.

Dr. James G. Kiernan has resigned the editorship of the *Medical Standard* of Chicago.

Chicago's Medical Schools.—A St. Louis contemporary says that Chicago has seventeen medical schools—nine regular, six homœopathic, one eclectic, and one "physio-medical." It must be quite a distinction there not to be a "professor."

The American Medical Association will establish its quarters permanently in Chicago, according to the count of the recent ballot of its members. Three thousand and sixty-one votes were cast out of 5,265 ballots distributed, and of this number 2,128 were for Chicago, 810 for Washington, and the rest were scattering.

Communicable Diseases in the State of Pennsylvania.—According to the annual report of the secretary of the Pennsylvania State board of health for the year 1895 recently issued, it appears that as a result of prophylactic vaccination small-pox prevailed at only nine points in the State during the year. In Philadelphia there were three hundred and ninety-six cases, with fifty-five deaths. In the town of Ashbourne the first case was mistaken for one of chicken-pox, and in the failure to adopt suitable precautions the infection spread quickly. As a result of this and a similar previous experience, a resolution was adopted by the board expressing the desirability in all cities having hospitals for contagious diseases to arrange for the practical instruction of medical students. Typhoid fever prevailed with its usual frequency. An outbreak at Oil City illustrates the resistance of the typhoid bacillus to cold and its portability in large streams for considerable distances. The disease appeared in those parts of the city that received their supply of water from the Allegheny River as soon as the ice began to melt and the material that had collected at various points along the river was washed into the stream by the melting snow—typhoid fever having prevailed during the winter in a number of towns situated higher up. There was an increased prevalence of scarlet fever, which in some places was of virulent type. Diphtheria also prevailed largely and was attended with a high mortality.

A Chance for a First-Class Thaumaturge.—It is reported in the newspapers that a wealthy and eccentric New Yorker who is blind from atrophy of the optic nerve and one of whose employees is in the same condition, has offered a fee of one million dollars to the person who will restore him his sight, the attempt to be first tried on this employee.

A Case of Double Consciousness.—There was brought into the Philadelphia Hospital on March 3d, of the present year, a man who was found on the streets and maintained that he did not know his name or the circumstances that led up to his admission or in fact have any memory of events prior to that date. In his possession was found a pawn ticket bearing the name of Brandt and by this name he was registered. After some days of observation it was found that the man presented no evidences whatever of organic disease and he was put at clerical work, which he performed with readiness and ability. He was exhibited at the meeting of the American Neurological Association in Philadelphia in June last. When a new set of resident physicians went on duty at the hospital early in July, one of their number recognized the new clerk as a former schoolmate, but the recognition was not mutual. The identity of the man was verified by a photograph in the possession of the resident physician and was subsequently confirmed by other acquaintances, as well as relatives of the patient. The man maintains that he has no definite recollection of anything that transpired prior to March 3d, although he admits that he has a vague notion of having travelled abroad. His family, who live in Kansas, knew of his

presence last in New Orleans, where he occupied a responsible position with a sugar concern. The man presents no evidence of traumatism, or of epilepsy, or of other well-defined neurosis. It has been suggested that the case may be one of malingering or of hypnotism, but it looks like an instance of double consciousness or dual personality.

The Composition of Human Fat.—Mr. C. A. Mitchell reports in the *Analyst* the results of an analysis of human fat, according to which it consists of about seventy per cent. of liquid acids, principally oleic acid, thirty per cent. of solid acids, probably palmitic, with small amounts of stearic and myristic acids, and traces of lower volatile acids.

Diphtheria of malignant type is prevalent at Mannheim, Pa. At St. Clair, near Pottsville, the disease is reported to be attaining epidemic proportions.

Ungallant Irish Students.—At the recent election of examiners at the Royal College of Surgeons in Ireland, Dr. Winifred Dickson, a fellow of the college, was selected a member of the midwifery board. There was no question as to her fitness for the place, but the students were offended and have held a meeting, and have requested Dr. Dickson to resign. The reasons are not stated, but it is understood that they object to being examined by a woman, on the plea that it is not quite proper. So great, indeed, is their modesty that they threaten, if their demand is not complied with, to transfer themselves to some other school and to another licensing body.

A Russian Dermatological Journal.—At the Congress of Russian physicians, held at Kieff during the first days of May, the members of the dermatological section voted to establish a journal devoted to diseases of the skin. The editors of the new journal are to be M. T. Stukovenkoff and O. B. Petersen.

Handsome Legacy for the University of Pennsylvania.—By the death of Dr. William D. McGowan, of Latrobe, Pa., the University of Pennsylvania becomes heir to a considerable estate, of which \$20,000 is represented by personal property, the remainder consisting of unappraised real estate.

The Effects of Alcohol.—The Women's Christian Temperance Union of Philadelphia has decided to communicate with the provost and the trustees of the University of Pennsylvania, requesting them to consider the advisability of establishing a school to be devoted, partially at least, to the study of alcoholic drinks, in connection with those of physiology and hygiene. It is suggested that a portion of the \$500,000 appropriated to the university by the legislature shall be used in establishing a school, to be known as the Rush School of Toxicology or Scientific Temperance.

The Policlinico at Rome, in which the section meetings of the International Congress were held, which was then in an unfinished state, has not even yet been completed. Professor Durante has been placed in charge of the matter, and it is now hoped that the hospital will be ready for the reception of patients in November next.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Sixty-Fourth Annual Meeting, Held at Carlisle, July 28, 29, 30, and 31, 1896.

(Special Report for the MEDICAL RECORD).

First Day—Tuesday, July 28th.

THE proceedings commenced at 9:30 A.M., by a private meeting of the council.

At 10 A.M. an extraordinary general meeting, to consider and if thought advisable to confirm a special resolution relating to medical defence, was held. This meeting was, of course, restricted to members, as it was proposed to alter the constitution of the association in order to take up the work of medical defence. The matter was fully discussed, and eventually the resolution confirming that of a recent special meeting was adopted. The association is therefore committed to an attempt to modify the "Articles." This will involve delay and an application to the High Court. Pledges were given that the matter should not be unduly hurried forward, so that the opinions of the branches could be considered. It was stated that twenty-eight branches had already approved of the proposal, and only one had expressed a contrary view.

At 11:15 A.M. there was a special service in the cathedral, with a sermon by the bishop of Carlisle, who took for his text, "Give praise to the physician, for verily the Lord created him." In the course of his remarks the bishop said: "Sickness is the dark shadow cast by sin, and it is the business and duty of the medical man to bring light to bear upon it. Medicine and religion work hand in hand, and were formerly combined in the same person, as when Christ sent his apostles to preach the gospel and heal the sick." At present, three distinguished missionary bishops of the Anglican Church began by being medical practitioners, and this was very appropriate, for the command to heal the sick involved the investigation of disease.

Chairman's Address.—At 2 P.M. the first general meeting of the association was held. DR. WARD COUSINS, president of the council, in moving the adoption of the report, mentioned the great loss that the association had sustained by the death of the president, Sir Russell Reynolds, and a telegram from Lady Reynolds was read, acknowledging the receipt of the message of condolence sent to the family by the council in the name of the association. Dr. Ward Cousins then alluded to the prosperity and increase in numbers of the association, which now consists of 16,332 members, 145 having died and 442 resigned during the year, out of a total of names on the books amounting to 15,669; during the year 1,240 new members were received, leaving a total as above. During the year the *Journal* of the association had treated a number of questions of great public importance, such as the health and physical condition of the pauper children cared for by the State, the commemoration of the Jenner centenary, and other matters. He also announced that the library and reading-room had been used by an increasing number of members, and that the former now contained eight thousand books, while thirty-five hundred duplicate copies had been presented to local medical libraries on requisition.

The subject of the registration of midwives and matters connected with the army medical service, the poor-law medical service, etc., had occupied the attention of the council; with respect to the first, Dr. Ward Cousins expressed his opinion that the delays that had taken place in bringing it forward were valu-

able, as affording the profession more time to consider the matter. He also mentioned that the number of cases of parturition necessary for a student to attend before presenting himself for examination had been increased from twelve to twenty, five of which must have been attended in conjunction with a fully qualified medical man.

The question of medical protection had given the council "days of waiting and nights of watching," for they were determined not to "rush" anything.

The president of the council congratulated himself and the association on the formation of ethical committees by almost every branch, and said that the association appeared to be waking up to a consciousness of its power and importance, and that soon the voice of the association would be that of a united profession.

After referring to the changes that had taken place in the branches during the year, Dr. Ward Cousins moved the adoption of the report, together with the financial statement appended to it.

It was moved by DR. KINGSBURY that it be referred back for consideration and further elaboration of the financial statement, which "humped things too much." He also said that Dr. Ward Cousins's speech reminded him of a missionary meeting, it was so full of encouragement and hope, for which he confessed he saw little ground. Referring to the statement that only a small number of the communications forwarded by members would be utilized, he said that anonymous articles should not be paid for; which provoked the retort that these were the only ones that were paid for in cash, for the signed articles carried their own recompense with them by giving a sort of advertisement to the writers, of which, no doubt, many made the most use they could. He did not wish to put himself in antagonism with the council, but spoke as a business man to business men.

DR. INCE seconded the amendment and wanted to know what became of the money; for no limited liability company would consent to receive a balance sheet like the one presented to them. Many fingers were dipped into the bag, and some of these fingers had long nails. He did not mean to impute impropriety to any one, but there were careful and careless cooks. The former took as much flour as she wanted out of the barrel, but the latter took so much that she let half of it fall on the floor. That was all he meant. Dr. Ince then referred to typographical errors in the *Journal*, which he did not think deserved anything like the encomiums bestowed upon it by the president. He found four typographical errors in the last number in the little word "to," and was of the opinion that two to's were too many.

DR. LAWSON TAIT supported the amendment, but only in the spirit of one who asked for information; he wanted to know why, when the council would not use more than a small percentage of the communications received, it allowed the editor to occupy two hundred and thirty columns with signed matter of his own, in addition to his unsigned editorials.

DR. LAFFAN also supported the amendment, and complained that the association had not taken any steps in the matter of pupilage. None but a few privileged teachers were permitted to take pupils. He also complained that the Dublin hospitals admitted as patients men who were well able but too mean to pay for treatment, and no notice was taken of a signed communication to that effect which he had sent to the *Journal*.

DR. G. BROWN also supported the amendment, though he approved of much that the council had done, and was of opinion that the general practitioner chiefly required to be protected against himself.

DR. RENTONE also spoke in favor of the amendment.

The amendment was then put to the meeting by the president-elect, DR. HENRY BARNES, but only thirty-three hands were held up for it. The report and financial statement were then adopted by a very large majority.

THE PRESIDENT then moved "that the best thanks of the association be given to Mr. Henry Butlin for his able services as treasurer for the past six years and for the interest he has shown in the welfare of the association." Carried unanimously.

It was then proposed that Dr. Parsons, of Dover, be appointed treasurer for three years, in succession to Mr. Butlin, and this, too, was carried unanimously in the absence of the doctor.

The meeting then proceeded to the consideration of the reports by the various committees to the council, which were duly carried without material alteration.

An elaborate report of the scientific grants committee gave rise to more discussion than the others, but presented no special features, though, *à propos* of the experiments detailed, it may be of interest to quote a passage from a sermon preached on Sunday evening, July 25th, by the Rev. James Christie, in the Presbyterian Church, Fisher Street, Carlisle, with special reference to the visit of the British Medical Association to that city. "I should never dream," said the reverend gentleman, "of lending my name as a minister of the gospel to any association mainly composed of faddists and cranks, who would seek to traverse the dogma of pure medical science or attempt to thwart any of its investigations into the causes and cure of maladies; even vivisection can be pursued with a minimum of pain and with the greatest humanity. The lower creation has been given for the use of man, and when investigation is carried out upon its living body, not needlessly or lightly, but with an earnest and reverend desire to secure the amelioration of the sad lot of so many among us, I say to the dextrous anatomist: 'Well done, brother; God give thee good speed in thy service to the human race.'"

Another Code of Ethics.—A resolution was carried inviting the council to draw up a new code of professional ethics, to be submitted to the association.

Address of Welcome.—The evening meeting opened with an address of welcome to the association by the mayor of Carlisle. He said it was his pleasing duty to tender a hearty welcome to the British Medical Association, which was the representative of the great healing profession, whose highest powers were devoted to promoting the welfare of the human race. Many societies made Carlisle their meeting-place, but this was the first time the medical association had honored the city with its presence, but he trusted it would not be the last; and in the name of the citizens he once more tendered them the most cordial welcome.

President's Address.—DR. HENRY BARNES, the president of the association, after a few preliminary remarks, observed that the question whether the Roman armies during the occupation of the district were or were not provided with medical officers was one that had not deeply engaged the attention of archaeologists; but recently during some excavations on the Roman wall a tablet had been discovered, dedicated by the first cohort to their medicus ordinarius, and the nature of the carving furnished strong evidence of the esteem and respect in which the soldiers held their physician, whose name was Anicius Ingenuus. Another point in connection with the ancient and royal city of Carlisle was that outside its walls was built the Hospital of St. Nicholas, one of the first institutions set apart in England for the reception of cases of leprosy, a disease which at that time appeared to have been a somewhat common one, and evidence had recently been discovered that King Robert Bruce was afflicted with it. It

was also interesting to note that when Edward I. was seized at Burgh-by-Sands with the attack of dysentery to which he succumbed, his physician sent for medicine to London from Carlisle, and that the apothecary's bill amounted to £134 16s. 4d., and the cost of conveying the same from London to Carlisle came to £159 11s. 10d. more. The list of drugs included distilled oil of turpentine, aromatic flowers for baths, carminative electuaries, plasters and ointments of various kinds, the oils of wheat, ash, and bay, water of the roses of Damascus, wine of pomegranates, remedies prepared from pearls, jacinths, and coral, and many more which he (the president) was unable to identify. At that time and for long afterward medicine was under a cloud, and there was but little progress to report; there was great faith in charms, witchcraft, and miraculous gifts of healing, but the services of medical men were not very highly appraised. For instance, in 1689 the bishop of Carlisle had contracted with a physician for professional attendance on himself and family for two guineas a year (much laughter, in which the bishop, then on the platform, joined, protesting apparently to Sir T. Grainger Stewart, next to whom he was sitting, that it cost him, the bishop, a good deal more than that). The plague had visited Carlisle with very disastrous results, sweeping away such multitudes that the living were scarcely able to dispose of the dead. The country at that time was in a very impoverished state, and thirty thousand families were stated to be in want of bread. Two bishops of the diocese died from the plague within a few months of each other, as did also the first wife of Sir Francis Howard, who was thought to have taken the disease from a new gown for which she had sent to London. The fact that this lady and the two bishops were each buried a few hours after their death showed the importance attached by the authorities to the speedy disposal of the victims as a means of arresting the spread of the disease. The mortality from small-pox toward the end of the last century was remarkable, when one in every seven deaths in Carlisle was due to that disease; but during the last twenty years, out of fifteen thousand six hundred and sixty-four deaths registered in the city, only four were attributed to small-pox. Carlisle has a well-vaccinated community. The president then described the services rendered to medical science by several distinguished Cambrians, making special reference to Dr. Heysham, whose tables of mortality were the foundation for the calculations of many life-assurance companies, and were known as the Carlisle tables. In conclusion, he referred to the necessity for further medical reforms which demanded their earnest consideration, and he hoped that the deliberations during the week would help forward their settlement.

A vote of thanks to Dr. Barnes for his able and interesting address was moved by SIR THOMAS GRAINGER STEWART, in a humorous and most felicitous speech, during which he touched upon the salient points of the address, particularly referring to the delicacy with which Dr. Barnes had referred to what had befallen Edward I. when that monarch was doing what no doubt he thought was his duty, but which was always a sore point with Scotchmen; while, on the other hand, Englishmen who might feel aggrieved by the reference to the Bruce could derive a crumb of comfort from the reflection that the valiant Scot was a leper.

SIR WILLOUGHBY WADE seconded, and exhorted the ladies present to profit by the sad experience of Lady Howard, and not send to London for their gowns but to buy them in Carlisle.

The motion was then put and carried by acclamation.

The Indian Medical Service.—A motion was then

brought forward by Dr. BAHADURJI, to the effect that the Indian civil medical department should be thrown open to the whole profession. Dr. Bahadurji freely admitted that at one time it was right to reserve appointments in the scientific and sanitary departments in India to the military medical officers, but he held that the time had come when a change should be made. He attended the meeting as a representative of Indian practitioners, and received a good deal of support. It was eventually agreed to refer this question to the Indian branches of the association.

THE PRESIDENT announced that twenty-two colonial delegates were expected to be present during the meeting. A branch at Pietermaritzburg was recognized. It was resolved to admit to the sectional meetings medical students resident in the district.

What is Ethics?—The ethical committee was instructed to prepare a code of ethics, to be submitted to the association. Some of the members of the council having remarked that they had never heard a definition of the term "medical ethics," Dr. D'ANSON, of Whitehaven, said he fancied they all had a notion that their ethics were comprised in their duty to their brother practitioners and their patients and the world at large, and the necessity of upholding the honor and dignity of their profession.

Second Day—Wednesday, July 29th.

THE PRESIDENT announced that Dr. Saundby had been elected president of the council for the ensuing three years in succession to Dr. Ward Cousins, to whom a vote of thanks was awarded by acclamation.

The Next Meeting in America.—It was resolved that the invitation to hold next year's meeting at Montreal be accepted, but that the business part of the meeting should be held in London and the scientific only in Canada—this because there was some doubt as to whether it would be legal to transact some of the financial and business matters outside the United Kingdom.

The Address in Medicine.—SIR DYCE DUCKWORTH then delivered the address in medicine, taking for his subject "The Prognosis of Disease." After a few modest words of self-depreciation, in which he said that the Scotch had big heads and that he was himself half a Scotsman, the speaker entered upon the discussion of his subject, one to which in spite of much progress in other directions the attention of the profession has of late years been inadequately directed. We have been too exclusively occupied in acquiring knowledge of facts and our views are thus apt to be narrowed and distorted. We are prone to argue too much from the particular and fail to see things in due proportion. The education of to-day is overladen with details and somewhat barren of the inculcation of general principles. If we are to be great in medicine we must sometimes lift our eyes from the microscope and away from the researches of the laboratories, and, rising to a higher level, survey the wider fields which lie before and beyond us. If we do so we shall come to know more of the due proportions of things relating to man as he passes through his present life. But for this we need both the talent of the ancient philosophers, who had an eye for general truth, and the qualities of the modern philosopher, whose eyes are set on particular facts. The problem now before us is to combine these in due harmony, and as he had expressed the opinion that we have somewhat failed in modern times to gather knowledge as did the ancients, he proposed to address himself to a neglected subject, that of prognosis in medicine, considered by the light of our most recent attainments. We can make advances in prognostic skill only by careful and patient study of the whole subject of semeiology, and

on few parts of our art has greater light been shed during the last half-century than on this. We cultivate the study of semeiology for three reasons: First, to enable us to make a diagnosis; secondly, to direct the treatment of the case; and, thirdly, to help us to frame a prognosis. Everything, therefore, depends on an accurate appreciation of the symptoms and the physical signs presented to us in any case. If we err at the outset, our treatment and our prognosis will also err.

There is no lack of teaching in these days directed to the subject of semeiology in its several parts; but we are apt to depend too much on our instrumental aids, and too little on a careful study of the patient, his personal peculiarities, and the intimate nature of his ailments. We thus miss the due recognition of noteworthy features proper to the whole case, features often suggesting further inquiry when appreciated by the trained eye and the open mind accustomed to consider every point in due proportion and in proper relation to the rest. The speaker was constantly training students in this direction, and imposing upon them the fact that as physicians they would exist to small purpose in the body politic and their art would be of small avail if it was not in the highest and best sense practical. The specialism so ripe among us is in danger of narrowing our conceptions of diseases.

Sir Dyce Duckworth then discussed at some length the subject of prognosis in relation to diseases generally of the several systems of the body. After that he alluded briefly to the assistance in prognosis which we may obtain from the condition of the pulse and tongue. Physicians have long been wont to gauge the degree of vital and residual power in the sick by reference to the pulse, and accurate physiological research has now made plain and placed on a scientific basis the several conditions so long known to observant physicians, thus aiding materially no less in treatment than in prognosis.

The conditions of the tongue have more recently attracted scientific attention in this direction, for a careful study of which we are indebted to Dr. Dickinson. To use his words, we may affirm that "the tongue, indeed, has a whole book of prognostics written upon its surface." The older physicians paid great attention to the condition of the tongue in diseases, and probably noted all that was observable to the eye. Modern study, however, places a different interpretation upon the nature and significance of many of the phenomena. Of the conditions which enable us to form a favorable or unfavorable prognosis, we have to take note more particularly of the dry tongue. This has always been regarded as grave. Dickinson found that patients, examined without selection, who had dry tongues of whatever origin, exhibited a mortality of fifty per cent. This indication mainly relates to prostration. "The kinds of diseases which it accompanies are chronic more than acute; if febrile, usually continued." Pyrexia and deficient secretion from the salivary and the buccal glands are the chief factors. "The tongue is found dry, glazed, and smooth in the later stages of tuberculosis, and in exhaustion from continued suppuration; dry and rough at the end of cases of cerebral disease, hepatic cirrhosis, cancer, pyæmia, and severe pneumonia." Among the conditions of the tongue which favor a satisfactory prognosis in any case are to be noted recovery of moisture, and a cleaning of fur from the tip and edges toward the dorsum.

It is not always an easy matter to certify how long a patient has to live, even in the presence of well-recognized symptoms of impending death. The end comes sometimes more rapidly and suddenly than had been anticipated. Again, life is sometimes protracted in a remarkable manner, and our forecasts are

proved to have been fallacious. Relatives and friends of the sick sometimes demand a prognosis and look to the physician to give dependable information in the most decided and dogmatic form. No part of the physician's duty demands more skill and tact than to afford a proper reply to such questions. While we must always be as hopeful and encouraging as is permissible, yet we must not shirk the unpleasant truth which has so often to be declared. The physician who brings most healing power with him to the bedside is generally one who is bright and encouraging and inspired always with good hope. The most accurate prognosis comes from him who has with care and a large chastened experience first established a correct diagnosis, and who has also learned to employ remedial measures with judgment and good sense. The younger men may often afford light in the matter of modern diagnostic methods to their seniors, but the knowledge and experience of the latter are needed, not seldom, in forecasting the issue of a case. Of this issue, the most shrewd may be perhaps the least confident, for he always remembers that no *præsentia mortis* are invariably to be relied on.

In closing he quoted the words of Hippocrates which commend to us all the study of prognosis: "It appears to me a most excellent thing for the physician to cultivate prognosis, for by foreseeing and foretelling in the presence of the sick the present, the past, and the future, and explaining the omissions which patients may have been guilty of, he will be the more readily believed to be acquainted with the circumstances of the sick, so that men will have confidence to entrust themselves to such a physician; and he will manage the case best who has foreseen what is to happen from the present state of matters."

DR. PHILIPSON, of Newcastle, proposed a vote of thanks to the orator and DR. AFFLECK, of Edinburgh, seconded the proposition, which was carried unanimously.

Third Day—Thursday, July 30th.

The Address in Surgery.—DR. RODERICK MACLAREN, of Carlisle, delivered the address in surgery, taking for his title "Preventive Surgery," by which he meant "a surgery in which treatment or operation is entered upon or undertaken for some risk or sequence which we expect to result from an existing condition, and not on account of what is actually present at the time." This he held to be a product of modern times, the outcome of recent advances in our knowledge of the intimate causes of disease, of the discovery of anæsthesia, and of the adoption of aseptic and antiseptic methods of wound treatment. Circumcision had been instanced as an example of a preventive operation, but Herbert Spencer had shown that there never was any prophylactic significance attached to the rite, but that it was originally a work of subjugation and was later exalted to a religious and tribal custom. Another old operation was the medical treatment of hernia, but it was only in recent years that it had been regarded as justifiable. The speaker then dwelt upon the conditions which render preventive operations justifiable, and said that such an operation should be devoid of risk to life both at the time and during the healing stage, and that it should not involve much suffering. Passing then to a consideration of special operations, Dr. Maclaren took up the various systems and regions of the body in succession.

The Naso-Pharynx.—This is a very important region, and one which offers a wide field for preventive surgery. Enlarged tonsils and adenoid growths produce some local discomfort, but their chief evil is that they check growth and nutrition. Children who are affected with them are generally small for their

age, anæmic, and ill-developed; but it is often striking to see the growth and development which follow the removal of large tonsils and the scraping away of adenoids. The speaker did not favor the guillotine operation, but thought it is much more satisfactory to give the patient a deep anæsthetic and cut out—or, with a blunt director, tease out—the whole structure. Adenoid growths in the naso-pharynx produce similar remote effects to those of enlarged tonsils, and the removal of tonsils is not a complete operation without a scraping away of all growths. There are few operations which accomplish so much with so little risk to the patient or trouble to the operator.

Purulent otitis is another condition calling for preventive surgery. Not every case of suppurating ears should be operated upon, for many are amenable to medical treatment, but every one, the speaker said, who has a chronic suppurative otitis media which resists treatment is in deadly peril and should be subjected to a mastoid operation—not necessarily with a view to restore hearing or even for the sole purpose of curing the local inflammation, but for the sake of averting the danger threatening the individual's life.

Cervical adenitis is often an indication of disease in the neighborhood, such as an ulcerated throat or mouth, a suppurating ear, a diseased tooth, or an eczema of the scalp, and these should be looked for and treated. If diseased glands be left alone they commonly cause years of ill-health, with the ever-present risk of the development of disease elsewhere. The operation for the removal of these glands, whether simple suppurating or tuberculous, is often difficult, owing to the deep location of the diseased bodies and their proximity to most important parts. The results following the removal of simple suppurating glands are much better than when tuberculosis is present.

The radical operation for hernia is a most important preventive surgical measure, yet it must not be too readily or rashly undertaken. So long as a hernia can be steadily kept up by a truss which does not much incommode the patient or prevent him following his occupation there is no necessity for operative interference. But if trusses fail for any reason to keep up the intestine; if the truss is painful to wear and excites repeated inflammations of the sac; or if the patient's occupation requires exceptional activity, then an operation is indicated. The operation, as now performed, the speaker believed to be almost absolutely safe, and he thought good results could be obtained from almost all the operations now in favor. Whatever secures closure of the abdominal openings brings about a cure. He described the operation for oblique inguinal hernia as the type of all. "The plan of dissecting out the sac, cutting it across at the neck, separating the peritoneum for an inch or so round the internal ring, twisting the neck into a cord, bringing it through one or other pillar of the ring by an artificial opening just large enough to let it pass, suturing it there, then stitching together the pillars of the ring behind the cord with two or three silk sutures, and closing it as thoroughly as possible, gives a result which leaves nothing to be desired. The same may be said of other herniæ, local peculiarities, however, necessitating slight modifications."

Enlarged prostate is present in one of every three men over sixty years of age, but it causes trouble in only about one in every ten of those, and even then the daily use of a catheter is often the worst that befalls the patient. But we must not wait for sepsis of the bladder before operating, and we should not defer the operation if the patient is uncleanly in his habits or if there is difficulty in passing the catheter so that bleeding is common. Suprapubic cystotomy with removal of the enlarged prostate is the operation of choice in most cases. Castration is still on trial, but

the speaker thought that the results of the operation thus far warranted a further employment.

Appendicitis next received attention. Three views of surgical duty in this disease prevail, Dr. Maclaren said. Some hold that the appendix should never be removed, that the probability of infection of the peritoneum during the operation renders the latter unjustifiable. Another opinion, held both in Great Britain and in America by men of the first authority, is that every appendix which has given rise to morbid symptoms should be removed when in a quiescent state. The third view is that only after a repeated attack of appendicitis are we justified in resorting to a preventive operation. The speaker favored the last view and brought forward the following arguments in support of it. The great majority of attacks are not repeated. Most instances of perforation are first attacks—an evidence that one seizure does not increase the probability of perforation in the case of recurrence. A milk and farinaceous diet and mild aperients are often successful in preventing return. The time for preventive operation comes after a relapse, not after a first attack. "When the operation is done during the quiescent stage, and with every possible care and precaution which human ingenuity can devise and human knowledge direct, it is devoid of risk and absolutely effective, for the source of trouble is entirely taken away."

Cancer is another disease in which there promises to be a profitable field for preventive surgery. It is probable that there is a prolonged latent period before the development of the disease at the point of inception or elsewhere. We must study carefully the earliest changes in carcinoma in order to discover the prodromic or even the first symptoms, for then we may be able to prevent it. At present the tendency is for operations for cancer to become more and more extensive, stretching out farther and farther into the apparently sound tissues, but the speaker hoped that, with greater knowledge and earlier interference, preventive surgery may come in and bring with it a small operation.

After touching briefly upon the surgery of accidents, Dr. Maclaren concluded with a few words on the prevention of surgical diseases, referring especially to the necessity of looking after the plumbing of our modern houses, but above all to the care of the teeth. He had known death from septicæmia or putrid thrombosis originating in a dead tooth root, and he suspected, as the result of many examinations of the teeth in cases of gastric ulcer, that the latter might occur by direct infection by food or saliva containing septic micro-organisms derived from carious teeth.

A vote of thanks was passed to Dr. Maclaren for his excellent address.

The Gold Medal of the Association was presented at the close of the address on surgery to Surgeon Captain Harry Frederick Whitchurch, V.C., I.M.S. The president of the association, Dr. BARNES, having briefly related the circumstances which took place during the Chitral expedition that led the association to select Surgeon Captain Whitchurch to be the recipient of what he (the president) described as the "blue riband" of the profession, then hung it round the gallant officer's neck, amid loud applause from the large number of people assembled, one lady in the gallery getting so excited that her hat fell off into the arena below.

The subsequent proceedings of the general meeting related to business and other matters regarding the association and the action of some of its officials. Some of these proceedings were of such a decidedly stormy character that it was voted that they must be regarded as private.

The President of the Association.—DR. T. G.

RODDICK, of Montreal, was duly appointed president-elect for the meeting in that city in 1897. Great satisfaction was felt at the decision to visit the Dominion and it was decided to hold the meeting at the end of August, immediately following that of the Association for the Advancement of Science, to be held also in Canada, thus affording British practitioners the opportunity of attending both within the holiday period.

SECTION ON MEDICINE.

First Day—Wednesday, July 29th.

Address of the Chairman.—DR. GEORGE F. DUFFEY, of Dublin, delivered the opening address, taking for his title "Some Historical Notes." He said that he had the honor to be the first Irishman to preside over a meeting of this section, except on three of the four times that the association had met in the sister island. The first meeting held in Ireland was the thirty-fifth, in 1867, under the presidency of the distinguished physician and teacher, William Stokes. It was the same year that Mr. Ernest Hart assumed editorial charge of the *Journal* of the association, an office which he has held ever since, except for a brief interval in 1869-70. At the time of this meeting there were three thousand and eighty-two members on the books of the association. The date of the second meeting in Dublin was 1887.

Set discussions were first held at the thirty-fourth annual meeting, in Leamington in 1865. They were then held in the general meetings, the first subject, the discussion of which was opened by Dr. (now Sir) B. W. Richardson, being on the question, "Is there any Foundation for the Hypothesis of the Origination of Disease by Zymosis or Ferment?" At the forty-sixth meeting, in Manchester in 1877, the discussion of special subjects was transferred to the section meetings. He hoped that in the important discussions which were appointed for the present meeting of the section of medicine the members might realize with Trophilus (as recorded in the Greek inscription on a wall in the medical department of the Oxford Museum) that the perfect physician is he "who is able to distinguish between what can and what cannot be done."

Treatment of Heart Failure.—SIR THOMAS GRAINGER STEWART then opened the discussion on this subject. If there was to be no other result, he said, the comparing of notes would be valuable; but there would be more, as no doubt would appear in the course of the discussion. The muscular fibres of the heart unable to discharge their functions are greatly benefited by rest, which alone often brings about a cure. As a rule, however, private patients do not derive so much benefit from this mode of treatment as do hospital patients, who are generally working men and women whose condition is mainly due to overwork, and they unquestionably are greatly improved by complete rest, which they cannot get in their own homes. At one time the mere suggestion that the patient had disease of the heart was tantamount to signing his death warrant; but all that is altered now, and many forms of heart disease can be not only alleviated but cured by treatment.

Private patients, as a rule, derive more benefit from diet. Highly nitrogenized food must be either denied or supplied in greatly reduced quantity, and the amount of liquid taken into the system is to be materially reduced; the drier the diet, the better. Many cases of fatal cardiac failure are undoubtedly due to the ingestion of large quantities of fluid at a meal.

Alcohol taken in moderation—that is to say, not more than four ounces during the twenty-four hours—

has a beneficial effect in the class of cases under consideration.

Exercise, either passive, as massage, or according to the Schott method of treatment, is frequently of the greatest benefit.

It is possible to determine accurately the area of cardiac dulness by percussion, but the new photography will shortly render such manipulations unnecessary (the speaker presented two photographs of large size taken recently, that showed the heart quite distinctly, as well as the buttons of the man's clothes); the heart area is reduced by passive exercise, when an improvement is also manifested in the cardiac sounds and the rhythm of the pulse. Cases in which the Schott exercise certainly did harm improved when massage was substituted for it. Other cases were improved not by massage but by active exercise: a happy medium must be observed, and the nervous influence must not be overlooked nor the element of hope, both of which are factors in the successful issue of whatever mode of treatment is adopted. Another method is that by baths containing salines and carbonic-acid gas, but this gives the best results when combined with exercise, active or passive, as the case may indicate.

The old remedial medicines are by no means to be laid aside, and in digitalis we have the most powerful cardiac tonic known, though strophanthus runs it close and occasionally can be given when digitalis is not tolerated. The latter acts by inducing contraction of the muscular fibres and diminishing the flow of blood: good results have followed the use of caffeine and theobromine. The speaker advised caution in the use of diuretics, but thought that iodide of potassium was of use only in cases in which inflammation or some syphilitic complication coexisted with the cardiac disease; when such existed its effect was often remarkable, while in others it seemed to exert no influence whatever.

Tapping the pleura when there was even but a very little effusion was productive of benefit, but tapping the abdomen was to be deprecated, and the speaker had recourse to that expedient only after everything else had been tried. Opium when judiciously administered was invaluable, and sulphonal, chlorodyne, and Hoffman's anodyne were extremely useful, too.

To sum up, the speaker proceeded to say that the remedial agents in cases of cardiac weakness were rest, diet, medicinal agents, and Schott's treatment; but he doubted the necessity and often the desirability of sending patients a long and tedious journey to Norway, when the same treatment could be obtained nearer home.

DR. HERRINGHAM stated that his experience led him to give the preference to digital over auscultatory percussion for determining the area of cardiac dulness; the latter was available over soft parts, but over bone it was absolutely of no use whatever.

DR. CALDER LEITH doubted whether percussion could be relied upon in the living subject, and believed that it was the carbonic acid contained in the bath and not the salines that acted upon the heart of the patient subjected to that mode of treatment. He also thought that the patient breathed an air charged with the gas, which acted directly on the blood-vessels. Not only must the element of hope be taken into account in such cases, but the patient's mental and individual peculiarities were factors that should not be overlooked.

DR. EDMONT found that the effects of the Harrogate baths largely charged with saline matters and taken at a temperature of from 92° to 96° F. were but transient, but the position of the patient during the bath was important. On the whole, he preferred the bath to exercise, whether passive or active, and had

found the pulse to drop from 150 to 65 in the bath in a case that was aggravated by movement, but which recovered when recourse to the bath was again had. Children are often terrified by the bath, and in this case he, as a rule, prefers movement. He has it in contemplation to give the needle bath a trial, and thinks the good effect produced may be the result of reflex action.

DR. LIDDELL concurred with Sir Thomas G. Stewart in a general way. In one case that came under his notice the pulse dropped suddenly from 125 to 74, when the patient said he felt better than he had for months. He, the speaker, agreed that the element of hope played a most important part in these cases, and asked how long the treatment was to continue. One of his patients was able after three months to resume work, and experienced no return of his ailment. More experience was wanted.

DR. SAUNDEY considered that the essential points of the treatment were the temperature of the bath and the amount of saline matters contained in it. Digitalis caused recession of the apex of the heart before the Schott treatment was heard or thought of. He deprecated using the different modes of treatment concurrently, and thought with other speakers that hope was a potent factor in all these cases.

DR. BYROM BRAMWELL preferred the old to the new plan of treatment, but admitted that the latter may come in usefully at times and in certain cases. The sheet anchors, however, are rest and cardiac tonics, and he could endorse every word said by the opener of the discussion in this connection. To his medical brethren he would say: "What would you like to be done if you were the patient?" No doubt there were many supposed cases of cardiac failure that had benefited immensely by a visit to Norway, and the virtues of the treatment pursued there were loudly proclaimed, especially by neurotic women, who had enjoyed their holiday and labored under no cardiac complication whatever. Muscular movements assist the circulation, and photography was about introducing to us absolute certainty in the diagnosis. No drugs are more useful than digitalis and strychnine, especially when combined with perfect rest and rectal feeding. Great benefit had resulted in his experience from the mode of treatment he laid down, for much cardiac disorder was the result of a distended stomach and congested liver.

DR. A. MORISON thought there were cases of cardiac shrinkage that were not open to doubt, but he held them to be of rare occurrence. He thought they resulted from stimulation of the peripheral nerves, and was of opinion that the Schott treatment was more useful in cases of mitral than of aortic disease.

DR. BEZLEY THORNE thought rest was a fundamental part of the treatment when exercise was not applicable, but in other cases it did harm. Massage was valuable and so were drugs, neither of which were excluded by the Schott method. He did not agree with the undue limitation of fluid, but, on the contrary, gave water freely; not much with the meals, but when the process of digestion was about complete he allowed a large quantity of water to be taken, and found it advantageous. A limited amount of water conduced to the storage of toxin in the blood, and free diuresis cleared it all away.

DR. JAMIESON believed in the Schott treatment. He had just returned from Norway, and was of opinion that the method there pursued was an admirable adjunct to other methods, but in cases of aneurism and dilatation of the blood-vessels it was not so useful as some of the older plans of treatment. He instanced a number of cases in support of his contention.

DR. BARR remarked that the uniform peripheral pressure in an ordinary bath amounted to one-fourth pound

to the square inch of the surface of the body, and that would have a tendency to raise the arterial tension. The bath was therefore inadvisable in cases of mitral stenosis, to which the tension was prejudicial. He thought good was accomplished by the limitation of ingested fluid, but suggested that the diet should be so regulated as not to produce toxin in the system, and then there would be no necessity for washing it away. He utterly disagreed with the idea of rectal feeding; it was never intended that man should take his food that way. Formerly we gave enemata of egg and brandy—the latter was absorbed, the former was left; now we give peptonized matters, and free toxin is actually formed in the rectum, taken up by the rectal veins, and carried into the circulation.

DR. RUSSELL thought there was a tendency on the part of the public to want to be sent to Norway, but the treatment practised there could be carried on nearer home. He thought it possible accurately to determine the outline of the heart during life.

DR. KINGSCOTE thought it was possible correctly to determine the outline of the heart during life, but not by the ordinary methods. He, however, had devised an instrument for the purpose, which he showed, and for which he also claimed the advantage of being able to outline the kidneys from behind. It was most important that the part percussed should not be made to vibrate, and his instrument obviated this. A sheep's heart slung in a square cardboard box could be accurately outlined by means of his instrument, which could be obtained from Down Brothers, Borough, S. E. He had treated about three hundred cases by the Schott method, including some of fatty and gouty heart, as well as some due to various internal congestions, but the method was of less use in instances in which there was valvular disease, and in which a relapse might be looked for in about six months.

DR. HARRY CAMPBELL thought that a widespread muscular contraction stimulated the heart, and baths were useful by causing involuntary contractions, but he attached no importance to the constituents of the bath.

DR. EARLE had found that a bath the temperature of which was 75° F. caused the pulse to fall rapidly, and he accounted for the phenomenon on the theory of the rapid abstraction of heat from the body. Carbonic acid in the water prevented the sensation of cold, which at once became noticeable if the little sheet of bubbles was brushed off from any part of the body.

DR. FISHER had found that cases of hypertrophy benefit more than those of valvular disease of the heart, especially those of hypertrophy due to a toxic agent, such as alcohol.

SIR THOMAS GRAINGER STEWART, in closing the discussion, said that he was not going to make a speech, for they were all beginning to be more or less conscious of cardiac failure and anxious for an adjournment to give them an opportunity for treatment by the stomach. He would merely remark that carbonic-acid gas combined with salines had, in his experience, afforded the best results.

Chorea and Rheumatism.—DR. T. CHURTON, of Leeds, then read a paper on the "Rheumatic Causation of Chorea," and remarked that it might follow arthritis but not a chill, unless there was cerebral excitement coexisting; while sudden emotion might be followed by instantaneous collapse and death—instancing a case of a young woman who was suffering from chorea, and who, on being found to be pregnant, though every care was taken not to let her know that her condition had been discovered, instantly fell down and died in a few minutes.

DR. SAMUEL HYDE presented a paper advocating "The Treatment of Sciatica by Means of Baths and Climate;" DR. A. G. BARRS, of Leeds, one on "Alcoholic Cardiac Failure;" DR. WILLIAM RUSSELL, of

Edinburgh, one on "Abdominal Cases Illustrating Diagnosis;" DR. HARRY CAMPBELL, of London, on "Respiratory Exercises in the Treatment of Disease;" DR. JAMES CAGNEY, on "Early Energetic Treatment of Infantile Paralysis;" DR. G. V. PEREZ, of Teneriffe, on "New Auscultatory Sign in Mediastinal Affections;" and DR. HERBERT SNOW, of London, on "Opium-Cocaine Treatment of Carcinoma (with Cases)."

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held in Boston, May 26, 27, 28, 29, 1896.

THE PRESIDENT announced the presence of Acting-Governor Walcott, of Massachusetts, who addressed the meeting briefly.

President's Address.—DR. RICHARD DEWEY then delivered his address, entitled "Our Association and Our Associates," in which he represented psychiatry not as one science, but as the outcome of many sciences which were as its handmaids. He treated of the relations of alienists to the general medical profession, to the trustees of hospitals, to a properly constituted controlling State board having visitory and advisory powers, but no right to paralyze the independent energies of superintendents or trustees.

The Neuron Theory.—DR. THEO. W. FISCHER, in a paper on "The Neuron Theory and Cerebral Localization," held that the brain cortex should be divided into excitable and non-excitable areas—the former to be subdivided into sensory motor centres for all the different muscular movements. The non-excitable cortex posterior to the excitable area may be subdivided into centres of special sensation. The remainder will constitute the area of general tactile and muscular sensibility. The neuron excitable cortex in front of the ascending frontal convolution relates to mental operations and conscious voluntary movements.

Word Deafness.—DR. W. L. WORCESTER then gave the history of fourteen cases of "Paraphasia and Word Deafness," which had been under his care, and in several of which autopsical examination showed embolism and softening of brain tissues about the island of Reil, and involving also the first temporal convolution on the left side. These cases, he said, often got into hospitals for the insane, and as the dementia was sometimes more apparent than real it became a nice question in these instances as to whether they were proper subjects.

Gynecology in the Asylum.—DR. R. M. BUCKE read a paper with this title, in which he held that as a part of the physical examination women on admission should receive gynecological attention, and, if found locally diseased, should be treated as they would be in general practice if sane and likewise affected with uterine troubles. Out of thirty-four women who underwent gynecological operations in his asylum fourteen recovered their reason promptly and some of them most unexpectedly, seven were improved by the operations, eight derived no benefit, and five died subsequently.

Thyroid Treatment of Catalepsy.—DR. J. G. ROGERS reported the results in "Some Cases of Catalepsy under Thyroid Treatment." He mentioned the cardiac and other disagreeable features attending the administration of the remedy, which he deemed powerful for good or evil, and to be accepted in psychiatry as a most valuable addition to our materia medica, judging from the decided improvement in the

mental condition of some of his patients, but to be employed with cautious discrimination.

Psychic Influence of the Night.—DR. A. B. RICHARDSON read a paper on the "Psychic Influence of the Night Season," showing the general loosening of mental inhibition and the predominance of fear and other depressing emotions at night, both in sane and insane persons.

DR. JOHN B. CHAPIN, of Philadelphia, then brought out some important forensic points in a paper on "Several Writs of Habeas Corpus and What Became of Them." He mentioned among other things of interest that the judges of courts in Pennsylvania, since 1896, in dealing with insane persons seeking release through habeas corpus proceedings, based their decisions not so much on technicalities of law as on the higher ground of the medical welfare of the patients, remanding them to the hospital for further treatment, if it appeared for their best interest, without regard to the question whether they were dangerous to others in the legal sense of the term.

Neuritis in the Insane.—DR. E. N. BRUSH read an excellent clinical analysis of the symptoms of "Four Cases of Insanity Associated with Peripheral Neuritis," which had been under his personal care.

State Care of the Insane.—DR. CARLOS F. MACDONALD then made a lengthy special plea for State maintenance of the dependent insane in New York, as finally established with such great success by the commission in lunacy guided solely by humanitarian views, rising above political influence and personal motives, promoting harmony among officials of hospitals and largely extending their powers, and seeking with paternal solicitude naught but the welfare of the unfortunate patients.

There being neither assent nor dissent to the paper, a New York superintendent arose to apologize for such ideas of their own as he and his associates had held, as everything was now merged in harmony under the controlling commission.

Disorders of the Muscular System in Insanity.—DR. THEO. H. KELLOGG, of New York City, then read a paper with this title (see p. 217).

Deformities of the Hard Palate.—DR. WALTER CHANNING, in a paper on "The Hard Palate in Idiots," based on a comparative study of several hundred casts made by himself and selected from large numbers of school children and idiots, concluded that definite generalizations could not yet be made on this subject, and that too much importance had been attached to palatal deviations as stigmata.

General Paralysis in Sisters.—DR. AUGUST HOCH, of McLean Hospital, presented a report of "General Paralysis in Two Sisters," aged eleven and sixteen years, with report of an autopsy on one, and gave a detailed account of the microscopic lesions of the cerebral cortex, basal ganglia, and spinal cord, he having found extensive lesions of fibres and cells in all these regions.

The association then adjourned, to meet in Baltimore next year.

Practical Use of the Microscope.—Dr. Ohlmachee (*New York Medical Journal*) comments on the fact that a large majority of physicians in the United States possess microscopes and are unable to employ them satisfactorily even in their routine daily work. This fact is due to a lack of familiarity with methods of microscopic laboratory work. This is a reflection on the educational methods practised in medical college laboratories, especially since many young and enthusiastic men are markedly deficient in this respect.

Clinical Department.

A CASE OF POST-MORTEM CÆSAREAN SECTION, WITH DELIVERY OF A LIVING CHILD.

By HENRY S. STEARNS, M.D.,

NEW YORK,

VISITING GYNECOLOGIST TO THE CITY HOSPITAL.

PERHAPS the conditions most commonly calling for a post-mortem Cæsarean section are the sudden death of the mother from traumatism, hemorrhage, or eclampsia. And in such cases the delivery of a living child is certainly the exception. This is my reason for reporting the following case:

Mrs. S—, aged twenty-eight years, a primipara, menstruated last on July 4, 1895. Up to the beginning of January pregnancy advanced in quite a normal manner, save for a very intractable morning nausea and vomiting. In November a troublesome cough appeared, but there were no physical signs of any consolidation nor were any tubercle bacilli found in the sputum.

Early in January the cough became more persistent, with considerable pain in the larynx when swallowing. Physical examination revealed many coarse and fine mucous râles scattered over the chest, with a small area of consolidation at the right apex. Tubercle bacilli were now very numerous in the sputum. About the last of January small round gray nodules, probably tuberculous, could be distinctly seen on the epiglottis, with considerable œdematous swelling of the tissues around the vocal cords. Dysphagia became extreme, no local treatment having anything more than a very temporary beneficial effect. This, combined with the persistent vomiting and hectic, caused rapid emaciation. In February it was determined that the most advisable course was to induce labor at once, but the procedure was not consented to by the family of the patient. From this time she gradually sank, her temperature ranging between 99.5° and 102.5° F. Urine became more and more scanty, the daily average during the last two weeks of her life being eleven ounces, but containing no albumin.

Labor began on the morning of March 27th, and in the evening, when I saw her for the first time that day, the pains were very weak and absolutely ineffectual. Pulse, 160; temperature, 101° F., and unconscious about half of the time. By midnight, absolutely no advance having been made, and as any effectual interference would have certainly resulted in her immediate death, it was determined to wait for the patient's decease naturally, and then, if possible, save the child through an abdominal incision.

At 3:15 A.M. she was sinking rapidly, and all preparations were made for the section. Death occurred fifteen minutes later, and as soon as the family could be persuaded to leave the room, the incision was made and a living female infant delivered. The time elapsing between the death of the mother and delivery of the child can, of course, only be approximately stated, but was certainly not more than five minutes.

When delivered the child was deeply cyanosed, but began to breathe in a minute or two in response to the usual stimuli.

An interesting point was the action of the fetal heart, it remaining perfectly steady up to within two or three minutes of the mother's death, but after that it could not be detected even with the stethoscope.

At birth the infant weighed four and one-half pounds, when one month old five pounds, and at the time of writing—May 25th—she weighs a trifle over six pounds. During the first three weeks she was fed

on a diluted and peptonized milk: but, having considerably more digestive disturbance than seemed necessary for even such a puny specimen, a change was made then to "modified milk" from the "Walker-Gordon Laboratory." This change resulted favorably on its general condition, all gastric disturbance ceasing very promptly and appetite increasing materially.

21 EAST FORTY-FOURTH STREET.

INDUCED ABORTION, PERFORATION OF THE UTERUS, WITHOUT PERITONITIS.

BY ORISSA W. GOULD, M.D.,

NELLORE, INDIA.

DECEMBER 2d, 10 A.M., a Sudra woman, aged about thirty-six, who had walked fifteen miles, came to the dispensary, exhibiting what at first sight appeared like a superficial abdominal abscess.

History: Twenty days previous criminal abortion was induced, and since that time the patient had suffered severely with pain and had had attacks of fever, and for several days a very foul discharge.

Examination: Fluctuation over a place the size of a dollar, surrounded by deep induration, the whole being five inches in diameter. Two fingers' breadth below the umbilicus a hard point was felt just beneath the integument.

Bimanually: The body of the uterus reached nearly to the umbilicus, but was not fully outlined, because of the abscess. The anterior lip of the cervix was enlarged and resistant. Pressure made over the abdomen on the hard point felt beneath the integument was conducted to the finger on the anterior lip. Nothing was felt in the os. There was a foul purulent discharge. The temperature was normal, the pulse strong and regular.

Not being prepared for operative interference then, I gave an antiseptic douche, inserted an iodoform tampon, and put the patient to bed.

3:30 P.M.—Temperature, 101.4° F. The woman had suffered much pain since entering; her bowels had moved twice. The hard point on the abdomen had disappeared, and projecting from the os was a stick the size of a large knitting-needle. This was removed without difficulty. It measured eight inches in length.

December 3d, A.M.—Temperature normal, pulse good. There was a foul sanguino-purulent discharge from the opening in the abdomen, like the discharge from the cervix, which was increased by pressure on the abdomen. Slow intra-uterine irrigation, 1 to 50 carbolic, with hips elevated, was ordered.

1 P.M.—Chill, followed by temperature of 103° F. The internal os was at once dilated, and I removed a foul strip of cloth six inches long, irrigated again, and ordered quinine and stimulants.

6 P.M.—Temperature, 100.2° F.; pulse good. Another irrigation.

December 4th, A.M.—Temperature normal. The body of the uterus was much reduced in size, but there was still some discharge from both cervix and abdominal wall. I made a small incision in the latter and put in a short drainage tube. Intra-uterine douches were continued for two days, when all discharge had ceased.

December 8th.—The patient was discharged. The abscess was closed and the uterus was reduced to its proper size.

This case was interesting in many points, viz., the perforation of the uterus, the presence of the stick in it for so many days, the abdominal abscess evidently induced by irritation, the speedy and complete recovery without peritonitis or septicæmia

REPORT OF A CASE OF SYMPHYSEOTOMY.

By FORBES R. MCCREERY, M.D.,

NEW YORK.

THE recent revival of the operation of symphyseotomy has aroused such widespread interest that the following case seems worthy of report:

Mrs. R—, aged thirty, IVpara. In her first labor the child was lost, after a very difficult forceps operation. In her second I attended her. There was a marked projection of the promontory of the sacrum, with a resulting internal conjugate of only three and one-fourth inches. After a tedious labor, I applied forceps above the brim and delivered with great difficulty. The infant lived only three-quarters of an hour. When she was pregnant for the third time, I decided to bring on labor at the middle of the ninth month. This was, however, unnecessary, as the membranes ruptured two weeks or more before term. Two days later I again applied forceps above the brim, and delivered with moderate difficulty. The child was small, but thrived and is still living.

Her fourth labor began with rupture of the membranes on October 19, 1895. Pains began on the 21st, and continued strong and frequent till the afternoon of the 22d. The os was then one-half dilated. The head was still above the brim. The patient was becoming exhausted and begging for relief. She was then seen in consultation by Dr. John A. McCreery, who agreed with me in my proposition to divide the symphysis. The patient was accordingly etherized and the operation begun. I made the usual incision above the pubes, passed my finger down behind the symphysis until I felt the subpubic ligament, and divided it and the other ligaments by cutting from below and behind upward and forward with a blunt-pointed bistoury. The urethra was held to one side by a staff. Very free hemorrhage followed the incisions, but was controlled by pressure. The bones separated about two inches. The child was then delivered without difficulty by forceps. It was asphyxiated, but ultimately revived and is still living.

The after-treatment was troublesome. I sutured the upper part of the wound, introducing iodoform gauze into the lower angle, applied wet bichloride dressing, and strapped the hips. Two days later I removed the drain. A considerable amount of fluid blood followed. The drain was reinserted superficially. The following day it was again removed, and as the wound was apparently healing, there being no discharge, I sealed it with iodoform gauze and collodion, and put on a dry dressing. On the fifth day the temperature rose to 101° F., and the right labium was œdematous. On removing the collodion a large amount of bloody pus welled up from the wound. The probe entered two and one-half inches. I then inserted a drainage tube, and irrigated twice daily with bichloride solution. The wound soon began to granulate, and the temperature fell to normal. On the ninth day I removed the strapping and found that it had caused an ulcer to form over the right ilium. This was covered with boric acid and sterilized gauze, and the hips were restrapped. From that time on the case progressed favorably. I kept her in bed four weeks. The sinus closed in about five weeks. A fortnight later it reopened to a depth of one inch, but soon closed. Seven weeks after the operation there was a separation of about one-half inch at the symphysis, with slight motion. She walked well. I have not examined her since, but have frequently seen her and cannot observe the slightest abnormality in her gait. She says that she has no difficulty whatever in walking.

CONSTIPATION AFTER CHILDBIRTH, PRODUCING SYMPTOMS OF PUERPERAL INFECTION.

BY R. P. MYERS, M.D.,

HONOLULU, H. I.

I DELIVERED Mrs. —, primipara, aged twenty-eight, on January 1st. It was a natural labor, save that it was tedious. On the third day the temperature rose to $102\frac{1}{2}^{\circ}$, fourth day $104\frac{1}{2}^{\circ}$. Upon inquiry I found she had an operation from the bowels daily before delivery, also daily after the birth of the infant. The lochial discharge was very scanty—scarcely any, and none after third day. There had not been the slightest hemorrhage during delivery, only a few blood stains. It was truly a dry labor. I used warm carbolized vaginal douches with no result. I then ordered copious warm injections per rectum, followed by a large dose of salts. This resulted in an enormous discharge from the bowels. The temperature fell at once to normal and remained so until the woman got up well, on the twelfth day after delivery.

TWO CASES OF AN ENLARGED ASCENDING PHARYNGEAL ARTERY, SITUATED ON THE POSTERIOR WALL OF THE PHARYNX.

BY E. HARRISON GRIFFIN, M.D.,

NEW YORK,

LECTURER ON DISEASES OF THE THROAT AND NOSE AT BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING SURGEON FOR THE THROAT AND NOSE, OUTDOOR DEPARTMENT OF BELLEVUE HOSPITAL.

VERY few of these cases are on record. The two that I report are the only cases that have come under my observation during my throat experience of fourteen years at the Bellevue Hospital throat clinic.

Dr. J. W. Farlow, of Boston, reported five cases in the *Boston Medical and Surgical Journal* of March 31, 1887. Mr. Sanderson reported a case in the *British Medical Journal* of September 1, 1887, and Mr. Crisswell Baber in the same journal of March 1, 1887.

The fact that the pharyngeal artery may in some cases be as large as the radial artery in the wrist and at the same time lie superficially on the pharynx, so that its pulsations can be plainly seen and counted, gives an importance to a rigid examination of the pharynx before such an operation as excision of the tonsils or even an opening of an ordinary quinsy, as an injury to this vessel when so situated and enlarged would mean a copious hemorrhage and anxiety to the operator, which could have been avoided if the pharynx had been thoroughly inspected and the point borne in mind that in some cases the pharyngeal artery receives the dignity of being one of the large medium arteries of the body.

CASE I.—A woman, aged forty-nine, came under my observation one year ago, complaining of difficulty in swallowing. An examination of the throat showed the hard and soft palate covered with about a dozen cicatrices, stellate in form and having that peculiar appearance that diagnoses a past syphilitic infection. A small cicatrix was also situated on the pharynx, showing a past ulcer now healed.

The large number of these trademarks showed that at some remote period her throat had been covered very extensively with superficial and deep ulcers of a syphilitic nature.

The history of the case was as follows: The patient had married at eighteen years of age, and had had a number of miscarriages and dead-born children. Pains in the tibia bones and repeated headaches were present.

From her history, I would place the primary inoculation at about her first year of marriage. When she applied for treatment at my hands, in conjunction

with the numerous cicatrices, a large pulsating tumor was visible, situated on the right side of the pharynx, extending from its extreme end to almost its median line, in size about the volume of a lead pencil. It extended downward on the pharynx to the distance of an inch and one-half. It gave her no trouble whatsoever. The difficulty in swallowing was due to an acute attack of follicular tonsillitis. The tenderness in her throat subsided after the tonsillitis was cured.

CASE II.—A woman, age forty-five, German, applied for treatment for a nasal catarrh. An examination of her pharynx showed a large pulsating vessel on the left side of the pharynx about a quarter of an inch inside the posterior pillar of the fauces.

The artery was about the size of the one I have reported above, namely, as large as a lead pencil. It extended above the margin of the soft palate and as far down as I could see by depressing the tongue with the spatula. This abnormal condition of the artery gave rise to no symptoms.

It is an interesting fact that all the cases of an enlarged ascending pharyngeal artery reported, occurred in females and not one, so far, has been reported in a male subject. Out of the five cases Farlow reported, the artery was on both sides in two cases.

112 WEST FORTY-FIFTH STREET.

AN EMERGENCY—OBSTETRICAL AND EPIS-TOLARY (INVERSIO UTERI).

BY H. S. KILBOURNE, M.D.,

FT. CLARK, TEX.

SURGEON U. S. ARMY.

IN the vicinity of this frontier station is a camp of Seminole negroes, once residents of the opposite side of the Rio Grande, whither they had fled soon after the removal from Florida to the Indian Territory of the Indians who held them in slavery. Of late years they have been drifting back toward their native soil. The public schools of this State are open to their children. Their familiarity with the country along the border has led to the employment of some of them as scouts in the military service, in which some of them have gained distinction. Their language is a curious *patois* of Spanish, English, and the Seminole dialect, in various degrees of admixture. Early one morning recently the following note was handed me by a breathless negro boy:

"Dr please come down here my wife had a birth to a kidd this moing an hir woum all come out please come an see if you come

"CHIAKLE DINNEL

"BROTHER JOHN DENNIL"

I lost no time in responding to so moving an appeal. On reaching the cabin I found a young colored woman, primipara, who just before daylight, without assistance of any kind, after a quick labor of one and one-half hours, had delivered herself of the "kidd" lying beside her. "Hir woum all come out" I found extended between the thighs. The inversion was not quite complete and hemorrhage had ceased. The prolapsed organ was replaced without an anæsthetic and without much difficulty. It went back to its place with something of a snap, like the return of a dislocated humerus to its socket. The child and placenta had been shot out, I was told, with similar suddenness.

"Chiarle" had been sent on a mission to a ministering neighbor and I left the patient in her hands, without pain or threatening symptom. In the evening "Brother John dennil" rode in with the following note:

"Doctor yo told me if the thing was most all right she had her causes right after i left. Do yo think

that she will need that sereange and she left with a gripem like a, rinning off at the blatter"

I judged that "the thing was most all right" and sent the necessary instructions in regard to the use of the "sereange." Her "causes" have continued to progress favorably and the "gripem" was no worse than is common. The recovery promises to be complete.

REPORT OF THREE CASES OF PHTHISIS PULMONALIS FOLLOWING SCALD OF THE CHEST.

By J. N. HALL, M.D.,

DENVER, COL.,

PROFESSOR OF THERAPEUTICS AND CLINICAL MEDICINE, UNIVERSITY OF COLORADO.

IN the past three years I have treated three cases of pulmonary consumption in which the trouble originated upon that side of the chest which had in infancy been severely scalded, as evidenced in each case by an extensive cicatrix. In each instance there was contraction of the side of the chest upon which the scar was found. It seems reasonable to suppose that this contraction, by interfering with the normal lung movements, may have at least determined the development of the disease upon this side of the chest, and possibly when, without this element of danger, the patient might have successfully resisted the exposure to tuberculosis.

CASE I.—A. B.—, twenty-four years of age, printer, single, a dispensary patient. He had worked in a Chicago printing-office, but in the spring of 1893, developing cough and loss of weight, he consulted a physician, who told him that he had consumption and advised a change of residence to Colorado. I treated him during the summer and fall of that year, and reported his case in the December number of the *Colorado Climatologist* of 1894 as one of arrested phthisis, not mentioning the fact that he had marked contraction of the right chest as a result of a scald in infancy. I did not at that time fully realize the possible connection with his chest disease. When I first saw him he presented dulness, bronchial respiration, and abundant fine râles over the right chest above the fourth rib, front and back. By December he had regained eighteen pounds of his lost weight, thus bringing it up to the normal, while cough and all other symptoms had disappeared. The dulness and bronchial respiration, of course, remained in his right chest. He insisted on returning to Chicago, but came back in three months, worse off than when first seen. He was gradually regaining the lost ground when I lost sight of him.

CASE II.—L. G.—, American, machinist, single, from New York. His mother's brother died of phthisis and a younger brother has now some serious chest disease, apparently of the same nature. When two years of age the patient was severely scalded over the left chest, an extensive cicatrix and some contraction of the side remaining. He states that he had a pleurisy eighteen months ago, but apparently, from his story, without effusion. During the past few months he has fallen in weight from one hundred and fifty pounds to one hundred and thirty-two, and has developed cough, night sweats, expectoration, and dyspnoea upon exertion. He has marked dulness and bronchophony in the upper half of the left chest, and abundant moist râles in the region of the second rib. Similar signs, but much less marked, are found over the remainder of the left lung, and respiration is much diminished. The heart is displaced one inch and a half to the left, and its area of dulness increased by the retraction of the left lung. The patient has resided upon a ranch here for the past five months, and, al-

though he has gained sixteen pounds, still coughs considerably and has nearly as much expectoration as upon arrival. The only change in the chest signs consists in a lessened abundance of the moist râles.

CASE III.—S. T.—, forty-one years of age, dentist, married, American, recently from Connecticut. He states that his family was considered scrofulous, but there have been no cases of consumption to his knowledge. He nearly lost his life when two years of age from a scald of the right chest, caused by his pulling a vessel of hot water over on to himself. A large and markedly roughened and contracted cicatrix remains over the second, third, and fourth ribs, with moderate contraction of the chest upon this side. He has been failing for three or four years, and has complained for some two years of cough, expectoration, dyspnoea, loss of weight, and debility, not materially benefited by his residence for the past eleven months in Colorado. There are dulness, bronchophony, and abundant moist râles above the fourth rib, front and back, upon the right side, and very slight dulness with a few moist râles over the left chest near the sternal end of the clavicle. There seems to be no reason to doubt that the trouble originated upon the side where it is now so extensive. His urine has a specific gravity of 1.024, one-fifth by volume of albumin by the heat test, and abundant granular and fatty casts and fatty epithelial cells. He is gradually failing.

The report of these cases must enforce, I believe, the fact, long recognized, that it is the lung which is prevented from expanding to the fullest extent which offers a harbor to the bacillus tuberculosis. It is imperative, in my opinion, in the treatment of scalds of the chest involving contraction, if we would avoid the grave danger of phthisis, to adopt the same precautions as regards diet, exercise, residence, occupation, and all other factors entering into the etiology of phthisis, that we now do in the treatment of other conditions involving limitation of expansion of the lung. In view of the long interval in each case between the receipt of the scald and the development of the disease, it seems scarcely possible that any other factor than the contraction, so markedly developed after injuries of this nature, could have been operative.

CONGENITAL ABSENCE OF THE UTERUS, FALLOPIAN TUBES, AND OVARIES.

By W. HARPUR SLOAN, M.D.,

PHILADELPHIA, PA.

C. D.—, aged twenty-four, died after a protracted illness, which was of such a complicated nature that a diagnosis was not arrived at, although the most prominent symptoms pointed very strongly to peritonitis with marked cerebral involvement.

The patient was small of stature, of the brunette type, well nourished, and fleshy. Her appetite was always voracious. She was subject to periods of unconsciousness, that would last from ten to twenty minutes at a time, and after being revived from one of these attacks she appeared exceedingly bright, and was invariably hungry and would eat a hearty meal with a ravenous appetite.

Her family history was good, mother and father both living and well. She had one brother, who enjoyed good health. The patient herself had none of the usual diseases of childhood. She was blind from birth, although her other faculties were good. She had never menstruated in her life.

Post-mortem: Externally the body presented nothing worthy of note, except a poorly developed condition of the breasts, with an entire absence of the nipples; the areola was well marked on each breast. The mons veneris was totally devoid of hair.

The brain was congested, especially the right lobe, with marked meningeal engorgement: the dura mater was also much congested.

The right lung was in a normal condition; the left one much congested.

The heart was normal, except that it was slightly displaced to the right.

The stomach was dilated and contained food partly digested.

The liver was markedly hyperæmic, containing large masses of a cheesy substance throughout, while the capsule of Glisson was drawn extremely tight over the whole organ.

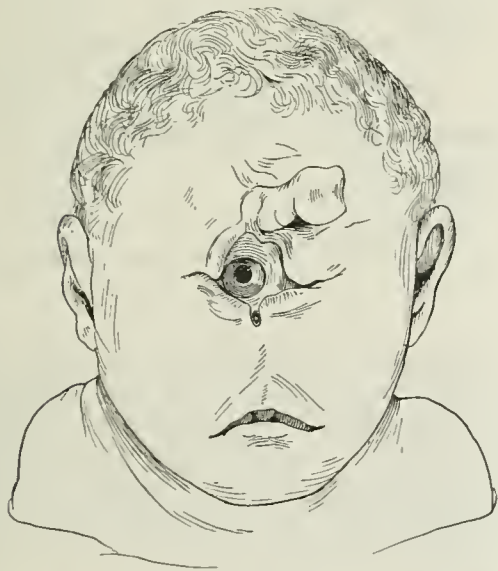
The spleen was normal, as were also the kidneys and bladder, the latter containing a large quantity of acid urine.

The most interesting find was that there was an entire absence of the uterus, Fallopian tubes, and ovaries, there being no evidence of their existence even in an immature state. The vagina had a normal external opening; the clitoris and labia majora and minora were normal, as were also the meatus urinarius, vestibule, and hymen. The vagina ended in a cul-de-sac with no farther extension or development.

CYCLOPIA.

By F. H. ALLEN, M.D.,
STAPLES, MINN.

THE mother of the monster here described is a Finlander, who has always enjoyed good health and has had three other healthy children. The "freak" was a girl baby, born at seven months. She weighed at birth five pounds eight ounces, and was well developed



with the exception of the face. Here the nasal bone seemed to be wanting, while the orbits were fused together, making one large, four-cornered, staring eye about the centre of the face, with a fleshy teat over it, probably representing the soft parts which should have gone to form the nose. The child lived for about half an hour after birth.

To Preserve Rubber Instruments.—It has been recommended (*Zeitschrift f. Krankenpf.*, April, 1896) that rubber instruments be kept in a three-per-cent. solution of carbolic acid. Should they not be used frequently they should be removed and stretched occasionally.

Therapeutic Hints.

Pulmonary Tuberculosis.—

R Potassii iodidi gr. xiv.
Iodi pur. gr. xv.
Sodii chloridi ʒ iss.
Aquæ dest. O ij.

M. S. Take three or four tablespoonfuls in a glass of milk three to six times daily.

—RENZI, *Jour. de Méd. de Bordeaux*.

Tinea Favosa.—Dr. Khrenitchek (*Semaine Médicale*, 1896, No. 8) recommends washing the scalp with tincture of green soap and shaving the affected area. Then the following mixture should be applied. If the hair grows rapidly the shaving may be repeated every two or three days.

R Acidi carbolici,
Balsami peruviani āā ʒ iiss.
Petrolei,
Glycerini āā ʒ iij.
M.

Local Anæsthesia.—

R Chloroform 10 parts.
Ether 15 "
Menthol 1 part.

The anæsthesia resulting from this application lasts about five minutes.—LE GERANT and E. PIERRE.

Acute Coryza.—

R Zinci phosphidi gr. viiss.
Extracti belladonnæ gr. vi.
M. fiant pilule No. xl. S. One twice edaily, after each meal.

In case of general impairment of nutrition one grain of arsenious acid may be added to the foregoing prescription.—*Gaz. Hebdom. de Méd. et de Chir.*, No. 42.

Dry Eczema with Pruritus.—

R Menthol gr. xxx.
Resorcin gr. xv.
Sulph. precip ʒ iiss.
Zinci oxidi ʒ iiss.
Vaseline ʒ i.
Ft. unguent.

—THIBIERGE, *Medical Times and Hospital Gazette*.

Spasmodic Asthma.—

R Tinc. lobeliæ æthereæ ʒ xv.
Spts. ætheris ʒ xx.
Tinc. chlorof. comp ʒ v.
Aquæ camphoræ ad ʒ i.
M. S. To be taken when breathing is difficult.

—*The Practitioner*.

Sick Headache.—

R Sparteine sulphate 0.02 gm. ($\frac{1}{3}$ gr.)
Caffeine 0.1 gm. ($\frac{1}{2}$ gr.)
Antipyrin 0.5 gm. ($\frac{7}{2}$ gr.)

Taken at intervals of two hours until four have been taken, even though the pain has disappeared.

—ARITZMAN, *Presse Médicale*.

Strangulated Hernia.—After several days of futile efforts at reduction the patient was placed upon the back with the hips raised and the legs flexed. At intervals of ten minutes two teaspoonfuls of sulphuric ether were poured over the tumor and strangulated parts. The surrounding skin was protected by vaseline. Slight efforts at reduction were made at first; the tumor gradually diminished beneath the hand on making gentle pressure and at the end of half an hour had completely disappeared.—FRIEDLANDER, *Wiener med. Woch.*

Salol in Vaseline, its best solvent, is found by Dr. Colombini (*Riforma Medica*) to possess a local action in contact with alkaline fluids or living tissues which is far superior to that of the salicylic acid and phenol into which it is decomposed, the usual irritant properties of these substances being lost. The skin and inflamed surfaces are found not to be irritated and ulcerations heal without pain or local reaction.

Prostatics may be benefited, Dr. Bazy thinks (*Presse Médicale*, February 29, 1896), by thyroid medication. He asks if there is not some relationship between the thyroid body and the prostate. The effects observed by him would lead him to believe that a study of the question in old men might have good results.

Neuralgias.—

R Menthol,
Guaiacol.....āā 1 gm.
Alcohol abs.....18 "
M. S. Apply one drachm locally two or three times in twenty-four hours and cover with cotton.

—SABBATANI.

Thyroidin is the name by which Wermerhen has designated an amorphous substance which he believes to be the active principle of the thyroid gland and which he extracts from it in the following manner. The thyroid pulp is left for twenty-four hours in contact with twice its weight of glycerin. This is pressed and filtered through absorbent cotton. Absolute alcohol is added to the filtered liquid, which precipitates the thyroidin.

Thyroproteid is a substance extracted from the glands by Notkine, who believes it to be the determining cause of myxedema by accumulating in the blood. The true product of the gland he thinks is a soluble ferment which neutralizes the thyroproteid, transforming it into thyroidin. This neutralization takes place in the circulation.—YVON, *Arch. de Neurol.*, March, 1896.

Poisoning by trional in daily dose of one and a half grains for a period of thirty-six days has been reported by Hecker. The patient showed extreme intellectual and physical signs of paralytic dementia. Suppression of the drug caused the alarming symptoms to disappear.—*Arch. de Neurol.*, November 3, 1896.

Syphilitic Neuritis of the secondary period, probably due to an embryonal infiltration of connective tissue and leading to destruction of nerve fibres, is benefited by the daily injection of a cubic centimetre of the following solution:

R Benzoate of mercury..... 0.25 cgm.
Pure chloride of sodium,
Chlorhydrate of cocaine.....āā 0.06 cgm.
Distilled water.....30 gm.
—CHAMPENIER.

Syphilis of the Cord.—In this infrequent affection most active measures are requisite. Vesication the whole length of the vertebral column, followed by a dressing of mercurial ointment, has produced most marked improvement.—MAURIAC.

Iodides Other than That of Potassium, in the Treatment of Syphilis.—Dr. Brizuet draws the following conclusions: 1. All the iodides have anti-syphilitic properties. 2. Iodide of potassium is usually the most active; iodide of rubidium, often better tolerated, seems to be almost its equal. 3. When iodide of potassium is not well borne there need be no hesitation in having recourse to iodide of sodium, which often acts well. 4. Iodide of strontium has no advantage over others. 5. Iodide of ammonium should be reserved for certain cases of grave syphilis

if the potassium salt disagrees or is not active; it seems especially useful in tertiary eruptions. 6. Iodides of lithium and calcium act more slowly and less surely than those mentioned. 7. To secure an effect equal or at least comparable to that which iodide of potassium gives, all other iodides must be prescribed in the same doses.—*Journal des Mal. Cut. et Syph.*, p. 87, February, 1896.

Vomiting in Pregnancy.—

R Diluted nitrohydrochloric acid..... ʒ iss.
Spirit of lemon..... ʒ i.
Simple syrup..... ʒ ij.
M. Give one teaspoonful in a wineglass of ice water three times a day.

—*Buffalo Medical and Surgical Journal*.

Round Worm (*Ascaris Lumbricoides*).—

R. Fl. ext. spigelie..... ʒ x.
Fl. ext. sennæ..... ʒ vi.
Olei anisi..... ʒ v.
Olei cari..... ʒ v.
M. S. For a child of two years half a teaspoonful two or three times daily; for child from four to ten years a teaspoonful.

—C. W. TOWNSEND.

Laxative for Children.—

R Bicarbonate of sodium..... ʒ iij.
Powdered rhubarb..... ʒ ij.
Sulphate of sodium..... ʒ i.
Oil of peppermint..... gtt. xx.
Half to one teaspoonful before breakfast.

—*Journal de Méd. de Paris*, March 8, 1896.

Corns.—

R Acid. salicylici..... gr. xxx.
Ex. cannabis ind..... gr. x.
Collodii..... ʒ iv.
M. Paint on corns night and morning for several days.

—STELWAGON, *Medical World*, July, 1896.

Ulcerations in Gonorrhœal Ophthalmia.—

R Eserinæ sulph..... gr. i.
Cocain. muriat..... gr. v.
Aq. dest..... ʒ i.
M. S. Two drops as directed.

—DE SCHWEINITZ.

Acetanilid.—Dr. Wimble (*Pittsburg Medical Review*, May, 1896) says he concurs with what Dr. Morton, professor of surgery in the Philadelphia Polyclinic, has said, namely: "I have employed acetanilid locally in a large number of surgical affections, with results so surprising in some respects as to make it difficult to restrain enthusiasm in commenting upon the antiseptic properties of the drug."

Konig-Maas Method of Resuscitation from Apparent Death by Chloroform.—Dr. Ludham-Green (*Birmingham Medical Review*) says the efficacy of this method lies in its direct action on the heart. It restores both respiration and circulation. If, on a fresh cadaver, the precordium be quickly and forcibly compressed, a distinct impulse wave in the carotid arteries is easily detected, and the pupils will contract as the blood fills the capillaries of the iris. The authors direct that the operator should stand on the left side of the patient and face him, placing the ball of the thumb of the open right hand upon the patient's chest at a point between the apex beat and the sternum. The thoracic wall should then be repeatedly pressed in with quick, strong movements, at the rate of from thirty to one hundred and twenty times per minute.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A WEEK OF CONGRESSES—LIVERPOOL, GLASGOW, CARLISLE—PHARMACEUTICAL CONFERENCE—PUBLIC HEALTH AND SMOKE PREVENTION—DEFECTIVE SIGHT OF SCHOOL CHILDREN—INQUIRY INTO OPHTHALMIA—WATER FAMINE.

LONDON, July 31, 1896.

THE season of congresses is upon us—some irreverently call it the “silly season.” Three meetings concurrently should satisfy the appetite for this form of entertainment. It is a rather “far cry” to Glasgow, and to include Liverpool and Carlisle *en route* is too fatiguing a preparation for letter writing. You have your own reporters at Carlisle, so I may give the go-by to the proceedings of the British Medical Association and refer your readers to the reports of the several sections which you print. The same day that this began—Tuesday—the Pharmaceutical Conference opened at Liverpool, when Mr. Martindale, the author of the “Extra Pharmacopœia,” delivered the presidential address. He passed in review many of the changes he has witnessed in his quarter of a century’s experience. The new medicaments introduced in that period are numerous and of the highest importance. It was natural for so eminent a pharmaceutical chemist to dwell upon them. Many of the older drugs are now produced by much improved processes in a purer condition and yet at a lower price. On all these points and many others Mr. Martindale discoursed out of the fulness of his knowledge in a pleasant enough manner. When he came, however, to condemn in indignant phrases the Royal College of Physicians for leaving pharmacology out of the subjects for a separate examination, I thought he was going beyond his province and was only echoing the discontent of the protesting professors of pharmacology. To pretend that those who have not passed a separate examination in pharmacology will be unable to prescribe any but the simplest remedies is manifestly absurd, and I wonder Mr. Martindale should venture on such a prediction. Were men afraid to prescribe before the recent effort to alter the meaning of the word pharmacology? Are they not now injecting organic fluids, about which even Mr. Martindale himself knows but little? He was more at home in advocating the metric weights and measures, which are to be introduced into the new pharmacopœia as an alternative to the old system.

At Glasgow the Public Health Congress has had a discussion on the smoke nuisance, and the following resolution was passed: “That as the information put before this congress shows that the undue emission of smoke from the chimneys of mills, factories, and hotels can be prevented by careful firing or mechanical stokers, and without causing extra expenditure to the owners, it is desirable that the local authorities should enforce the smoke-prevention clauses in their local acts or in the general acts more stringently than they have hitherto done.” A gentleman from London gave the metropolis an excellent character in this respect; even went so far as to say that though there were five millions of people in London, they would not have smoke. From furnaces, perhaps, but however much clearer the air in London may be than that in Glasgow, I could not admit it to be comparable with many smaller cities. The gentleman from London felt, no doubt, the depression of the still murkier Glasgow.

Mr. Brudenell Carter has made a report to the education department on the eyesight of school children in London. He finds only 39.15 per cent. possess

normal vision. Slight hypermetropia is the most common defect, but is seldom sufficient to require glasses. Myopia is not frequent and is less both in number and degree among girls, who have sewing as well as lessons to do, than among boys. Hence, Mr. Carter concludes it does not depend on defective lighting of the rooms or other school cause. He was struck by the large proportion of subnormal vision, and suggests as a cause that town children have not the opportunity of cultivating the sight by looking at distant prospects. The eyes of eighty-one hundred and twenty-five children were examined for the purpose of this report.

A more important question respecting the eyes of school children is the prevalence of ophthalmia, and the local government board has entrusted an inquiry on this subject to Dr. Sydney Stephenson, who possesses special qualifications for this task. He will have authority to inquire into the condition of every child in London chargeable to the poor law. This will be a laborious undertaking, involving inspection of some twenty thousand children, but Dr. Stephenson has already had great experience in ophthalmia and is just the man for the work.

The water famine in parts of London is exciting considerable fear as to its effects on the public health.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 8, 1896:

	Cases.	Deaths.
Tuberculosis.....	144	79
Typhoid fever.....	27	9
Scarlet fever.....	41	4
Cerebro-spinal meningitis.....	1	1
Measles.....	92	8
Diphtheria.....	149	21
Small-pox.....	0	0

Treatment of Stytes.—The following treatment is suggested for this troublesome condition: Locally, as soon as the evidence of a styte is appearing, an attempt may be made to abort it by cauterizing the spot with the fine point of a galvano- or thermo-cautery. In other instances, if it cannot be aborted it is best to aid the maturation of the boil by providing warmth and moisture, and evacuating the pus as soon as this is formed. In order to render the eyelid perfectly aseptic, it is well to wash the margins of the lid with one of the following solutions, hot:

R Bichloride of mercury..... grs. iv.
Distilled water..... O i.

Or in place of this, if it is thought the individual will be susceptible to the action of the mercury:

R Bichloride of mercury..... grs. ij.
Distilled water..... O i.

In other instances an ointment made as follows is of value:

R Powdered calomel..... grs. iv.
Vaseline..... “ lxxx.

As a general rule, stytes tend to return, owing to auto-inoculation. Care, therefore, should be taken that the edges of the lids are kept well cleansed, and if necessary a mild antiseptic wash should be used for some time after one styte has healed, in order to prevent the coming of others. Careful attention should also be

paid to the condition of the alimentary canal, and it is pointed out that Bouchard believes that auto-intoxication from the alimentary canal may result in the formation of styes, through the entrance of staphylococci into the sebaceous glands of the lids. Very often in these cases the administration of naphthol is of value for this reason. The following prescription may be employed:

R Benzo-naphthol..... $\frac{1}{2}$ i.
Ft. in capsul. No. xxx. One to two capsules three times a day.

Or if the patient is young, with scrofulous, arthritic, or anæmic tendencies. Fowler's solution in full doses may be administered with great advantage.—*Therapeutic Gazette*, June 15, 1896.

Preparation of Gauze Dressing.—Dr. Martenson gives the following directions: Rolls of cheesecloth about thirty yards in length are folded and placed in jars. On these the following solutions are poured, depending upon what kind of gauze it is desired to produce. Carbolyzed gauze, five-per-cent.:

R Colophene 50 parts.
Castor oil 15 "
Carbolic acid..... 25 "
Alcohol, 90 207 "

Three hundred parts by weight of this mixture are taken to five hundred parts of gauze. Or the following may be used:

R Vaseline 30 parts.
Carbolic acid..... 25 "
Benzin..... 242 "

Three hundred for five hundred of gauze. Thymolated gauze:

R Thymol..... 10 parts.
Essence of turpentine 3 "
Paraffin oil..... 10 "
Benzin..... 200 "

Three hundred and three of the solution to five hundred of the gauze. Sublimated gauze:

R Bichloride of mercury..... $1\frac{1}{2}$ parts.
Chloride of sodium $\frac{1}{2}$ part.
Glycerin..... 15 parts.
Distilled water..... 500 "

Equal parts of the solution and gauze are employed. Iodoform gauze:

R Iodoform..... 50 parts.
Paraffin oil..... 10 "
Ether..... 400 "

The weight ratio between the amount of solution used and the gauze is four hundred and sixty to five hundred. The gauze is allowed to soak for twelve hours in this solution, is then dried, and stored in an antiseptic, air-tight jar.—*La Médecine Moderne*.

Intra-Uterine Photography.—Dr. Pinard has reported an experiment performed by Varnier and Chapuis on the uterus of a woman who died of pernicious anæmia in December, 1894, at which time she was three and a half months pregnant. This is reported as the first intra-uterine use of the Roentgen rays (*The University Magazine*). The specimen had been frozen and divided by two sagittal cuts and preserved in spirit. The surfaces were accurately adjusted and secured by rubber bands. The cavity of the uterus appeared clear in the centre of the photograph; the outline of the specimen was distinct, and the inequalities in the thickness of the muscular wall could in part be

detected. The picture was crossed by two light vertical lines, the lines of the section and two dark horizontal bars portraying the rubber rings. The fœtus could be seen lying at the upper and right side of the cavity face downward, and extending from the fundus to within about four cubic centimetres of the lowest part of the inferior segment. The head was flexed on the thorax and completely in profile, but the ribs and spinal column, which finished very black, showed that the trunk lay obliquely to the right and backward. The outline of the neck, occiput, vertex, and forehead was well marked; that of the nose, mouth, and chin not so distinct. Near the elbow of one of the arms flexed with the hand on the forehead, two dark parallel bands indicated the radius and ulna, and the lower part of one thigh with the knee and lower leg and the dark shadow of the femur were quite evident. Both walls of the gravid uterus, the bladder, placenta, rectum, and fatty tissue had proved more permeable to the rays than the rubber bands a half millimetre in thickness. In the photograph the fœtus and its position were more distinctly seen than through the unbroken membranes of an aborted ovum. Pinard believes that it is probable that the uterine wall will be as easily traversed by the rays when recent and full of blood as when hardened in alcohol, and that the position and attitude of the fœtus can be thus ascertained in post-mortem specimens without freezing, and so interfering with their microscopical examination.

The Old World's Centenarians.—A German statistician has studied the census returns of Europe to learn a few things about the centenarians of the Old World. He has found, for instance, that high civilization does not favor the greatest length of life. The German empire, with 55,000,000 population, has but 78 subjects who are more than 100 years old. France, with fewer than 40,000,000, has 213 persons who have passed their 100th birthday. England has 146, Ireland, 578; Scotland, 46; Denmark, 2; Belgium, 5; Sweden, 10; and Norway, with 2,000,000 inhabitants, 23. Switzerland does not boast a single centenarian, but Spain, with about 18,000,000 population, has 410. The most amazing figures found by the German statistician came from that troublesome and turbulent region known as the Balkan Peninsula. Servia has 575 persons who are more than 100 years old; Roumania, 1,084; and Bulgaria, 3,883. In other words, Bulgaria has a centenarian to every thousand inhabitants, and thus holds the international record for old inhabitants. In 1892 alone there died in Bulgaria 350 persons of more than 100. In the Balkan Peninsula, moreover, a person is not regarded on the verge of the grave the moment he becomes a centenarian. For instance, in Servia, there were in 1890 some 290 persons between 106 and 115 years, 123 between 115 and 125, and 18 between 125 and 135. Three were between 135 and 140. Who is the oldest person in the world? The German statistician does not credit the recent story about a Russian 160 years old. Russia has no census, he says, and except in cases of special official investigation the figures of ages in Russia must be mistrusted. The oldest man in the world is then, in his opinion, Bruno Cotrim, a negro born in Africa and now a resident in Rio Janeiro. Cotrim is 150 years old. Next to him probably comes a retired Moscow cabman, named Kustrim, who is in his 140th year. The statistician says the oldest woman in the world is 130 years old, but neglects to give her name or address, possibly out of courtesy, or perhaps in view of the extraordinary figures which came to his hand from the Balkans he thought a subject only 130 years old was hardly worthy of particular mention.—*Medical Review*.

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APPENDICITIS AS IT AFFECTS LIFE INSURANCE RISKS.¹

By ALBERT WOODS, M.D.

WORCESTER, MASS.,

MEDICAL DIRECTOR OF THE STATE MUTUAL LIFE INSURANCE COMPANY.

No disease has assumed more importance in recent years, or excited greater interest in the medical profession, both at home and abroad, than appendicitis. It has been studied by the ablest physicians and surgeons in this country and in Europe, and their contributions have followed each other in rapid succession, so that now its literature has become voluminous.

From such abundant material, one would think that the necessary data could be easily collected to show the relation which this disease bears to life insurance; but I have studied many of the scholarly articles upon this subject, published within the last ten years, and I have failed to find just the information needed to enable me to form an intelligent conclusion.

Wells published in the *Medical Examiner*, in November, 1894, a valuable paper on "Appendicitis and Insurance" that contained many important facts, a knowledge of which is necessary to appreciate fully the bearing of this disease upon insurance. Besides this, I have found scattered through the medical journals only one or two short items in which any allusion has been made to this disorder, from an insurance standpoint.

To obtain exact information, I addressed a letter of inquiry to the various companies, to learn the practice of each in dealing with an application of a person giving a history of appendicitis. The replies showed such a remarkable difference in the methods of the several companies in deciding upon this class of risks that I was strongly impressed with the importance of bringing this subject before this association for discussion, and with the necessity of our trying to formulate some uniform rules for the guidance of all the companies.

In this circular letter there were six questions. The first was: How long after an applicant has recovered from a mild or catarrhal attack of appendicitis, before you consider him eligible for insurance?

Three companies replied: "We decline all, unless the appendix has been removed." Another answered: "Ten years." Another said: "Six months." The other companies variously fixed the limit between these two extremes. No two companies, excepting those which declined all, gave the same answers to the six questions submitted. For this wide difference in the rulings of the several companies I can offer no satisfactory explanation.

Many persons who have had appendicitis are now seeking life insurance, and no doubt the number will be much larger in the near future.

The question of the eligibility of this class of risks is one which is comparatively new to us, and its defini-

nite solution may not be possible at the present time. It may be necessary for us to wait until a larger clinical experience furnishes us with more accurate knowledge of the natural course and the ultimate outcome of the disease, or until the differences of opinion among the physicians and surgeons upon some of the points in its pathology, prognosis, and treatment have become settled. Even with the knowledge now at our command, we ought to agree upon some uniform mode of action, which will do neither injustice to the applicants nor to the companies which we represent.

I have not attempted to collect from the several companies the number of policy holders whose deaths were attributed to appendicitis and who had a history of having had the disease at the time of being insured, for I thought that even the combined experience of all the companies would be so limited that it would not be of much value for the purpose of this study.

I have seen no statistics showing the frequency with which inflammation of the appendix occurs. That it is quite common we all know. The statement often seen, that at least one-third of all post-mortems made upon adults at random give evidence of old inflammatory lesions of the appendix, indicates as clearly as anything the frequency of this ailment. Some of the expressions used by those surgeons who have so forcibly advocated early operations in all cases would lead us to infer that they believed that this disease was unusually frequent at the present time. It is generally thought, however, that more cases of appendicitis are seen nowadays than formerly, simply because the profession has learned to recognize its true nature.

It appears oftener in men than in women, four to one, according to Fitz' first series of cases, but in his second series the proportion is two to one. The Munich statistics, however, show relatively more women than men affected.

There are no observations which indicate the exact mortality of this affection. Fitz says: "The rate of mortality is by no means clearly established. The physician who sees only mild cases says it is low; while the surgeon who is called upon for aid in the gravest cases considers the mortality very high."

Bridges writes: "The mortality from appendicitis, considering the frequency of it, cannot be regarded as great. The mortality of those cases eventuating in perforation of the appendix is, however, great."

Richardson, of Boston, writes: "Excluding certain zymotic diseases, it causes more deaths than any other abdominal lesion. The number of deaths from appendicitis, in which the true cause is not even suspected, is, I have no doubt, very large. If we take the returns, however, and select those cases where death has been caused in males under forty by 'inflammation of the bowels,' we should get an approximate estimate of the number of deaths from this disease. It is only by collecting a large number of cases from many observers that the true death rate can be determined. This I have not attempted to do."

Let us look now at a few statistics. In his second series of cases, Fitz gave the number of those who died as 26 per cent. Porter, of Fort Wayne, collected 448

¹ Read before the Association of Life Insurance Medical Directors, May 1, 1896.

cases, in which the death rate was 17.23 per cent. Sahli reports 7,213 cases treated by 446 Swiss doctors; only 476 were operated on; of those not dealt with by operation only 8.8 per cent. died. Richardson gave me his personal experience in 401 cases, with a death rate of 13.4 per cent. Hawkins states the death rate of 264 cases admitted into the St. Thomas Hospital, London, as 14 per cent.

Ferguson says: "I see on an average about twenty cases of well-defined appendicitis each year, and out of this number about four would come to an operation. All the patients would get well, and the vast majority would remain well."

Bryant says: "Undoubtedly from sixty per cent. to eighty per cent. of the cases would recover from primary attacks without operation."

White writes: "Perhaps eighty per cent. of the cases of this type (catarrhal) recover under medical treatment. Of the remaining twenty per cent., at least one-half can be saved by operation during the condition of localized abscess, which occurs in probably that proportion of cases; of the remaining ten per cent., in which no protective adhesions would form, a certain indeterminate proportion recovers after operation, before septic peritonitis and intestinal paresis had occurred. This would leave a death rate of say five per cent. to eight per cent." (Wells).

If we examine the recent reports of those surgeons who believe that this disease should always be treated as a surgical one, and who have so vigorously pleaded for an operation in all cases as soon as a positive diagnosis has been made, we shall find that the death rate has been remarkably reduced. Deaver states that he has made two hundred consecutive operations, without any death; and Morris has recently published the results of one hundred consecutive operations, with only two deaths. These included all forms of the complaint. The reports of other surgeons show equally good results. Wyeth writes to me: "I have seen very few cases of death from relapsing appendicitis. I think this is accounted for by reason of the adhesions which form and include the first inflammatory focus, mechanically retarding the rapid infection of a recurring inflammation. I believe if every case of appendicitis were operated upon by a competent surgeon within twelve hours of the first symptoms of well-marked emigration of infectious organisms through the diseased or perforated wall, the death rate would not be over one per cent."

Richardson, who does not advocate operations in all cases, said to me that he had had seventy-five consecutive operations with no fatal results. Even general peritonitis, which is so much apprehended and dreaded as a result of an inflammation of the appendix, and which has always been considered to be almost surely fatal, until quite recently, has lost its terror in a measure, so that now a large per cent. of these cases recovers. McBurney has given us the records of his operations for diffuse suppurative peritonitis occurring as a result of appendicitis. Out of twenty-four cases, fourteen recovered. Albee saved three out of seven similar cases. Hawkins gives nine recoveries in thirty-six cases, some without operation. Richardson reports nine recoveries in thirty-two cases.

When we review the rapid progress made by the American surgeons in the treatment of this malady in the last few years, with its brilliant results in the saving of life, it is not unreasonable to anticipate that in the near future, with this improvement in the treatment still continuing, its death rate will become quite low.

I have dwelt upon this question of mortality because it is important that we should have a proper appreciation of the dangers to life resulting from appendicitis. Especially is this true when we consider the remark-

able tendency of this disease to return, and the possibility that the subsequent attacks may be followed by the same fatality as the primary one.

In studying this disease as affecting life-insurance risks, we need to recognize only non-suppurative and suppurative appendicitis.

Non-suppurative Appendicitis.—I will briefly review some of the essential features of this type of the disease. It has been stated by some observers that about eighty per cent. of all cases seen are of this form. The percentage of recoveries after the first attacks is variously given. Death is rare, and occurs only when general peritonitis or some other serious complication supervenes. The pathological changes in the appendix may be of the slightest, or they may be such as to leave the organ permanently diseased, or its lumen may become partially or completely obliterated, and the organ converted into a fibrous cord. It may be the seat of tuberculosis or other morbid conditions. Adhesions may be formed, of various extent and importance, which have been found to be the cause of some of the remote after-effects of the disease. There may be only one attack, or one or more subsequent attacks may occur at short or long intervals. Complete and permanent recovery may follow the primary or any of the succeeding attacks; or it may not take place until the appendix has been removed. Septic general peritonitis, or other serious complications, may appear. It is believed by many eminent surgeons that the appendix once severely or mildly inflamed is ever after a diseased structure, which is apt to give rise to serious trouble at any time in the future, and that it is a risk to the life of the patient to leave such an infected organ within the abdominal cavity. Many equally prominent in the profession have not accepted these extreme views.

It is in this variety that most of the relapses and recurrences are seen. Fowler states so clearly the distinction which should be made between the chronic relapsing and the recurring forms that I quote fully his words. He writes of the former: "The patient may become seemingly convalescent, in that all pain and febrile symptoms disappear. He may even be permitted to resume his vocation. Within a few weeks, or even earlier, a relapse takes place, with the symptoms perhaps more violent and threatening than at first. There is one symptom, at least, which does not entirely disappear, and its presence should always place the attendant upon his guard against this form of the affection. I allude to the symptom of persistent tenderness. This is sometimes accompanied by the presence of a tumor, although the latter is not an essential symptom of this type of the disease."

He says of recurring appendicitis: "The special feature of this form is the fact that the attacks occur at long or short intervals, suggesting some predisposing cause, which continues active after recovery from the first attack. It differs from the relapsing form of the disease in that entire recovery takes place. The patient remains free from any trace of the affection for varying periods, when suddenly and without any warning, he is subjected to another attack."

In some cases the interval between each succeeding attack becomes longer, its severity decreases, and finally the disorder ceases altogether, so that the patient is restored to health and is ever after as free from the risk of future trouble as if the appendix had been extirpated. This occurs when the lumen of the appendix has become completely obliterated. In those cases of appendicitis obliterans reported by Senn, in which ablation of the appendix showed only partial obliteration of its lumen, the relapses were frequent, and there was local discomfort or tenderness remaining during the intervals, as in the chronic relapsing form described by Fowler.

The two features of this type of appendicitis which make it of peculiar interest to life-insurance companies are its tendency to recur and its possibility of passing suddenly into the severe forms of the disease, either at the first or any subsequent attack.

The statistics showing the liability to second attacks are far from being satisfactory. The following figures will show the percentage of relapses and recurrences, as given by a few observers. Fitz, in his first series of cases, stated it as 11 per cent.; in his second series as 44 per cent., and in a recent conversation I had with him, he said: "A relapse is as likely to occur as not." Irish gave 50 per cent.; Richardson, 49.4 per cent.; Price, 50 per cent.; Ransohoff, 13 per cent.; Kraussold, 23 per cent.; Krafft, 22 per cent.; Porter, $9\frac{1}{2}$ per cent.; Bryant, 11 per cent. to 17 per cent.; Sahli, 20 per cent.; Gage, $33\frac{1}{2}$ per cent.

Gage writes: "Almost $33\frac{1}{2}$ per cent. of my cases had previous attacks. This is by no means equivalent to saying that $33\frac{1}{2}$ per cent. of all cases will have relapses, and I do not think this last proposition a fair one."

Mynter writes: "I firmly believe that a patient who has had one moderately severe attack is bound to get another sooner or later."

Morton writes: "A careful inquiry will usually demonstrate one or more relapses."

Meyer says: "It is the duty of the physician to follow up these cases, to determine how many remain actually well after one attack. I do not believe that twenty per cent.—no, not more than ten per cent., would be found to remain healthy."

Wyeth writes: "From clinical experience, it is known that a considerable number of cases of appendicitis, with more or less peritonitis and exudation, and at times with suppuration, undergo spontaneous resolution, the patient being usually restored to health, and living indefinitely without a recurrence of the disease. It may be safe to say that twenty per cent. of all cases have such a fortunate end."

I thought that if I could collect a large number of cases showing the exact time at which the second attack occurred, I should then be able to determine the time within which a majority of second attacks appeared. The published reports of cases do not give the exact time of the second attacks, except in a few instances. Probably there is stored up in the note books of the many observers just this information, and, if it were only accessible, it could be utilized in clearing up some of the doubtful points in this investigation. Accordingly, I wrote to several physicians and surgeons asking for such data. From their replies, and from those published cases which I have had time to examine, I have been able to collect 326 cases in which the exact time of the second attack was stated. In 210 cases, it appeared before six months; in 60 cases, between six months and one year; in 14 cases between one year and eighteen months; in 13 cases, between eighteen months and two years; in 11 cases, between two and three years; in 3 cases, between three and four years; in 2 cases, between four and five years; and in 13 cases, after five years.

From these figures, it is seen that 64.4 per cent. of the second attacks occurred before six months; 82.8 per cent. before one year; 87.1 per cent. before eighteen months; 91.1 per cent. before two years; 94.9 per cent. before four years; 96.5 per cent. before five years, and 3.3 per cent. after five years.

These statistics, so far as I know, are the only ones of the kind collected up to date, and they must be accepted as establishing the time within which second attacks have appeared. The study of a larger number of cases, no doubt, would alter these percentages somewhat, but still the fact would probably remain that in a large majority of the cases the relapses take place,

if they are going to occur at all, within two years after the primary lesion. The same opinion is expressed by those surgeons who replied to my question, without giving me exact data.

Cabot writes: "In regard to your second question, I should say usually, if a patient relapsed, he did so within a year, although I do not feel that I could lay down a positive rule in regard to this. In cases which have gone over two or three years, I should say I have almost never seen a relapse. My experience covers several hundred cases."

Morton writes: "From thirty days to a year or more."

Mixer says: "Within two years."

Gage says: "In my experience, a large majority has occurred within two years if at all, and mostly within one year."

The other replies received gave the number of relapses seen in each case, instead of the time of the second attack; so they are of no value for my purpose.

Suppurative Appendicitis.—It is in this variety that nearly all of the grave cases are seen, and they are usually the result of perforation of the appendix. Should this perforation take place before protective adhesions are formed, then general septic peritonitis is rapidly excited, with fatal consequences as a rule, or there may be diffuse peritonitis without perforation. It is this large death rate from peritonitis which makes this form of the disease so much dreaded, though with prompt surgical interference more cases recover now than in times past. When protective adhesions are formed before perforation occurs, then there is the formation of a localized abscess, the result of which, if relieved by skilful surgical aid, is almost always favorable. If the abscess is allowed to rupture itself, the course of the pus may be externally, or into some internal viscus, or into the peritoneum, causing diffuse peritonitis. In those cases in which the appendiceal abscess forms behind the cæcum (extra-peritoneal) the pus may pass in various directions. The most favorable place for the abscess to discharge is into the bowel, and next into the bladder. When into the former nearly all recover, and when into the latter, fifty per cent. In a large percentage of the cases, the appendix is so changed in character by the attack, or is so embedded and bound down in the adhesions, that no further harm can result to the patient. Again, the appendix may slough entirely away, and consequently the patient will be as exempt from a subsequent attack as if the organ had been excised.

In the circular letter sent to the physicians and surgeons, four questions were asked under the following head: In the suppurative cases, in which the abscess was opened and drained without the removal of the appendix,

(a) What has been the percentage of relapses in your cases?

(b) Within what time did the second attack appear?

(c) Have you seen more than one relapse in any one case?

(d) Is the subsequent attack as liable to be followed by so serious results as is the primary one?

I have transcribed the answers received.

(a) "Some have chronic infection, not assuming forms of attacks; others have acute exacerbations" (Morris). "None" (Mynter). "One in about twenty-seven cases" (McGuire). "None, so far as I know" (Homans). "I can recall two in seventy-five cases" (Gay). "In no case" (Morton). "Out of seventy-nine cases, four had return of the disease" (Richardson). "I have operated on at least two cases in which previous suppuration had occurred and had had an operation" (Stimson). "None" (Irish). "I cannot give the exact number, but I should say several" (Mixer). "Have had one case" (Gage).

"None" (Porter). "I have seen several relapses" (Cabot).

(b) "Two, two weeks after the operation; one, six weeks after, and one had four operations in nine years" (Richardson). Time not stated by Stimson. "Within a short time" (Porter). "Within six months" (McGuire). "Within a year" (Mixer). "Five years after the first operation" (Gage). "I cannot say within what time the second attacks appeared, but usually, I should say within a few months" (Cabot). "Two years, both cases" (Gay).

(c) "Yes, several" (Morris). "No" (McGuire, Homans, Gay, Porter, Mixer, Gage). "Yes, one had two relapses" (Stimson). "I have seen several relapses; in one case, certainly three" (Cabot).

(d) "I think so. It was certainly so in the two cases seen" (Stimson). "I should say that subsequent attacks usually appear as abscesses at a point along the old line of operation, and are, therefore, not so serious as in the first attacks" (Cabot). "I should think so" (McGuire). "No" (Porter). "No. General peritonitis is not likely to occur, because pus will travel along the old channels" (Gage). "Yes. No difference" (Morris). "No" (Mixer and Gay).

Richardson, in a recent conversation with me, said: "No. The most dangerous form is when the appendix hangs freely in the peritoneal cavity. In the abscess cases, as a rule, the appendix is bound down by adhesions, so that general peritonitis is not so likely to occur, and death following second attacks is rare."

It will be seen from the above answers that while several relapses have been observed, they cannot be said to be very frequent; that while two were stated to have appeared more than five years after the initial attacks, all the others were within two years, and most of them within a few months; and that, in the opinion of some of the surgeons, the subsequent attacks are as likely to be followed by the same serious consequences as in the primary one; but that others have expressed the belief that there is not this danger to be expected, and have very clearly given their reasons for this opinion.

In a recent discussion before the New York Surgical Society, Stimson said: "The generally accepted idea was that after one attack of suppurative appendicitis, sufficient changes were set up in the neighborhood to render the patient exempt from the risk of further attacks. Two cases had occurred to him recently, however, that indicated that this was not necessarily the case, since one patient, after what had been undoubtedly two attacks of suppurative inflammation, presented himself for the cure of a resulting hernia, and on operation it was found that the appendix was free within the peritoneal cavity, and practically devoid of adhesions."

Bryant and Fowler fully corroborated Stimson's statement, that frequently after an attack of suppurative appendicitis, the appendix was as fully capable of originating another attack as formerly. Rushmore was of the opinion that such cases did occasionally occur.

I have quoted this in full, because it gives quite clearly the two opposite views held by the profession upon this point, at the present time.

To my question: "Have you seen a recurrence in any form after the appendix had been excised?" I received one answer in the affirmative. Morris writes: "Yes, where more than one inch of the appendix was left in." A few cases have been reported of second attacks after the appendix had been removed, usually the result of improper treatment of the stump.

The Remote Complications and After-Effects.—A patient may have entirely recovered, to all appearances, from the immediate effects and complications of the disorder; still he is in danger of having certain

other sequelæ develop at any time in the future. The remote after-effects which are most frequently seen are an obstruction of the bowels in its various forms from adhesions, and peritoneal tuberculosis. Other sequelæ have been observed.

It is generally thought that adhesions once formed are permanent; but several operators have shown that when a second laparotomy has been required, as for the cure of a ventral hernia, the adhesions have been found in many instances to have disappeared.

If no symptoms of obstruction have appeared within a certain period after recovery, can we assume with any reasonable certainty that the probability of these symptoms developing at all is quite small? If so, at what time after recovery would you fix this limit?

To these questions, I received the following replies: Cabot: "I do not think we can ever rule out, with any certainty, the possibility of obstruction occurring a long time after an attack, as it is impossible to tell what bands have formed. It has been my experience, however, that adhesions usually disappear after the cause of irritation has been removed, so that, if a patient made a complete recovery, I should not expect any further trouble from adhesions after they had been a year in reasonable comfort." Homans says: "Yes. Perhaps one and a half years." Gage says: "Yes. I should think one year a liberal limit." Irish writes: "I have not seen a case of obstruction after recovery from operation." Morton says: "Yes. Quite safe at four or six months." Mynter says: "Yes. I believe there is very little probability of its developing." Morris writes: "Not without operation to determine the form of the adhesions." Porter says: "Yes. I think thirty days a safe limit." McGuire says: "Quite small after six months." Stimson says: "In cases operated on, with removal of the appendix, the chances of future trouble are very slight." Mixer says: "Yes. Two years." Gay says: "Yes. Six months." Richardson writes: "Yes. Six months."

The question, Would obstruction of the bowels be more likely to occur after a general than after a local peritonitis? was answered by a large majority of the surgeons in the negative.

It will be seen that, in the judgment of these observers, the probability of the obstruction of the bowels occurring after two years is very slight.

The danger of hernia following an operation in abscess cases is great, but in non-suppurative cases, when drainage is not required, this danger is quite small. A few cases of strangulation in this kind of hernia have been reported; though the possibility of such an occurrence is not large. The condition is one more of discomfort than of danger to the patient. The rupture can be entirely cured by a second operation as a rule.

Time will not permit me to consider tuberculosis of the appendix, or of the peritoneum, following this ailment; nor will I mention the other remote complications which may develop.

Of the other forms of abdominal disease which have been mistaken for appendicitis, it is not necessary for me now to speak. It is enough to recall to your mind that long list of morbid conditions given by Dennis, in which a wrong diagnosis was made.

Application to Life Insurance.—An applicant who has had appendicitis is an impaired risk, but with such a history he is not absolutely ineligible for insurance. Under what conditions is he insurable?

He should have completely recovered from the disease; in all other respects he should be up to the standard of physique and health usually required, and a sufficient time should have elapsed after the attack to show that the probability of the return of the trouble, or the development of any of its remote after-effects, is reasonably minimized.

To determine whether he has fully recovered from the ailment, we must rely wholly upon the opinion of our local medical examiner, and much will depend upon the care and thoroughness with which he makes the examination.

He should obtain a full history of the case, the date of the attack, the form of the disease, its severity and its treatment, whether there were any previous attacks or any symptoms which might be construed as such. He should inquire as to any symptoms of indigestion, pain, or constipation. He should scrutinize the abdomen with care for any evidence of tenderness remaining, of dilatation of the cæcum, of a hernia, of a fistula, or of tuberculosis. When practicable, he should employ the method recommended by Edebohls for the examination of the appendix. If the applicant is a female, then, in addition to the above, the condition of the uterus and its appendages should be carefully noted.

When possible, so much of his statement as relates to the history and treatment of the case should be corroborated by the attending physician or surgeon.

Many of our medical examiners have a proper appreciation of the importance of an attack of appendicitis from an insurance point of view, and obtain all the above facts and report them to the home office; but I am sorry to say that there are some examiners who merely make the statement that the applicant has had the ailment, without giving any further information.

It would seem advisable, therefore, in all cases of this class of risks, that a special letter of inquiry should be sent to the local examiner, requesting such details as may be desired.

How long after a person has recovered from an attack of appendicitis, before he should be considered eligible for insurance?

A different answer can be given to this question at the present time from what could have been made ten or even five years ago, for we have a more accurate knowledge of the natural history and prospective consequences of the disorder, and its proper method of treatment is better understood, and therefore more successful; so that the general results to the companies will undoubtedly be much more favorable now than formerly.

The following classification will probably include all of the different phases of the disease which we shall be called upon to decide as affecting life-insurance risks.

1. Cases of primary attacks of non-suppurative appendicitis, in which the appendix was not removed.

In this class of risks, the dangers to be guarded against are the return of the disease with its possibilities, and the development of some of its remote after-effects. The statistics show that the second attack occurred before one year in 82 per cent. of the cases, before two years in 91.1 per cent., before three years in 94.4 per cent., before four years in 94.9 per cent., before five years in 96.5 per cent., and after five years in 3.3 per cent.

Those surgeons who could not report their cases showing the exact time at which the second attack took place, but did give their impressions from the study of several hundred cases, used expressions on this point as follows: "We should say usually, if the patient relapsed, he did so within a year. In cases which have gone over two or three years, we should say we have almost never seen a relapse." They also expressed the opinion that if a patient went one year without any of the remote after-effects of the disease developing, the probability is quite small that they will appear later.

Now if the second attack takes place within two years in 91.1 per cent. of all the cases, there is less

than one out of ten chances that the disease will return after two years.

I have not been able to collect any reliable data showing the death rate in those cases which relapsed after two years. It certainly must be quite low. This statement is confirmed by several surgeons. It would seem reasonably safe, therefore, to accept this class of risks after two years.

2. Primary non-suppurative cases with the appendix excised.

In this class the recurrence of the disease is not to be expected, but the other remote after-effects are to be apprehended. It has been shown that the adhesions disappear in many instances after ablation of the appendix, consequently obstruction would not be so likely to occur as in the first class. Cases of this kind should be insurable after one year.

3. Suppurative cases in which the appendix has been extirpated, or in which it can be clearly proven that it has sloughed entirely away.

It may be very difficult to decide the latter point absolutely in some of the cases. The remote consequences from adhesions to be anticipated in this variety would be the same as those in class 2, and I can see no reason why the same rule should not be adopted for both classes.

4. Suppurative cases in which the abscess was opened and drained, the appendix not being removed.

From the data obtained, it appears that in this type of the disease a recurrence was observed in less than one out of twenty cases; and with only two exceptions the second attack occurred within two years, and mostly within a few months after the previous one.

While all of the authorities state that there is a possibility that any subsequent attack may be followed by serious consequences, still several surgeons who have had large experience with appendicitis inform me that, as a matter of fact, death is very rare after these relapses.

It would seem, therefore, that the risk of a fatal issue in any case after two years would be slight. Cases of this kind might be accepted for insurance after two years.

In those cases in which the abscess ruptures internally, each one must be judged upon its merits. Many of these cases make a perfect and permanent recovery, and are justly entitled to insurance.

5. Chronic relapsing and recurring cases.

An applicant with a history of chronic relapsing appendicitis would be barred from insurance, because he does not make a full recovery between the attacks. When it can be decided that in all probability the appendix has become obliterated, then he should be insurable. He should be required to wait three years after the last attack before he should be considered eligible.

I find it very difficult to arrive at any just conclusion in regard to those cases in which the recurrence has been at irregular intervals, the patient having been in perfect health and free from any symptoms of the disease between the attacks.

It has been stated that the patient appears to have some predisposition to the disease, and that the attacks are excited by errors in diet, overexertion, etc., or there is an underlying rheumatic or gouty tendency, as when the ailment has occurred in more than one member of the same family.

This type, as a rule, is not liable to pass suddenly into the grave forms of the disorder. If a person gives a history of two or more attacks, at periods of less than five years apart, he should be declined; but when he has gone over five years without a recurrence, it is a question in my mind whether we should be assuming any more risk in accepting such a case than we take every day in some other diseases. Each case,

however, must be judged according to the facts submitted. The age of the applicant would be an important factor in enabling us to form a decision.

6. Cases which have recovered from general peritonitis, either with or without an operation, the appendix having been excised or not.

It is generally thought that very few patients survive such an attack, but recovery does occur; and under modern treatment the number which gets well is increasing. Are the remote consequences of adhesions more likely to develop after a general than after a local peritonitis? Upon the answer to this question we should base our decision as to the eligibility of this class of risks.

The replies received from the majority of those surgeons to whom this question was addressed, indicate that there is no difference in the liability between the two forms of peritonitis. Whether there is greater danger of the development of some of the other remote after-effects, as abdominal tuberculosis, after a general than after a local peritonitis, I have no means of knowing. With the appendix unremoved, second attacks of peritonitis have been observed. Richardson reports a fatal case which occurred three years after the first peritonitis.

I can see no good reason why the same rules should not govern this class as those given for classes 1 and 2, excepting that a patient who has had a severe attack of general peritonitis has a protracted convalescence as a rule, and therefore a longer time would be required to establish perfect health than after a milder form of the disease; and, besides, there may be a greater risk in this class of cases.

Taking the above facts as a basis upon which to form an opinion, I should say that cases of this class were eligible for insurance after one year when the appendix has been excised, and after three years when it has not been removed.

7. Cases of hernia following an operation.

These should be classified with other kinds of hernia, though it has been said that strangulation is not so liable to occur in this type as in the other varieties. The applicant should be required to wear a suitable support.

The above recommendations seem to be justified by the facts obtained from studying the literature of appendicitis, and from the opinions expressed by those physicians and surgeons who have so kindly given me the benefit of their large experience with the disease.

The rule "to decline all applicants with a history of appendicitis, unless the appendix has been removed," is, in my judgment too stringent; and, on the other hand, the rule to accept an applicant after six months with such a history, the appendix not having been excised, is too liberal, as it is assuming too great a risk, excepting perhaps in the very mildest cases of the disease.

While the former rule may more safely guard the company, so far as the death rate is concerned, it will at the same time deprive many persons of the benefits of insurance to which they are justly entitled; and, besides, it will turn away an amount of business which should be retained.

The company may often suffer as much injury when an injustice is done to the applicant, as when by an error of judgment a doubtful risk is approved.

I am not strenuous that these recommendations shall be adopted by the association in just the form submitted; but it is my earnest hope that we may be able to formulate some rules which will be uniformly used by all the companies in dealing with this class of risks.

Epistaxis may often be controlled by snuffing into the nostrils a saturated solution of antipyrin.

MESCAL BUTTONS.¹

ANHALONIUM LEWINII—HENNINGS (LOPHOPHORA WILLIAMSII LEWINII—COULTER).

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THE study of *Anhalonium Lewinii* is of comparatively recent date, the subject having been brought to the attention of the medical world in 1888 by Dr. Lewin, of Berlin, who published at that time the results of his observations upon the drug. In 1894 Drs. Lewin and Heffter, of Germany, reported the results of further study of the subject. In 1891 James Mooney, of the United States bureau of ethnology, in a paper read before the Anthropological Society of Washington, first brought to public attention the remarkable religious ceremonial use of the plant by the Kiowas and other tribes of the Southern plains, among whom he had been conducting researches for some time. In 1894 he brought back to Washington for examination a large quantity of mescal, under the belief that investigation would corroborate the claim of the Indians as to its valuable medicinal properties. This was given over to Mr. E. E. Ewell, of the department of agriculture for chemical analysis, and to the writers for therapeutic test. Our study of the subject has shown that the mescal buttons possess properties which are remarkable, the exact likeness of which is not found in any other known drug, and also that it possesses virtues which, when applied in the treatment of certain diseased conditions, may prove the drug a valuable addition to our present list of therapeutic agents. It is for these reasons that we have chosen to present this subject in this paper for your consideration.

Anhalonium Lewinii is a plant belonging to the natural order of Cactaceæ or cacti, as they are commonly called. One of the divisions of this great order is the genus *Anhalonium*, of which there are several species, and among them *Anhalonium Williamsii*, and the one now under consideration, *Anhalonium Lewinii*.

As to the exact place in botanical classification which the *Anhalonium Lewinii* should occupy, there is some difference of opinion among botanists. Hennings,² who first published an accurate description of the plant, believed it to be a separate species of the genus *Anhalonium*. Dr. A. Heffter³ holds the same view, reasoning both from botanical characteristics and the dissimilarity in physiological action between the *Anhalonium Williamsii* and *Anhalonium Lewinii*. On the other hand, botanists who have investigated the subject more recently hold that the *Anhalonium Lewinii* is but a variety of the species *Anhalonium Williamsii*. Coulter, an authority upon the cacti, holds this view and gives the plant the name *Lophophora Williamsii Lewinii*.⁴ The botanist in charge of the United States botanical gardens in Washington believes that the two plants belong to the same species.

The *Anhalonium Lewinii* inhabits portions of the valleys of the Rio Grande and Pecos rivers in Texas and New Mexico, growing in barren, rocky soil, and often in places which can be reached only with difficulty by those who gather it. It reaches a height of about one inch above the surface of the ground. The

¹ Read before the Association of American Physicians, Washington, D. C., May 2, 1896.

² Therapeutic Gazette, 1888.

³ "Ueber Pellote." Arch. f. exper. Path. u. Phar., 1894, xxxiv., 65.

⁴ J. M. Coulter: "Preliminary Revision of Cacti." Bulletin U. S. Depart. Agriculture, Washington, 1894.

body (Fig. 1) is comparatively thick, and is surmounted by a top, which is composed mainly of the blunt leaves of the plant. In the centre of this top is a tuft about one-half to one inch in diameter, composed of yellowish-white filaments or hairs. These

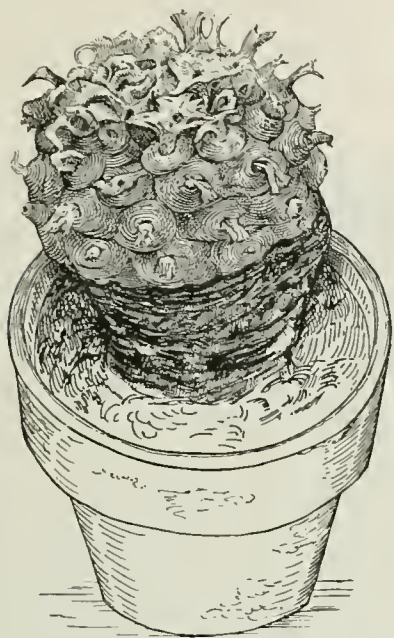


FIG. 1.

tops, when dried, constitute the mescal buttons, the commercial form of *Anhalonium Lewinii*.

The mescal buttons (Fig. 2) are of a brown color, circular, about one-half to one and a half inches in diameter and one-fourth of an inch in thickness. The edge curls upward, giving to the under surface a con-

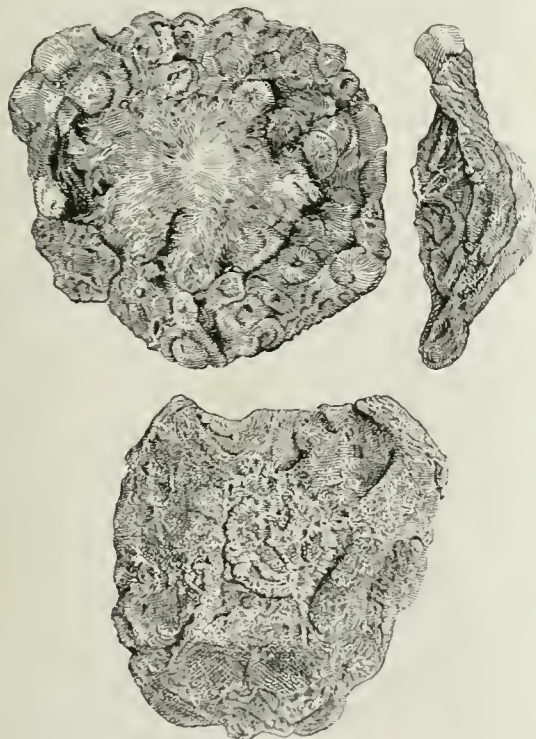


FIG. 2.

vex appearance. In the centre of the upper surface is a tuft composed of the yellowish-white hairs before mentioned, and matted down so as just about to reach the level of the upturned edge. The buttons vary in weight from about one to eight grams, the average being about four grams.

The button is somewhat brittle and hard and can be pulverized in a mortar with difficulty. In the mouth, however, under the action of the saliva, it swells and rapidly becomes soft, the consistency which it acquires giving somewhat the sensation imparted by slippery elm. The taste is disagreeable and nauseous and very bitter, with a persistent after-taste. A marked sensation of stinging or tingling is produced in the fauces, which remains for some time after the drug has been swallowed. The powdered drug is odorless when dry, but acquires a nauseous odor upon being moistened.¹

Physiological Action.—In connection with the physiological action of the mescal, its use by the Indians is of great interest. The Kiowa Indians and their associated tribes, formerly ranging from the Arkansas River southward into Mexico, have, from the earliest period, made its use a regular part of their religious ceremonies. When finally gathered upon the Kiowa reservation in Oklahoma, which they now occupy, they continued the use of the buttons in their ceremonies, the demand being supplied by traders who obtain it from the valley of the Rio Grande. Its use has spread to such an extent that the rite has become the chief religion of all the tribes of the Southern plains. Complaint being made to the government authorities at Washington by missionaries and others, the eating of the drug was rendered unlawful and was forbidden under severe penalties. Nevertheless, the use of the mescal has persisted to the present time.

The religious ceremony, as described by Mr. Mooney, who has participated in it several times, usually takes place on Saturday night. The men seat themselves in a circle within the tent, around a large fire which is kept burning brightly. After a prayer the leader hands each man four buttons, and each, having been freed from the tuft of hairs, is put into the mouth and, after it is thoroughly softened, is ejected into the palm of the hand, rolled into a bolus, and swallowed. At midnight each man calls for as many mescals as he wants, and in this way ten or twelve of the buttons, as a rule, are taken at intervals between sundown and daybreak. They sit quietly throughout the ceremony, while the fire is kept burning brightly and a continual singing and beating upon the drum is kept up. Most of the time they are in a state of reverie, the intoxication of the drug showing itself in the visions of color and other manifestations which will be described later. The hours are interspersed with songs, prayers for the sick, and baptismal rites. They sit thus from sundown to nearly noon of the next day. At the close of the ceremony they go out, it is claimed, without the slightest depression or unpleasant after-effect. Upon the day following the ceremony they carefully abstain from the use of common salt with their food: this, it seems, for a religious reason, and not because of any incompatibility of salt with the drug or its effects.²

To determine the physiological action of the crude drug—the mescal buttons themselves—upon the human system, they were administered in varying quantity to different young men who kindly volunteered their services for the purpose. Eight of these experiments were made, and in each enough of the drug was given to produce decided characteristic symptoms. Observations were taken at frequent and regular intervals to ascertain the effects upon the different portions of the body. Most of these experiments have been reported in full,³ but time does not permit us to give a detailed account of them. The following are briefly the results obtained:

¹ The writers, in *Therapeutic Gazette*, September, 1895.

² See also "Mescal Plant and Ceremony," James Mooney, *Therapeutic Gazette*.

³ *Therapeutic Gazette*, September, 1895.

The most remarkable of the physiological effects of the drug was the production of visions. These appeared in most cases after three of the buttons had been taken. The visions ranged from ill-defined flashes of color to most beautiful figures, forms, landscapes—in fact there seemed to be absolutely no limit to the variety of visions which the drug could produce. They could in but few cases be seen with the eyes open, but upon closing them an ever-changing panorama appeared. Drumming, or otherwise marking regular time, had a marked effect upon the visions—much enhancing the beauty and variety of the objects seen. The fact is of interest in connection with Mr. Mooney's statement that during the eating of the mescal by the Indians there is kept up a continual beating upon the drum. In three cases the visions were under the control of the will, and in two they were subject to the suggestion of others. The effect of the drug in the production of visions is probably due to stimulation of the centres of vision in the brain. The persistent ache and feeling of exhaustion in the occipital region, which persisted for several days after one of the experiments, is of interest in this connection.

A clearer idea of the nature of these visions is given by the following extract from one of the cases already reported. In all other cases, similar effects were produced. "The first sensations that followed my taking the drug came upon thoughtlessly closing my eyes. Instantly there sprang into the field of view a host of little tubes of shining light, down which green and red balls the size of peas were constantly rolling. The tubes of light bent themselves into the shape of letters, but they would spell nothing, and, slowly curving themselves into grotesque shapes, began to revolve rapidly, the green and red balls going in the opposite direction with even greater velocity. All the field of view between these silent wheels was filled in with a shifting mass of green. The colors were wonderful. They were the colors of the spectrum intensified as though bathed in the fiercest sunlight. No words can give an idea of their intensity or of their ceaseless, persistent motion. The figures constantly changed in form and color, but always remained a series of fantastic curves, revolving rapidly back and forth upon their own axis. The forms changed through rich arabesques, Syrian-carpet patterns, and plain geometric figures, and with each new form came a new flush of color, every shade appearing, from pure white to deepest purple. When the eyes opened and the light was turned up, the visions faded like stars going out in daylight, and the room, tables, chairs, and all surroundings came back into real existence and within reach of the hands."

It will be seen that the predominating hallucinations are the wonderful color phenomena, although the figures, forms, etc., are in themselves sources of pleasure and admiration.

In some cases no effect whatever was produced upon the reason or will of the individual. In others, there was some slowness of thought and loss of power of expression, and in one of the experiments a marked delusion. Compared with other drugs of this class, however, the effect upon the mind is extremely slight.

Dilatation of the pupil was well marked in every case, and persisted for from twelve to twenty-four hours after the drug was taken. The dilatation was accompanied by a slight loss of the power of accommodation and consequent disturbance of vision.

More or less depression of the muscular system existed in every case, and this was the first effect noticed after the drug was taken. It ranged from a feeling of lazy contentment to marked muscular depression. Susceptibility to this effect varied widely. Whether the sedative effect is produced by action on the nerve

centres, peripheral nerves, or their nerve endings, or on the muscular fibres themselves is not yet determined, but indications point to action through the nerve centres.

Partial anæsthesia of the skin was present in three of the cases, appearing when the effects of the drug began to wear off.

The heart action is at first rendered slower and stronger. This is followed by a rise to the normal, which continues during the period of greatest activity of the drug. In the cases in which the muscular depression was greatest, slight if any depression of the heart was present.

The respiration was unaffected in all cases but one. In this it seemed to partake slightly of the general muscular depression.

Upon the stomach the drug produced an effect which varied from a feeling of uneasiness and fulness at intervals, to nausea and vomiting.

Inability to sleep for at least twelve hours after the influence of the drug passed off was a uniform effect.

Appreciation of the duration of time was lost in all cases—as in the effect of *cannabis indica*. In one case a snowstorm appeared to last an hour, although in fact the vision continued not more than one minute.

No constant effect upon the bowels, skin, temperature, or secretion of the various glands of the body was found.¹

The only record of the taking of *Anhalonium Lewinii* for experimental purposes which we have been able to find is that of Briggs.² He took "a third of a specimen," and the symptoms produced were the following: In fifteen minutes the pulse rose from 60 to 70. In thirty minutes there was fulness of the head, pulse 90, respiration 26. The sense of fulness increased, and was followed by a headache and swimming in the head. Suddenly the pulse shot up to 160, and the respiration increased so that he could with difficulty get sufficient breath to keep himself alive. He thought he was about to die, and became unconscious. In six to eight hours his pulse and respiration went down again to the normal. Great depression existed for twelve hours.

The symptoms produced in this experiment are so widely different from those which we have obtained from administration of the drug that we cannot believe that the drug taken by Briggs was the same one which we have now under consideration.

Lewin,³ in experiments upon animals, found that in them the drug produced an acute muscular spasm of varying intensity, with increased reflexes, its action in this particular much resembling that of strychnine or brucine. No such effect was present, however, in our experiments upon man. Whether or not it would be produced by much larger doses is, of course, a matter of conjecture. In some animals, also, a quickened respiration was noted, which effect was present in our experiments only in one case, and in the presence of great general muscular depression. In animals, also, the heart remained unaffected, whereas in man we found a primary slowing of the heart action. In both animals and man more or less tendency to nausea and vomiting existed in most cases.

The physiological action of *Anhalonium Lewinii* upon man cannot be said to be identical with that of any other known drug. Its effects resemble those of certain drugs in some of the symptoms produced, but differ widely from them in others. *Cannabis indica* produces visions, with dilated pupils and with slight effect upon the circulation. In these particulars its ac-

¹ Therapeutic Gazette, September, 1895.

² Lewin: Archiv für experimentelle Pathologie und Pharmacologie, Band xxxiv., Heft 5 u. 6.

³ Archiv für experimentelle Pathologie und Pharmacologie, Band xxxiv., Heft 5 u. 6.

tion is similar to that of *Anhalonium Lewinii*. But *Cannabis indica* is a hypnotic, and the delirium and hallucinations are in most cases followed by sleep. *Anhalonium Lewinii*, on the other hand, tends to produce wakefulness in every case. The Indians do not sleep for twenty-four hours after the commencement of their ceremony, and in our experiments sleep was found to be impossible for about the same length of time.

In this tendency to produce wakefulness it resembles cocaine. The visions produced by *Cannabis in-*

but Mr. Ewell believes that the former is but an impure hydrochlorate.

Lewin¹ describes anhalonine sulphate as forming needle-like crystals, colorless or of a slightly yellowish tinge; easily soluble in cold water, but much more so in hot water; almost insoluble in alcohol and ether.

The physiological action of anhalonine upon guinea-pigs and other small animals has been investigated by Lewin and Heffter. Lewin found that in these animals the alkaloid produced at first a primary collapsed condition, which was followed by an increase in the reflex excitability, and, if the dose administered was large enough, convulsions which resembled to a certain extent those produced by strychnine. The action of the drug, so far as these experiments would indicate, is somewhat analogous to that of strychnine. The lethal dose was found to be 0.16 to 0.20 gram per kilogram of body weight.

These results we have verified by a series of experiments upon guinea-pigs in the laboratory. The following experiment is fairly typical.

Guinea-pig; weight, four hundred and twenty-five grams.

1:01. Injected 0.05 gram anhalonine hydrochlorate in solution.

1:03. Tremor of body.

1:05. Tremor of body. Opisthotonos, followed by convulsion.

1:08. Slight convulsion. Pulls itself around by front legs; hind seem paralyzed. Opisthotonos.

1:10. Convulsion on touch.

1:12. Breathing rapid. Tremor of front extremities.

1:15. Attempts to move but cannot, except extremities.

1:25 to 1:40. Constant convulsive movements of whole body. Normal reflex to touch, breath-of-air sound, etc., exaggerated.

1:30. Biting and chewing. Opisthotonos.

1:40. On feet. Condition better. No tremor or convulsions.

1:45. Convulsion, precipitated by rubbing back. After it, legs extended for a short time.

1:47. Sits up. From this time gradually improved.

In order to ascertain the action of anhalonine upon man, Dr. Morgan took the drug in progressively increasing doses daily up to 0.20 gram without any appreciable effect. As this amount is nearly four times the quantity of anhalonine contained in the crude drug administered in the experiment already reported, it is evident that anhalonine cannot be the active principle of mescal buttons, or even a potent factor in the production of their effects. A second alkaloid has also been obtained from *Anhalonium Lewinii*,² and was called by Heffter alkaloid B. This, for convenience, we shall call mescaline. Its formula, crystalline form, solubility, etc., are now being made a subject of study by Mr. Ewell. It is soluble in ether, chloroform, and petroleum ether. In the last it is much more sparingly soluble than is anhalonine. It forms a hydrochlorate with hydrochloric acid.

Mescaline hydrochlorate is a white substance, forming tabular crystals. It is much more soluble in water and alcohol than is anhalonine hydrochlorate.

¹ Archiv f. exper. Path. u. Phar., 1888, xxiv., 401.

² Dr. A. Heffter: Arch. f. exper. Path. u. Phar., 1894, xxxiv., 66.



FIG. 3.

dica "are generally of a gay character, producing much merriment, accompanied by a great inclination to muscular movement."¹ The visions of *Anhalonium Lewinii* provoked wonder and admiration, but no merriment, and there was present disinclination to make any muscular effort. Other marked differences exist, which will become evident to any one comparing the action of the two drugs.²

Alkaloids of *Anhalonium Lewinii*.—In 1888 Lewin subjected the mescal buttons to analysis and succeeded, by chemical methods which need not be given here, in obtaining an alkaloidal substance, to which he gave the name anhalonine, and to which he ascribed the chemical formula $C_{12}H_{16}NO_2$. Mr. Ewell,³ who has succeeded in obtaining anhalonine in a pure state, describes it as a white strongly alkaline substance. It crystallizes from aqueous solution in prismatic, sometimes tabular crystals of the rhombic system. It is soluble in a large quantity of water, and is unusually soluble in alcohol, ether, chloroform, benzine, and petroleum ether. Its melting-point is $77.5^{\circ}C.$, and it can be sublimed without decomposition. It forms salts with the ordinary acids.

Anhalonine hydrochlorate (Fig. 3), which was used in our experiments with the first alkaloid, is a white, odorless substance forming needle-like crystals. It is soluble in water in the proportion of two parts per one hundred. The solution is very bitter to the taste. The hydrochlorate is also soluble in alcohol. It melts at 254° – $255^{\circ}C.$ with decomposition. It rotates the plane of polarized light to the left. Lewin describes an amorphous as well as a crystalline hydrochlorate,

¹ Brunton: "Pharmacology, Materia Medica, and Therapeutics," p. 1,026.

² The writers, in Therapeutic Gazette, September, 1895.

³ I am indebted to Mr. E. E. Ewell, Bureau of Chemistry, U. S. Department of Agriculture, for the chemical description of the constituents of mescal buttons and the photographs reproduced in this article.

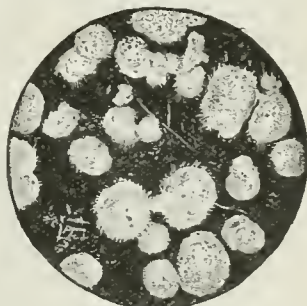


FIG. 4.—Third Alkaloid. $\times 60$ diameters.

We have conducted a series of experiments upon guinea-pigs to determine as nearly as possible the characteristic effects of mescaline, and in what particulars its action differs from that of anhalonine.

I.—Guinea-pig; weight, five hundred and seventy-six grams; 0.01 gram mescaline hydrochlorate in solution, hypodermically. No appreciable effect. Later, 0.02 gram injected in same animal. No decided effect. Seemed more sluggish in movement and less easily frightened than normally. Breathing more rapid.

II.—Guinea-pig; weight, four hundred and twenty-five grams.

12:15 P.M. 0.03 gram mescaline hydrochlorate, hypodermically into inner side of thigh.

12:19. In corner. Apparently drowsy. Will not move when struck.

12:23. Tremor of head and body.

12:28. Most rapid convulsive movements of extremities, as if running, but makes little progress, as feet seem to take no hold upon floor.

12:30. Quiet, on belly, in natural position.

12:43. Same; seems drowsy. Recovery from this time.

III.—Guinea-pig; weight, four hundred and sixteen grams.

12:53. 0.04 gram mescaline hydrochlorate in solution, hypodermically.

12:57. Runs around uneasily. Rapid chewing-movements of jaw.

12:58. Pupil slightly dilated. Chews rapidly. Tremor of head.

12:59. Runs around in frightened manner, with tremor of body. Chews. Breathing rapid.

1:00. Runs around, jumps high, and falls on side in convulsion. Extremities stiff. Opisthotonos.

1:01. On feet again. Tremor. Breathing rapid.

1:02. Pupil dilated. Breathing rapid and labored.

1:05. Violent convulsion.

1:06. More quiet. Tremor.

1:11. Looks around more normally. Breathing 150 per minute and difficult. Whole body shakes.

1:16. Moves backward. Breathing same.

1:20. Breathing 120 per minute. Walks backward.

1:33. Runs backward around cage.

1:40. Breathing 104, but more irregular.

2:10. Walks backward. Breathing much slower, but weak and irregular.

3:00. Animal bright and runs forward when touched suddenly. Recovery.

IV.—Guinea-pig.

1:00. 0.047 gram mescaline hydrochlorate in solution, hypodermically.

1:03. Frightened and restless. Breathing rapid.

1:04. Rapid chewing-movement at intervals.

1:05. Very restless. Tremor on moving. Respiration irregular and labored.

1:06. Cries out. Runs around at intervals.

1:08. Jumps up and falls on side in convulsion. Extremities rigid.

1:08½. Gasping on side.

1:10. Respiration ceased.

1:13. Thorax and abdomen opened. Auricles and ventricles found beating, but not synchronously. Auricles beating rhythmically at 60 per minute. Ventricles, 26 per minute.

1:27. Ventricles 24 per minute and very weak. Two drops ten-per-cent. solution mescaline hydrochlorate dropped upon heart. Beats become more rapid and stronger than before, and continue so for several minutes.

1:38. Ventricles, 42 per minutes.

1:47. Heart ceases to beat thirty-seven minutes after breathing ceased. Cavities dilated and filled

with dark blood. Pupils dilated to maximum extent. Lethal dose in this experiment, 0.12 per kilogram of body weight of animal.

V.—Guinea-pig; weight, three hundred and eight grams.

12:09. 0.054 gram mescaline hydrochlorate in solution, hypodermically.

12:10. Tremor of body. Increased restlessness. Runs around.

12:11. Restless. Convulsion, as in last experiment.

12:13. Convulsive movements continue. Pupils dilated.

12:14. Gasping on side.

12:16. Dead. At autopsy pupils found dilated to maximum extent. Heart stopped in diastole; cavities filled with dark blood. Lethal dose in this experiment, 0.17 per kilogram.

Experiments with mescaline hydrochlorate upon kittens gave practically the same results. The pupil was dilated even by small doses. The breathing soon became very rapid and shallow. Convulsions similar to the ones above reported were produced, and the heart continued to beat after respiration had ceased. The lethal dose was found to be practically the same. The most important difference in effect was that in kittens the drug seemed to act from the very first to depress the muscular system, the animals resting throughout the experiments upon the belly, the extremities extended flat upon the table. They attempted to move around, but could not.

It is evident from these experiments that the effects of mescaline are widely different from those of anhalonine. The minimum lethal dose of mescaline in our experiments as found to be 0.12 per kilogram, whereas Lewin found the lethal dose of anhalonine to be 0.16 to 0.20 per kilogram.

While both alkaloids in large doses produce convulsions, those of mescaline are different in character from those produced by anhalonine. As already stated, the convulsions of anhalonine somewhat resemble those occurring in strychnine poisoning. They are accompanied by some increase in the reflex excitability and more or less opisthotonos, and they can be brought on by external stimulation. While the animal under the influence of mescaline exhibits at times great restlessness, nevertheless the effects are not accompanied by increased reflex excitability and the animal appears rather less responsive to external stimulation than normally, and convulsions cannot be precipitated by such stimulation. Opisthotonos also is not a marked feature of the full effects of the alkaloid, although it is present to a slight degree during the convulsions.

It would appear that the convulsions produced by mescaline more closely resemble those caused by non-oxygenation of the blood. The effects of the alkaloid are accompanied by rapid and difficult breathing and symptoms of respiratory embarrassment. In experiment III. this was true to such an extent that all the muscles of the body seemed to be brought into play to aid the animal in obtaining sufficient air, and the appearance presented was that of intense dyspnoea. Death also is preceded by respiratory failure, the heart continuing to beat for a variable length of time after the breathing ceases. After death the ventricles are found dilated and filled with dark blood. Furthermore, Heffter,¹ who made a limited number of experiments with this alkaloid upon frogs, makes no mention of convulsions as an effect of the drug in that class of animals; whereas in our experiments upon animals of higher development, convulsions were a constant symptom when the drug was administered in large dose. This alone would lead us to believe that

¹ Archiv f. exper. Path. u. Phar., 1894, 34, 65.

the convulsions produced by mescaline are asphyxial in character and produced by contact of the non-oxygenated blood with the motor-nerve centres, it being a well-known fact that asphyxial convulsions do not occur in frogs, whereas they do occur in animals of higher development. Brunton¹ states that if any drug produces convulsions in the higher animals and not in frogs, the probability is that the convulsions it produces are asphyxial, and not due to direct irritant effect of the drug upon the motor centres. This, taken in connection with the facts already stated, leads us to believe that the convulsions produced by mescaline are asphyxial in character.

From these experiments it is also evident that mescaline has no influence upon the heart as a depressant, even when administered in fatal doses.

When given hypodermically it acts to dilate the pupil. No effect upon the pupil was obtained by dropping a five or ten per cent. solution of the hydrochlorate into the eye.

The alkaloid appears to depress the muscular system and the respiration.

In its constitutional effects, mescaline much resembles cocaine, and the similarity in action will at once become apparent in comparison with the effects of the latter drug upon the lower animals.²

From the mother liquor left after the separation of anhalonine and mescaline, Mr. Ewell has succeeded in obtaining a third alkaloid, entirely different in its chemical and physiological properties from the two already considered. The hydrochlorate of this third alkaloid, which was the salt used in our experiments, is white or of a slightly yellowish color. It forms nodular groups of radiating needle-like crystals (Fig. 4) which are readily soluble in water and alcohol. The taste of the crystals is acrid and slightly bitter, with a persistent after-taste. Its reaction is neutral.

We have performed a series of experiments upon the lower animals to determine so far as possible the physiological effects of this alkaloid.

I.—Rabbit; weight nine hundred and eighty-five grams.

11:55. 0.0133 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

11:56. Restless. Great tremor. Animal rises upon four extremities, which are perfectly rigid, and pointing outward from body like the legs of a "sawhorse," and seems to be propelled slowly around table by violence of tremor.

11:57. Quiet, on belly, hind legs flat on table. On touch, extremities become rigid and violent tremor appears.

11:58. On feet, with rigid extremities and tremor as above.

11:59. Breathing rapid. Quiet if not touched. On touch, convulsive movements.

12:02. Breathing very rapid. Heart 156 per minute.

12:05. Breathing same. No convulsive movements on touch. Hind legs flat on table.

12:07. Hops fairly normally, using back legs awkwardly. Recovery from this time, breathing and heart gradually becoming slower to normal. Amount injected in this experiment, 0.0136 per kilogram of body weight.

II.—Rabbit; weight, five hundred and twelve grams.

12:07½. 0.01 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

12:08. Tremor, especially of hind extremities.

12:09. Violent tremor. In hopping, hind legs somewhat stiff. Breathing rapid.

12:10½. "Sawhorse" phenomenon as in last ex-

periment lasting about ten seconds, after which, animal fell on side in tetanic convulsion. All muscles rigidly contracted. Opisthotonos, and extension of extremities. Followed by gradual relaxation of all muscles.

12:11. Muscles flaccid. Breathing ceased. Lethal dose in this experiment, 0.02 per kilogram.

III.—Rabbit; weight, one thousand one hundred and sixty-five grams.

2:19½. 0.03 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

2:21. Tremor of body.

12:21½. Tremor so violent as almost to amount to convulsive movement.

12:22. "Sawhorse" phenomenon, as in preceding experiments, after which animal fell on side. Convulsive movements. Rigid extremities. Opisthotonos.

12:22½. Gradual relaxation. Breathing found to have ceased.

12:35. Thorax opened. Heart still beating. Heart ceased in diastole, twenty-seven minutes after breathing stopped. Lethal dose in this experiment, 0.025 per kilogram.

IV.—Rabbit; weight, four hundred and seventy-six grams.

11:37. 0.025 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

11:38. Violent tremor. Jumped up and fell on side in convulsions. Opisthotonos, extremities extended, and all muscles rigid. No movement.

11:39. Convulsive twitchings. Gradual relaxation.

11:40. Breathing ceased.

11:45. Thorax opened. Heart beating rhythmically, 21 per minute.

11:50. Heart beating more slowly. Finally stopped in diastole.

Lethal dose in this experiment, 0.053 per kilogram.

In guinea-pigs the alkaloid produced effects very similar to those produced in rabbits.

V.—Guinea-pig; weight, seven hundred and eight grams.

12:29. 0.007 hydrochlorate of alkaloid 3 in solution, hypodermically.

12:31. Slight tremor of ears.

12:34. Much startled by sudden noise, as rapping table with pencil.

12:41. Same. Restless.

12:47. Quiet. Jumps clear from table when blown upon, or upon sharp noise.

12:51. Same. Cries on being touched. Runs awkwardly with violent tremor.

12:53. Increased reflex excitability continues. Not frightened by object brought rapidly toward it. Condition remained as described until 1.09 when it gradually became normal. Amount injected in this experiment, 0.01 per kilogram.

VI.—Guinea-pig; weight, seven hundred and thirteen grams.

11:45. 0.0196 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

11:46½. Slight tremor. Runs around.

11:48. Violent tremor, especially on moving.

11:50. Violent tremor. Falls on side. Muscles of body and extremities contracted and rigid. Extremities extended. Opisthotonos.

11:50½. Gradual relaxation. Hair on fore part of body "on end."

11:51 to 11:55. Alternating tetanic spasms and relaxation. Breathing absent during spasm, accelerated during intervals.

11:56½. Animal on side. Constant spasmodic twitchings of head, body, and extremities, continuing until

¹ "Pharmacology, Materia Medica, and Therapeutics," pp. 159 and 237.

² See H. C. Wood: "Therapeutics, Its Principles and Practice."

12:05. Heart and breathing rapid. Tetanic spasms can be precipitated by touch or irritation.

12:05½. Tetanic convulsion followed by relaxation.

12:06. Gasping. Breathing gradually becomes regular and slower.

12:09. Can stand on feet. Hair still "on end."

12:11. Moves around awkwardly. Recovery. Amount injected in this experiment, 0.0275 per kilogram.

VII.—Guinea-pig; weight, six hundred and eight grams.

12:00. 0.0182 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

12:02. Tremor on moving.

12:04. Tetanic convulsion. Extremities extended. Opisthotonos, followed by relaxation. Hair on fore part of body "on end."

12:05 to 12:10. Alternating tetanic spasms and relaxation.

12:10. Gasping. Opisthotonos.

12:12. Tremor. Spasmodic twitchings.

12:14. Same.

12:20. Heart rapid, breathing fairly normal.

12:26. Tetanic convulsion brought on by touch, followed by gradual relaxation. Breathing found to have ceased.

12:30. Thorax opened. Heart still beating.

12:50. Heart ceases. Lethal dose in this experiment, 0.03 per kilogram.

In frogs effects were produced which even more clearly indicate the physiological action of the alkaloid under consideration. These effects were similar to those produced in guinea-pigs and rabbits. A series of experiments upon frogs was made, of which the following may be considered typical:

VIII.—Frog; weight, one hundred and eighty-three grams.

2:33. 0.00549 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

2:37. Increased reflex excitability to touch.

2:39. Reflex excitability still more increased. Violent sudden extension of extremities on touch.

2:44. Tetanic convulsion on touch, or other slight irritation. Animal lies perfectly quiet; when touched, however, tetanic convulsion appears, with contraction and rigidity of all muscles and extension of extremities, which lasts for a few seconds, followed by relaxation and quiet until again irritated.

Condition remained same for several hours, and it was dead upon following morning. Lethal dose in this experiment, 0.03 per kilogram.

IX.—Frog; weight, two hundred and sixty-eight grams.

12:02. 0.008 gram hydrochlorate of alkaloid 3 in solution, hypodermically.

12:06. Increased reflex to touch.

12:08. Reflex increased. Irritation produces sudden violent extension of extremities.

12:11. Animal quiet unless touched, when violent tetanic convulsion occurs, as in last experiment.

1:05. Spinal cord divided at about its middle. Reflex tetanic contractions persist below as well as above point of section. Lethal dose in this experiment 0.03 per kilogram.

Other experiments upon frogs were made with the same results.

From these experiments it is evident that the third alkaloid is much more powerful than either anhalonine or mescaline, and differs from them also in its physiological effects. Its lethal dose in frogs, guinea-pigs and rabbits is 0.02 to 0.03 per kilogram of body weight.

The most marked effect of the alkaloid is to increase the reflex excitability of the animal. This was produced by doses as small as 0.0136 per kilogram.

As the amount given was increased, this effect became more marked, and when large doses were administered violent reflex tetanic convulsions were produced. These effects were due to action through the spinal cord, as they persisted below the point of section, after the cord had been divided and the parts severed from connection with the brain.

The similarity in action between this alkaloid and strychnine is remarkable. Experiments were performed in which a frog was given alkaloid 3 and another at the same time strychnine, and the effects of the two drugs were compared. Almost no difference in effect whatever could be distinguished, the third alkaloid producing increased reflex excitability as surely and to as marked an extent as the strychnine.

The effect of chloral hydrate upon an animal to which the alkaloid had been administered is also of interest. To ascertain this, a lethal dose of alkaloid 3 was given to one frog, and to another the same dose of alkaloid 3, and in addition chloral hydrate in varying quantity in different experiments.

X.—3:40. Frog A, 0.03 per kilogram hydrochlorate of alkaloid 3 in solution, hypodermically.

Frog B, same, and in addition chloral hydrate, 1.00 per kilogram, in solution, hypodermically.

In frog A increased reflex excitability was noted in four minutes. The effect deepened into reflex convulsions upon irritation, as in experiments already reported, which continued until the death of the animal.

Frog B appeared normal at 3:45 and 4:00.

4:05. Extremities appear weak, and animal rests upon belly. By no stimulation can any increased reflex excitability be demonstrated.

4:07. Same. Stupid. No increased reflex. Condition remained same until death at 4:20, apparently from the effects of chloral. At no time did any increase in reflex excitability appear.

Other similar experiments were made in which, the dose of the third alkaloid remaining the same (0.03 per kilogram), the amount of chloral administered was progressively lowered. It was found that no increase in reflex excitability appeared until the amount of chloral was lowered nearly to 0.25 per kilogram. As the amount was still further lowered, reflex tetanic convulsions and the typical effects of the alkaloid appeared.

Furthermore, chloral appeared to act in frogs as an antidote in poisoning by the drug.

XI.—Frog; weight, three hundred and forty-four grams.

11:30. Injected lethal dose of hydrochlorate of alkaloid 3, 0.0103 in solution (0.03 per kilogram); also 0.086 of chloral hydrate (0.25 per kilogram).

11:37. Slight increase of reflex excitability to touch.

11:48. Same, more marked. Extension of legs on touch. Draws them up, however, and stands normally.

11:53. Tetanic convulsion on touch. Stupid. Rests on belly. Tries to hop occasionally. Draws legs up normally. Condition remained same for several hours and recovery upon following morning was complete.

XII.—In this experiment the same lethal dose (0.03 per kilogram) was injected, and but 0.125 of chloral hydrate per kilogram. Animal recovered.

In these experiments the amount of chloral given was insufficient entirely to counteract the effect of the alkaloid, but the animals recovered from what would otherwise have been a fatal dose of the third alkaloid.

From the results of these experiments we conclude that the most marked physiological effect of the third

alkaloid of mescal buttons is the production of increased reflex excitability, and, if the amount given be sufficiently large, reflex tetanic convulsions; this effect is produced by action through the spinal cord; chloral hydrate directly antagonizes this effect of the alkaloid, in small doses modifying the increase in reflex excitability, and in sufficiently large doses counteracting it entirely; and that the symptoms produced by the alkaloid in frogs, guinea-pigs, and rabbits appear to be identical with those produced by strychnine.

The action of the alkaloid upon the respiration and heart appeared to be entirely secondary to its effect upon the muscular system and the degree of involvement of the muscles of respiration. The breathing was absent during the tetanic convulsions and more rapid than normal during the interval of quiet, as was also the heart. No marked effect upon the pupil was found.

Other Constituents.—In addition to alkaloids, mescal buttons contain other ingredients, the most important of which is a resinous substance, which may be found to play an important part as the active principle of the drug. It is soluble in alcohol and ether, insoluble in water, and seems to be of a complex nature, as it can be separated into two or more portions by proper solvents. The buttons also contain other substances which possess more of chemical than of pharmacological interest. These include one or more wax-like bodies, and some of the carbohydrate constituents of the plant.

Therapeutic Uses.—The conditions in which it seems probable that the use of mescal buttons will produce beneficial results are the following: In general "nervousness," nervous headache, nervous irritative cough, abdominal pain due to colic or griping of the intestines, hysterical manifestations, and in other similar affections in which an antispasmodic is indicated; as a cerebral stimulant in neurasthenia and in depressed conditions of the mind—hypochondriasis, melancholia, and allied conditions; as a substitute for opium and chloral in conditions of great nervous irritability or restlessness, in active delirium and mania, and in insomnia caused by pain. In the last condition it acts to produce sleep not as a hypnotic, but by relieving the cause of the insomnia. In full physiological doses it produces insomnia, but in therapeutic doses it does not have this effect.

The following cases in which the drug was used may be mentioned briefly:

I.—Gentleman, aged fifty-five years. Chronic bronchitis with asthmatic attacks. Much distressed by an irritative cough which kept him from sleeping. A piece the size of a pea from the centre of a button was administered in the afternoon, to be dissolved slowly in the mouth. The irritative cough was speedily relieved. He took a second similar dose at bedtime and slept well through the night, which he had not done before for a long time. He returned to his home in New York and kept up the use of the drug with continued relief. In a letter received from him recently he states that he has improved very much, being able to sleep all night without rising, which he had not been able to do for two years; and that, although he has no need of it upon some days, he carries a piece of a button in his pocket constantly, as its use relieves the tickling in his throat at once and gives greater relief than any other remedy which he has ever used. It appears to have no curative effect—merely relieves the irritative cough.

II.—Gentleman, principal of high school, aged twenty-five years. Neurasthenia of six months' standing. The effect of the drug in this case seemed little less than marvellous. Three buttons were administered within an hour. This was followed by the characteristic color visions of the drug, and relief from

the bodily and mental fatigue with which he had suffered for six months, and he declared that he was "himself again, cheerful and happy." On the next day, and for several days thereafter, he continued to feel the beneficial effects of the drug. He has continued its use in dose of one-half a button when he feels it to be necessary. It invariably relieves the sense of bodily and mental fatigue.

III.—Lady, aged thirty-three years. Nervous prostration. The drug was administered in this case as in the last, but in smaller doses, with a marked beneficial effect. Mental and physical exhaustion were relieved and power to work was increased to a marked degree. There was no reaction.

IV.—Lady, aged forty-nine years. Chronic phthisis with facial neuralgia and catarrh of pharynx, larynx, and bronchi. The fluid extract of anhalonium was administered with beneficial effect. The irritative cough was relieved to a marked extent, the spells of coughing being less frequent and less violent and prolonged. Although she has been taking the drug but a comparatively short time, she has suffered much less than formerly from the facial neuralgia.

The following cases were reported by a gentleman of a Western State. The drug was administered under the supervision of his family physician:

V.—Gentleman, aged fifty-six years, large and strong physically. "Softening of the brain," onset dating back about a year. He was under the care of his two brothers who were physicians in Kansas, and was at times violent and required the constant attendance of a physician and two nurses. In an attack of violence, opium in the form of laudanum and morphine was given, commencing on Thursday, until the following Sunday, without beneficial effect. Upon Sunday at 2 P.M. he was given a teaspoonful of tincture of anhalonium. A teaspoonful was also given every half hour from 6 until 9 P.M. At 10:30 the patient went to sleep and awoke at seven o'clock, Monday, in rational condition. He felt so much improved that he left the next day for his home in Texas. The course of the original disease was not influenced by the drug, and he died a few months later.

VI.—Sister of above-mentioned gentleman reporting cases. "Very low and out of her head." One of the physicians above referred to used chloral to quiet her, and, this failing, administered tincture of anhalonium. It quieted her in a few minutes and she slept well and long. It seemed to be the turning-point in her illness, as she fully recovered.

The same gentleman reports that his wife formerly used to take the tincture for nervous headaches and that it always relieved her. She has them so seldom now that she does not use it.

The following preparations are suggested: Extractum anhalonii fluidum (one hundred per cent.). Dose, one-half to one gram (ten to fifteen drops).

Tinctura anhalonii (ten per cent.). Dose, four to eight grams (one to two teaspoonfuls).

Anhalonium (in form of buttons or powder). Dose, one-half to one gram (seven to fifteen grains).

The tincture should be made by the process prescribed in the United States Pharmacopœia for the preparation of tinctures. It should be of ten-per-cent. strength. The fluid extract should be made of one-hundred-per-cent. strength and in accordance with the method prescribed in the United States Pharmacopœia for the preparation of fluid extracts.

The taste of these liquid preparations is very bitter, but may be disguised by a suitable vehicle, such as a mixture of fluid extract of licorice and elixir of yerba santa.

In conclusion we would say that Anhalonium Lewinii (mescal buttons) must not be confounded with the intoxicating drink "mescal," used by the Mexicans and

others. This drink is the fermented juice of one or more of the species of agave.

1230 NINTH STREET, N. W.

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TWO CASES OF "A RARE FATAL DISEASE OF INFANCY, WITH SYMMETRICAL CHANGES IN THE MACULA LUTEA" (KINGDON).¹

By CARL KOLLER, M.D.,

NEW YORK.

I wish to present to you two cases of a rare and generally fatal disease or degeneration in infancy, associated with early blindness and characteristic retinal changes. The credit for having first observed and accurately described such a case belongs to Waren Tay, who in 1881 presented the case before a meeting of the Ophthalmological Society of the United Kingdom. Tay's report of the case, admirable for its simplicity and completeness, reads as follows:

"Mrs. L—— brought her infant, aged twelve months, to the London Hospital, March 7, 1881. When the baby was a fortnight or three weeks old, it was noticed to have little power of holding its head up or moving its limbs. Since that time the weakness has become more and more pronounced. The mother brought the child to the hospital in the hope that something might be done to strengthen it. I could find nothing more than weakness, no absolute paralysis of any part. It seemed to me that its cerebral development was probably deficient, and I was induced to examine the eyes with the ophthalmoscope to ascertain whether there was any affection of the optic nerves. The mother had not suspected there was anything the matter with the sight, though when questioned closely she admitted she did not think the baby took as much notice as other babies. I found the optic discs apparently quite healthy, but in the region of the yellow spot in each eye there was a conspicuous, tolerably well-defined, large white patch, more or less circular in outline, and showing at its centre a brownish-red, nearly circular spot, contrasting strongly with the white patch surrounding it. This central spot did not look at all like a hemorrhage nor as if due to pigment, but seemed a gap in the white patch, through which one saw healthy structure. In fact, the appearances may most suitably be compared with those we are familiar with in cases of embolism of the central artery of the retina. I am quite unable to arrive at any conclusion as to the exact nature of the disease. I believe the changes to be situated in the retina, at any rate chiefly so. They may possibly be congenital. The family history throws no light on the possibilities of the case. This is the first child. There have been no miscarriages. There is no history of

phthisis in the family. The parents have been married two years and were not related before marriage. Dr. Hughlings Jackson kindly saw the child with me, and said there seemed no evidence of any definite cerebral affection. He could only say the baby seemed very weak. He agreed as to the local conditions present; so also did Mr. Hutchinson and others who have examined the child.—April 7, 1881.

"P.S. July 30th.—The baby has remained in much the same state as when first seen. There is still no definite sign of localized mischief, but the child lies almost helpless in its mother's arms. It is generally cheerful or else asleep; it is rarely cross. There is an important alteration in one respect, however; the discs are now undoubtedly becoming atrophic. The changes in the region of the macula are apparently precisely the same as before."

This child died at the age of one year and eight months. Two more cases of exactly the same kind occurred in this family and were described by Tay. Since Tay's first publication in 1881 a number of other cases have been brought to light by different observers—Magnus, Goldzieher, Knapp, Sachs, Wadsworth, Hirschberg, Kingdon, Carter—altogether nineteen (my own two cases included) that have been ophthalmoscopically examined and identified as belonging to the same group. To this list must be added a number of others that, according to the histories of the parents, have occurred in the same families and have closely resembled the cases examined, which brings the number of known cases up to something over twenty-five. Recently, Kingdon and B. Sachs, both of whom had the chance of observing a comparatively large number of the cases known, have collected and reviewed all the cases in literature. They are also the only ones who have made autopsies and microscopical examinations.

In reading through the histories of all the cases, one is struck by their uniformity. The children are born of healthy parents with no history of syphilis; most of them, if not all, are Eastern Jews, with their well-known tendency to neurotic degeneration. Up to the third or fifth month of age the children develop well; nothing unusual is noticed, unless a former case in the same family directs the attention to the ocular symptoms, which, in fact, seem to precede the others. Between the third and eighth month, sometimes sooner, a peculiar weakness of the muscles shows itself. The children are unable to hold the head up, the back is weak, the muscles are flabby, the reflexes are present. The further development is retrograde, both as to body and mind. The children do not learn to walk, present the picture of idiocy, and fall into a condition of marasmus, to which they succumb at the age of about two years.

The eye symptoms, although not always first noticed, seem to be the very first and seem to appear in the first weeks or months of the child's life. It is not likely that the retinal changes are congenital, as some observers assume. The ophthalmoscopic picture is of striking uniformity, and according to all observers very similar to the changes found in embolism of the central artery of the retina. The yellow-spot region is the site of a whitish opacity, the centre of which shows a cherry-red spot. The discs are mostly yellowish or grayish discolored, but otherwise appear normal and well defined; later on, atrophy develops. Pupils react sluggishly: in most cases, at least before the stage of complete atrophy, perception of light is present. In some cases there is oscillatory nystagmus.

The variations from this general picture are only slight. In many of the cases I find hyperacuity noted; in some of them convulsive seizures.

The affection is a family disease; two, three, and even four cases have been observed to occur in the

¹ Read before the American Ophthalmological Society at the Thirty-Second Annual Meeting, in New London, July 16, 1896.

same family. The nineteen cases reported and tabulated by Sachs occurred in ten families. All observers are agreed that syphilis plays no part in the etiology.

So far only three autopsies have been performed—two by Sachs of two children belonging to one family, and one by Kingdon. Both found changes in the layer of the large pyramidal cells in the cortex of the brain, and they interpret these changes as arrested development. Kingdon found descending degeneration in the cervical part of the cord. Sachs states expressly that no changes in any of the blood-vessels of the cortex were found. No satisfactory examination of the eyes has been obtained. Treacher Collins made sections of the eyes of Kingdon's patient, "but the result was unsatisfactory, as there was a fold of the retina in each eye at the macular region."

The history of my own cases is this:

Mary L—, then two years old, was brought to my dispensary service on June 18, 1894. The child had been born healthy and had developed well, until at the age of five months it was noticed that she did not use her eyes as other children of that age do. Nystagmus of the vibratory kind was present, which, according to the history, had developed in the first few months of the child's life. The ophthalmoscopic examination was very difficult on account of the nystagmus, and showed the discs in a congested state; besides, I find in my record the entry that apparently there was perception of light. There was nothing that struck me as unusual in the general condition of the child. The case was considered by me one of optic neuritis from an unknown cause. A second examination was intended, but the child was lost sight of until two years later, when an almost identical condition in an infant sister came under my observation, excited my interest, and led to the re-examination of the first child. She was now nearly four years old, but far behind others of that age in mental development. The latter had been retrogressive rather than progressive. At the age of one year she had been able to stand up, but she had never learned to walk. She was weak in her limbs and could not stand upright. At present she crawls and finds her way in the rooms of the institution (Montefiore Home for Chronic Invalids) into which she has been admitted. At the age of two years she had begun to speak a few words, but she forgot them. She knows her parents. She is very uncleanly in her habits, very irascible, and subject to fits of rage, in which she screams and scratches herself, unless she has her own way and is taken in the arms of her nurse, whereupon she becomes perfectly quiet. Altogether, she gives the impression of being an idiot. The condition of nutrition is very poor; several times it has seemed as if marasmus made quick progress and would soon terminate life, but with good care she has rallied again. Her muscles are weak and flabby; reflexes are present. There is hyperacuity and she starts at sudden noises. The eyes outwardly present nothing peculiar: occasionally there is a little nystagmus, but this is very much less marked than it was two years ago. The iris is bluish-gray; the pupils are of medium size; they have no prompt reaction, but become slowly narrower when exposed to light. After dilatation of the pupils with atropine the ophthalmoscopic examination is easy, the nystagmus being only occasional. The discs are sharply outlined, atrophic, yellowish discolored, and present the appearance found in cases of retinitis pigmentosa. The retina is atrophic. The choroidal vessels are visible, as in individuals having the same color of iris. In the region of the macula there is a slight, veil-like, milky-bluish haze, gradually fading into the color of the surrounding retina; in the centre of this opacity, at the site of the fovea centralis, is a

cherry-red patch, not very dark, a little smaller than the disc, with ill-defined outlines.

The second child, Hattie L—, was seen for the first time on January 8, 1896, at the age of two months. When the child was three or four weeks old, the mother, forewarned by the experience with the first child, noticed that it had nystagmus and did not seem to see. I found the eyes of normal external appearance, oscillatory nystagmus, and pupils of sluggish reaction. With the ophthalmoscope the media are found clear; the discs are sharply outlined, yellowish discolored, but otherwise appear normal. The retina exhibits the bright reflexes usually found in young individuals. The ophthalmoscopic examination is very difficult, on account of the strong nystagmus. Since the beginning of January I have examined the child six times, but have not found any unusual appearance of the fundus, except the yellowish coloring of the discs. In the left eye, however, there is at the site of the fovea a rather indistinct brownish patch; there is none of the white opacity in the yellow-spot region. The child begins to exhibit the signs of muscular weakness, and in every way, as the mother avers, behaves like her older sister.

The examination of the parents did not furnish anything of especial interest. They are both of the Jewish race and appear healthy; the mother is twenty-seven and one-half years old and the father twenty-six and one-half years. There is no history nor are there any symptoms of syphilis. Inquiry into their family history elicited nothing that could bear on the subject. They have been married six years. Ten months after marriage a boy was born, who is healthy. Nineteen months later a second child appeared, the girl that figures as my first case. During the seventh or eighth month of pregnancy with this child, the mother suffered a violent shock, her husband being brought home on a stretcher, on account of some sudden illness. Eighteen months after the birth of the second child, a third one was born—a girl, who is in good health. Eighteen months later the fourth child appeared, which is the second subject, as related above.

These two cases differ only in some minor points from the other cases described. As to the first child, which exhibits all the characteristic symptoms of the affection, she has reached the age of four years, whereas all the others died when about two years old. From the condition of the nutrition it appears very unlikely that the child can live much longer; in fact, her end has seemed near several times, but she has unexpectedly rallied each time. She has also reached a comparatively higher degree of development than the other subjects (being able to stand and to speak a few words), so that we may conclude that the affection in her case is of a milder form than in the others. In the younger child, although she has developed all the other symptoms of the affection, the characteristic retinal changes are missing, which proves that they are not congenital. In this connection it is remarkable that in Kingdon's second patient, who was seen at the age of three months (sister of a former patient) and in whom muscular weakness was just then beginning, the fundus oculi was normal. When the child was five months old a suspicious haze appeared at each macula; when she was eight months old the eyes exhibited the usual appearance.

It is to be hoped that this rare and interesting affection of the nervous system will be cleared up by pathological investigation with modern methods, especially with reference to possible changes in the vascular system. Until this has taken place, we can only state as our opinion that the anatomical substratum of the affection is most likely a degenerative process in the cortex of the brain and in the retina. From the clinical course of the disease, the original healthy condi-

tion of the children, and the consequent development of the marasmus and the characteristic changes in the eyes, we must conclude that we have to deal less with a condition of arrested development than with a progressive morbid process in the nervous system. The clinical picture of this affection in infancy is one that bears some resemblance to general paresis; general muscular debility without outspoken paralysis, physical and mental decay, and fatal issue being common to both.

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THE DIAGNOSIS OF THE MORPHINE DISEASE.¹

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ON first thought, the title of this paper may seem somewhat trite; but a more sober second one will be likely to convince the reader that some cases of the morphine disease—disease, not "habit"—involve conditions so obscure as to make the diagnosis by no means easy; and the purpose of this paper is to present certain facts along somatic lines that will clear away doubt in suspected cases. There are morphinists who, so far as outward symptoms under ordinary conditions obtain, present no proof. Again and again, in my experience, this fact has been noted; and if this be so with one whose professional life is exclusively given to the study of this disease, it goes without saying that it is much more likely to occur with one engaged in general work, by whom minor evidence of this toxic condition might easily be overlooked.

I have known a doctor to take morphine fifteen years and present himself for treatment. He was cured and has been free six years, without showing the slightest sign of his drug disease. Of course, this was a very exceptional case, for usually the stamp of this neurosis is soon patent; but such a case is likely to reoccur and possibly involve such interests along medico-legal lines as to make a correct diagnosis of more than common importance.

This case in point: Nine years ago the wife of a medical man brought suit against him for divorce. He was charged with being a morphinic. The charge was denied, and a countercharge made that she was an *habitué*. This was denied, and, in proof of denial, she was examined by two physicians, who gave evidence that she was free from the disease. They were mistaken—she had been taking morphine daily for six years! They failed to make crucial test of her true condition, and so erred. She lost her suit, but, *en passant*, it may be said that the outcome was a happy one; for she came under medical care, recovered, was reconciled and reunited to the doctor, has since added to the census, and remained well.

Another case: In the appeal for a new trial for Carlyle Harris—who, you will recall, was killed for alleged murder of his wife with morphine—evidence was offered to prove that she was a morphinist, and so might have died from an overdose self-taken. The appeal was denied, and in his opinion, refusing, Recorder Smyth—the trial justice—laid special stress on his belief that had Mrs. Harris been an *habitué* the fact would have been known to her husband, in whose behalf on the trial no such claim had been made.

I have no hesitation in saying that in this part of his opinion Recorder Smyth made a grave judicial error. Why? Because many a case of morphinism in a wife has persisted for years unknown to her husband or even her doctor. That is a fact—just such a case of morphino-cocainism is now under my care; and, granting that the judge's belief along this line was the main reason for his refusal, if this fact had been properly presented and insisted on by competent counsel, it might have secured a new trial for Harris: which was, in my opinion—the claim as to the morphine being undecided—undoubtedly his due.

Many and varied as are the tokens of this toxic neurosis, it is safe to say there is not a single symptom infallible as a sign of the disease. This statement may be contrary to the general opinion in and out of the profession, but it is true. Anything like a "snapshot diagnosis" in morphinism may be quite unreliable, and should never be made. The usual various sequelæ—many of which may present in other disorders—are known to you, and details need not detain. The point of most value in this paper is a statement of the fact that we have at command two tests that are certain to detect chronic morphine taking. They are enforced abstinence and urinalysis.

Concerning the first, so imperative is the demand of the system for a sufficient supply of morphine at more or less regular intervals, when it becomes part and parcel of the daily need, that any withholding beyond a certain time is sure to be followed by symptoms that settle the narcotic status beyond doubt.

The length of this abstinence needful to determine the question varies according to temperament and condition; but as patients require the drug daily or usually more often, forty-eight hours' withdrawal will suffice for proof. Possibly, in some extraordinary case, a longer time may be needed; but, as a rule, two days will do.

Regarding the renal test, various methods will serve; but the simplest of which I know is that of Dr. E. H. Bartley, professor of toxicology in the Long Island College Hospital. This is the Bartley process: To the suspected urine add carbonate of sodium to make it alkaline. In this put a portion of chloroform; shake well, allow it to settle, draw off, and add a small amount of iodic acid. If morphine be present, a violet tinge appears.

With a consensus of symptoms usually noted, and the time and urine tests, the diagnosis of the morphine disease need never be long in doubt.

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THE TREATMENT OF MEASLES WITH THE BLOOD SERUM OF CONVALESCENTS.

THE hope that the principles which govern the employment of antitoxin in the treatment of diphtheria could at once be applied to the treatment of other infectious diseases has not yet been realized. Conceding the correctness of these principles, it is obvious that they are capable of application only in the case of diseases whose etiology is determined and which are transmissible to lower animals. Among the diseases not yet placed in this category are a number common among children and of which more than one attack is uncommon in the same person, such as measles, scarlatina, and whooping-cough. In the case of these it is at present not possible to immunize lower animals and employ their blood serum in the treatment of the developed disease in human beings. On the other hand, it is possible to utilize for this purpose the blood serum of convalescents from the disease. The success of such treatment, it may be expected, will depend in a large measure upon the degree of immunity conferred by one attack of the disease. Measles may be included among the diseases in which this degree of immunity is considerable, and for this reason it furnishes a suitable example for the observation of any influence that may result from the therapeutic employment of the blood serum of convalescents. With these thoughts in mind, Weisbecker (*Zeitschrift für klinische Medizin*, vol. xxx., Nos. 3 and 4) has adopted this plan of treatment in a small series of cases in private practice. The first case occurred in a girl nine months old, who presented characteristic initial symptoms of measles without exanthem. An injection of ten grams of blood serum from a convalescent from the same disease was given. The catarrhal symptoms appeared for a day to be held in check, but they returned, and on the following day an eruption of peculiar character and distribution appeared. Large areas of cutaneous surface escaped, and the face was involved last. While no radical effect was observed, a certain favorable influence appeared evident. Upon the assumption that pneumonia occurs as a complication of measles when insufficient antitoxin is naturally developed to neutralize the circulating toxins, the serum was employed in four cases presenting this complication, with the happiest results. The children were one year, one and one-

quarter years, nine months, and five and one-half years old respectively, and received a single injection of serum varying from ten to eighteen grams. The cases were selected on account of their gravity; all terminated favorably and two by crisis.

THE BICYCLE FRIGHT.

THE extended use of the bicycle has brought to light numerous physical phenomena which have proved profitable subjects for speculation and study. Human ingenuity has been taxed to perfect the mechanism of the machine in almost every direction in which improvement is possible. Its weight has been reduced to the lowest standard consistent with strength and safety, the jolt is counteracted by cushioned wheels, the saddle has been constructed on anatomical principles, the friction has been lowered to the conservative maximum of effective power, while the entire apparatus has been so nicely balanced to the centre of gravity of the rider that the propelling power is as little embarrassed as is possible under the circumstances of ease and surety of progression. It is not so much the question of adaptability of the machine to the individual as of the individual to the machine. There is no doubt that a large number of the accidents for which the bicycle is so often blamed is more or less chargeable to the want of care and the lack of skill on the part of the rider. Particularly is this the case with many of the numerous collisions of which we hear so much. There is one peculiar cause of accident which appears to be particularly associated with the bicycle, in that the latter is in itself a special means to the end of producing a distinct and well-recognized form of nervous perturbation, which may, for convenience of description, be designated the bicycle fright. Although it occurs most frequently with inexperienced riders, it often attacks others who have under ordinary circumstances reasonable control of their wheels. Under certain conditions the passive machine becomes, by a mental perversity of the rider, an uncontrollable and active agent of an apparently unavoidable accident. The vehicle is thus forced to run into the very danger that the rider would otherwise avoid, and a direct collision is inevitable in spite of the frantic efforts to prevent it. So far from having any proper will force in the matter, the rider appears to aid the perverse and calamitous tendency. The phenomena are to be explained, however, on well-established psychological principles, and these differ in degree from similar ones in that they are more distinctly individual than under other and more usual methods of travel. It is purely and simply a perversion of determination on the part of the rider entirely uncontrolled by any other counteracting agency. The one element of safety for a frightened horseman is the possibility of there being some little remaining sense in the horse, some instinctive power on the part of the latter to avert collisions, independently of the demoralized occupant of the saddle. On the other hand, the runaway bicycle becomes an intensified exemplification of the rider's loss of individual control.

It would appear to resemble stage fright in many essential particulars. The intense and overwhelming desire to do well in the face of danger temporarily paralyzes the necessary will force and makes such a result impossible. The untrained bicyclist who wishes to avoid the vehicle approaching from an opposite direction finds himself helplessly steering toward the object instead of away from it. Under the hypnotic influence of concentrated attention, his movements become inco-ordinate, and in the struggle to regain his lost grip he becomes the hopeless victim of the perverted reflexes of purposeless effort and the abject subject of an optical illusion. When once attacked with this nervous malady it is almost useless to attempt to prevent its injurious tendencies. The victim can no more help himself than can the gnat resist the attraction of the flame. All attempts to collect the scattering wits usually add to the original difficulty and intensify the hysterical desperation of a lost cause. The only hope is in immediate dismounting and the gaining of an opportunity for the natural recovery of nervous equilibrium.

For obvious reasons associated with the well-known tendency to nervous disabilities in females, such phenomena are more frequent in that sex than in the other, but they occur often enough in both to demand serious attention in connection with the necessity for lessening the number of many avoidable accidents. So widely is this form of fright acknowledged, that teachers of bicycle riding lay special stress upon the danger of fixing the gaze upon any object necessary to be avoided, and in proof of their point frequently demonstrate to beginners the strange tendency, even in roomy halls, to collide with obstacles purposely placed in prominent positions. One of the remedies suggested is to look away from rather than toward the object to be avoided, fixing the gaze ahead and only in the direction in which the machine should be steered. On the same principle, it is uniformly advised that the rider should never look at the revolving wheel or the moving pedals.

THE HUNTER'S POINT STENCH AND THE STATE BOARD OF HEALTH.

THE Citizens' Organization of Brooklyn has made a formal complaint against the manufacturing nuisances at Hunter's Point, and the governor has very properly referred the matter to the State board of health for investigation and remedy. Similar protests have been made before by various parties individual and corporate, so that the reasons for the same are well understood by all who have been forced to give attention to the subject. The very name of Hunter's Point has become a designative synonym for offensiveness. No one has questioned the fact that the abominable stench that emanate from the regions of Newtown Creek are to the most extreme degree an outrageous nuisance, save the firms indirectly interested in the manufactories. The local and State boards have investigated the conditions for the production of these stench and have made elaborate reports, but nothing further has been done. Mean-

while, the inhabitants of the large adjoining districts of Brooklyn and New York continue to suffer from the sickening odors. Oftentimes when the wind is in a favorable direction for the transmission of the obnoxious vapors the windows and doors must be closed to prevent nausea, headache, and other evidences of vitiated atmospheric influences. Particularly is this the case in the dead of night, the intensity of the foul odor being sufficient to awaken the sleeper and deny him the commonest of all privileges, that of ordinary ventilation for his apartments. In view of the repeated failures to remedy this crying and defiantly persistent evil, it would naturally appear that either the State board of health has no power in the premises, or that it does not exercise it in the face of the strong political pull at the back of the interested manufacturers. We have so strongly suspected the latter element that we shall watch with becoming interest the conduct of the investigation about to be made. If the State board of health, boasting of its membership of independent and well-qualified men, desires to place itself on record as daring to tackle the question in the proper spirit, it will now have the opportunity to do so. It can soon prove which is the stronger, the rights of the people represented in the board in question, or the power behind that orders the pigeonholing of any perfunctory recommendation. At best we can only wait and see. There is no question concerning the necessity of abolishing the nuisance, but whether or not it can be done under the existing circumstances of dominant political influences is altogether another matter.

News of the Week.

Fire at Montpellier University.—A fire broke out on August 18th in the building of the Industrial Exhibition in Montpellier, France, which not only caused considerable injury to the exhibits, but also spread to the university buildings, the damage to the latter being estimated at 600,000 francs.

Norristown (Pa.) Hospital for the Insane.—Dr. Alice Bennett has resigned her position as chief resident physician in the department for women of the Norristown Hospital for the Insane, after a continuous service of sixteen years. The resignation has been accepted with regret by the trustees of the hospital and a committee has been appointed to select a successor.

Diagnosis of Glanders.—The health department of New York City is prepared to furnish mallein for the diagnosis of glanders in horses. This is prepared by Nocard's method, and is furnished in vials containing a single dose of 2.5 cubic centimetres. In order that accurate results may be obtained, the board has issued directions which those who use the mallein are advised to follow.

A New Journal.—Dr. José E. Calvo, of Panama, has established a journal to be published monthly, entitled *Revista Mensual de Medicina, Cirujía y Farmacia*.

Spanish Hospitals in Cuba.—Dr. Murata, a Japanese army surgeon, who was sent on a mission to Havana by his government, has described in a Tokio paper the condition of affairs which he found. He says the Spanish army surgeons are very far behind the times in their methods, and he describes the nursing as slovenly and negligent, the wounded soldiers being roughly treated by the surgeons and nurses. The latter appear to be laborers picked up in Havana and the neighboring country districts, very dirty and wholly ignorant of the first principles of care for the wounded.

American Academy of Railway Surgeons.—The third annual meeting of this society will be held in Chicago on September 23d, 24th, and 25th. Dr. John E. Owens, of Chicago, is president, and Dr. Webb J. Kelly, of Galion, O., secretary.

Vital Statistics of Philadelphia.—For the week ending August 15th there occurred in Philadelphia 838 deaths—348 more than during the preceding week and 280 more than during the corresponding week of last year. Of this number 315 (40 per cent.) were of children under five years of age. The largest number of deaths from a single cause—173 (20 per cent.)—was due to insolation. Other conspicuous causes, in the order of frequency, were as follows: Cholera infantum, 106; pulmonary tuberculosis, 50; heart disease, 40; marasmus, 34; gastro-enteritis, 31; senility, 28; inflammation of the brain and convulsions, each 27. There were reported during the week 65 cases of typhoid fever, 20 of diphtheria and 11 of scarlet fever. The number of deaths from these three diseases were 10, 8, and 1 respectively.

University of Pennsylvania.—Plans have been prepared and contracts awarded by the trustees of the University of Pennsylvania for the erection of a new building for the department of dentistry, to cost \$120,000. The exterior of the building will be of brick and terra cotta, with a tile roof, and the floors throughout will consist of slow-burning material. The structure will occupy a space one hundred and eighty by one hundred and thirty feet. On the second floor will be a large clinic hall, one hundred and eighty feet long by fifty feet wide, with excellent light from the north. There will be, besides laboratories of metallurgy and prosthetic technique in addition to the general and demonstration laboratories, a lecture-room for the accommodation of five hundred students, a large students' assembly room, toilet rooms, bicycle rooms, etc. It is expected that the new building, which will be heated by steam and lighted by electricity, will be ready for occupancy within a year.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee will hold its eighth annual meeting in Chattanooga on October 13th, 14th, 15th. Dr. J. B. Murfree, of Murfreesboro, Tenn., is president, and Dr. Frank Trester Smith, of Chattanooga, secretary.

The Therapeutics of the Parks.—The president of the Kneipp-Verein, an association of believers in the cold-water maxims of Father Kneipp, recently addressed the park commissioners, asking permission to

walk barefoot on the lawns of the parks in this city during the early hours, while the dew is still on the grass. Next to wet compresses, this is regarded as one of the most efficacious of measures for promoting and maintaining health.

Gift to a Hospital.—Lord Mount-Stephen and Sir Donald A. Smith, the founders of the Royal Victoria Hospital in Montreal, have given an additional sum of \$800,000 for a permanent endowment sum. It is expected that the hospital will have an annual income of \$40,000.

Capture of a Hospital.—Colonel Molina, of the Spanish army, recently led an expedition against a hospital of the insurgents near Colon, in Cuba. Six of the Cuban inmates were killed and several of the attendants were wounded. The doughty colonel ought to be decorated for his victory.

Obituary Notes.—DR. ROBERT FLEET SPEIR, of Brooklyn, died at his home on August 13th, at the age of sixty years. He was a graduate of the University of Vermont in 1866. He was a brother of the late Dr. S. Fleet Speir.—DR. CURRAN C. SMITH, of Waco, near Richmond, Ky., dropped dead at his dinner table on August 13th. He was a graduate of the medical department of the University of Louisville in the class of 1850.—DR. JOSEPH AUGUSTUS MONELL, of New York, died at his home in this city on August 12th. He was born in 1826, and was graduated from the College of Physicians and Surgeons in 1850. He was a member of the New York County Medical Society, the New York Academy of Medicine, the New York Pathological Society, and the Physicians' Mutual Aid Society. His widow and a son survive him.—DR. WILLIAM WARING, of Upper Marlboro, Md., was stabbed to death on August 5th during a political quarrel.—DR. JONATHAN KAY PITNEY died at Absecon, N. J., on August 8th, at the age of fifty-nine years. He was a son of the late Dr. Jonathan K. Pitney.—DR. EMANUEL F. GERHARD died at Norristown, Pa., on August 13th, of typhoid fever, at the age of thirty-eight years. He was graduated from Jefferson Medical College in 1884 and at the time of his death was a member of the town council.—DR. HERMANN F. GULEKE, of this city, died on August 17th at Sheepshead Bay. He was born in Dorpat, Russia, in 1826, and studied medicine at Dorpat and Berlin, being graduated from the former university in 1854. Soon afterward he came to this country and was graduated from the New York Medical College. He was for many years visiting physician at the German Hospital.—PROFESSOR PAJOT died in Paris recently at the age of eighty years. He was for nearly forty years professor of obstetrics in the University of Paris.—SISTER MARY IRENE died in this city on August 14th. She was born in London in 1823, and became a Sister of Charity in 1850. In 1869 she established the Foundling Asylum in this city and brought it up from very small beginnings to its present prosperous condition. She was also instrumental in founding the Seton Hospital for Consumptives at Spuyten Duyvil.

There Were 1,091 Deaths from Cholera in Egypt during the week ending August 15th, bringing up the total number of deaths to 14,755.

A Loud Heart Murmur.—Dr. J. F. Baldwin, of Columbus, O., writes: "In your issue of May 9th is a report of a case of unusually loud heart murmur. Some three years ago I was consulted by a colored man, who, after a scuffle with a companion, had noticed a cooing sound in his chest. I found he had suddenly developed a mitral systolic murmur which sounded very much like the cooing of a dove. I could hear this distinctly when he was standing at the front door and I was at the extreme rear of my back office, a distance of about thirty-five feet. I passed the case around among my professional friends, and we tried to secure transmission of the sound by telephone, but it did not possess sufficient intensity to enable it to be heard. The patient complained of no inconvenience whatever, and the case passed from observation."

Against the Sale of Quack Remedies.—A new law against "unfair competition in trade," which has come recently into force in Germany, may, it is hoped, be taken advantage of to restrict the sale of nostrums. It is aimed against false descriptions and other forms of swindling by advertisements. Not only the advertiser, but the newspaper publishing the advertisement, may be prosecuted.

Wholesale Lead Poisoning.—The Rome correspondent of *The Lancet* relates a curious instance of widespread lead poisoning, especially in Milan, caused in an unusual way. It seems that the sausage manufacturers have to pay the usual tax on salted articles. As an evidence that this tax has been paid, every sausage is ticketed with a leaden seal. When so labelled the sausages are distributed to the dealers, and by the latter are sold to the public, in most cases already cooked, the heavy leaden seal still remaining attached. One may readily divine the consequences. Most sausages contain salts, such as nitrate of potassium, chloride of sodium, etc.; besides this, the intestine used as their envelope is washed with vinegar, or even moistened in wine, which also in turn becomes acidulated—all of them substances which in contact with oxide of lead produce poison of varying intensity. In this state the sausages are consumed by a large public, native and foreign, while the liquor in which they have been cooked—a liquor charged with the salts indicated—is distributed to the poor. It was only after analysis at the municipal laboratory of Milan that the extent of the mischief was realized. The manufacturers are memorializing the communal and civic authorities to replace the leaden seal by another made of some innocuous metal. Meanwhile, the origin of the unpleasant abdominal symptoms, of which there have been so many complaints recently, has now been discovered.

Women and Medical Societies.—A persistent effort has been made by the women physicians of London to gain the right of membership in the medical societies. After being repulsed by the Royal College of Physicians and Surgeons, they tried the Pathological Society, but with the same lack of success. The *Medical*

Press says that it had hoped the Pathological Society would rise superior to such petty professional jealousy and fear of successful rivalry; "but the sexual hyperæsthetics had it all their own way, and as they are impervious to reason and argument the ladies must e'en wait until these become too infirm to attend the meetings or until they are old enough to be superannuated. It is worthy of remark that fellows whose voices are never heard and whose forms are unknown under ordinary circumstances within these hallowed precincts, invariably turn up to defend the society which they profess to cherish, but which they never frequent, from the moral contamination involved by the presence on terms of scientific equality of the new order of practitioners. Science is asexual, and the relief of human suffering knows no distinction of persons. Women, as practitioners of medicine, labor under many inherent disadvantages, but this is not a sufficient reason for refusing to the more diligent and gifted among them free scope for their unemployed energies. Just as we naturally respect the man who has fought his way to the front in spite of opposition and difficulties, so we ought to regard the woman who, in spite of physiological burdens and social discouragement, has acquired the right to be enrolled a member of an honorable and humane profession."

Obituary.

JEROME COCHRAN, M.D.,

MONTGOMERY, ALA.

DR. JEROME COCHRAN, the dean of the medical profession in Alabama, died at his home in Montgomery on August 18th, of chronic nephritis. Dr. Cochran was born in Moscow, Tenn., December 4, 1831. He studied medicine first at the Botanic Medical College of Memphis, being graduated there in 1856. He began practice the following year in Fayette County, Miss., but went soon after to Nashville and took the regular course of lectures at the medical department of the University of Nashville, where he received the degree of M.D. in 1861. He then entered the Confederate army as surgeon, serving there for three years. After the war he settled in Mobile, where he built up a large practice. He was connected with the Medical College of Alabama for ten years, occupying first the chair of chemistry and later that of public hygiene and medical jurisprudence. Dr. Cochran was always identified with questions of public medicine and hygiene. He was the author of the medical and health laws of Alabama, was health officer of the State and chairman of the State board of medical examiners and of the committee of public health of Alabama. He was a recognized authority on yellow fever, having been a member of the yellow-fever commission in 1878, and being also the author of many articles on that disease in American and foreign journals and systems of medicine. He was a member of the American Public Health Association and of many other societies. At the Atlanta meeting of the American Medical Association he was chosen to deliver the address on State medicine at the semi-centennial meeting in Philadelphia next year. He was an advocate of the establishment of a national health bureau, but thought this object could be attained better by enlarging the duties and powers of the Marine Hospital service than by creating a new organization. He leaves a widow and two sons.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Sixty-Fourth Annual Meeting, Held at Carlisle, July 28, 29, 30, and 31, 1896.

(Continued from page 244.)

SECTION ON MEDICINE.

Second Day—Thursday, July 30th.

Discussion on Anæmia.—DR. F. TAYLOR opened the discussion. Anæmia may be defined in general terms as an abnormal pallor of the tissues, a definition that means a good deal more than it says. It may be broadly divided into primary and secondary, the first being that form of anæmia that arises spontaneously without any definite cause, while the second follows such debilitating diseases as cancer.

The first or primary form is named also chlorosis, and is eminently a disease of the young; another primary form is called, not very happily, pernicious anæmia, and may occur at any age.

Chlorosis is also known by the name of idiopathic anæmia and is usually associated with constipation of the bowels, while diarrhœa frequently complicates pernicious anæmia, which is also more likely than chlorosis to be accompanied by various hemorrhages. In pernicious anæmia there is often the association of fatty degeneration of the heart.

Chlorosis is sometimes complicated by gastric ulcer, the formation of ptomaines in the stomach and intestines, and occurs in women from the age of puberty to about twenty-two years, though instances are recorded of chlorosis setting in at a later age, even at forty-one years in one case; and, as a rule, it is an affection from which the patient after a time recovers.

The speaker has noticed in chlorotic females a decided preference for green colors and an objection to anything pink or red. The cause of an attack is not apparent; but as it is ascertained that in females the specific gravity of the blood falls at the commencement of puberty, while that of the male rises at the same period of life, it may be that some hæmostatic correlation exists between the lowered gravity of the blood and the disease. Iron is the accepted remedy in chlorosis, but, the lecturer thought, is usually exhibited in too small doses.

The degree of anæmia does not always correspond in the young with the amount of food taken, for in some cases the nutrition of the patient does not appear to be interfered with.

Chlorosis very seldom indeed had a fatal termination. Pernicious anæmia might be primary and progressive, and was often rapidly fatal; following a drainage of the system from bleeding piles, pregnancy, etc., and sometimes supervening after a single attack of hemorrhage. In pernicious anæmia there was a great diminution of the blood corpuscles, and at the same time an increase of hæmoglobin in the individual corpuscles. Affections of the spleen might produce anæmia, and not infrequently would be found to be associated with syphilis.

The great point in the treatment of chlorosis was perfect rest, and without it iron would often be found to be productive of very little good; fresh air had a beneficial effect, but exercise should be regulated by circumstances, and might be injurious, especially if there were any cardiac complications. In the treatment of pernicious anæmia the sheet anchor of the physician was arsenic; of late stress had been laid upon the successful exhibition of extract of bone marrow, the action of which had not been hitherto explained satisfactorily, but it appeared to arrest the

destruction of the blood corpuscles. How? Well, as the Devonport brothers said, "We don't know how we do it, but we do it!"

The inhalation of oxygen had been tried, but without much benefit. Iodide of potassium occasionally acted like a charm, but in such instances the speaker was of opinion that there was, undoubtedly, a syphilitic taint, for in other cases in which it was known that there was none it was inoperative.

In splenetic anæmia great benefit had resulted from splenectomy, but the operation was a heroic one, not to be lightly undertaken.

DR. BRYON BRAMWELL announced his intention of referring mainly to the treatment of anæmia, chlorotic and pernicious, although there was a great difference between the two, for in the former it was the number rather than the composition of the blood corpuscles that was affected, while the very contrary obtained in the latter. Chlorosis might exist without constipation and the remedy was iron—Blaud's pills in large doses. The speaker had given as many as forty-eight of these on the fourth day, and continued them for three or four weeks. It was necessary to keep the patient in bed in a large airy room, and that was the reason hospital patients were more apt to recover quickly than private ones.

More than one condition was included under the term pernicious anæmia; in one form a great deal of iron would be found in the liver, owing to the rapid destruction of the blood corpuscles that was going on, and in others there was rather an imperfect formation of them, and consequently little or no iron was to be met with in the liver or in the portal system. The sequel of a long-continued drain, as from the uterus, was identical with idiopathic pernicious anæmia, and the early exhibition of arsenic was advisable; it was also desirable to continue it for some time after recovery, as relapses were of frequent occurrence. Anæmia was often found to be coexistent with the presence of worms in the intestinal tract.

DR. J. M. CLARK thought it was important to diagnose early between chlorosis and pernicious anæmia, as the latter was often complicated by, if it did not actually result from, syphilis, and in these cases iodide of potassium was of extreme value. He had found permanent benefit to result from the inhalation of oxygen.

DR. W. T. GAIRDNER, of Glasgow, had not found the antiseptic treatment of anæmia in the least satisfactory, but the administration of arsenic was followed by the best results, whether there was imperfect formation or undue destruction of the blood corpuscles. The speaker cited cases that had come under his own observation.

DR. AFFLECK thought that in some cases there was a natural tendency to get well, and in others to get worse, independently of treatment. In chlorosis he advocated rest, and held that the influence of sunshine was of paramount importance. They had none too much of this precious commodity in Scotland, but what they had was utilized to the utmost; the ward in which anæmic patients were placed was in the warmest quarter and the sufferers were made to bask in the sun on the balcony with immense advantage. He thought heroic doses of iron were unnecessary, a far smaller quantity being required than had been mentioned by some of the speakers. Pernicious anæmia was a specific disease, and in the treatment of it he gave a decided preference to arsenic over bone marrow, which he had, moreover, found patients were extremely unwilling to take, while none objected to a few minims of the arsenical solution, and that was by no means an unimportant consideration.

DR. HANDFORD also advocated rest, but thought that it acted differently in the case of private and hospital patients, for it was nothing new to the former, but was of benefit to the latter, who knew but little

about it. He had met with a severe case of pernicious anæmia in a lad of sixteen, in whom the administration of arsenic produced a temporary improvement; when the patient stopped taking it he had a relapse, and this occurred several times, but ultimately he recovered, and was then a strong and healthy laborer.

Splenetic anæmia differed from leucocythæmia, and arsenic was more beneficial than bone marrow. He usually gave from ten to fifteen minims of the arsenical solution, but there were cases in which it could not be taken; it all depended on the idiosyncrasy of the patient. When arsenic could not be taken, bone marrow was useful. Stress had been laid upon the benefit to be derived from sunshine, but in Stuttgart chlorosis was endemic, although that city was situated in a warm sheltered valley where the sun exerted its power to an extent inconceivable by the denizens of the more sombre British islands; the sanitary condition of the sunny valley, however, was deplorable.

DR. ALEXANDER CRAIG thought that chlorosis and pernicious anæmia were caused by the presence of uric acid in the blood; if the uric acid were eliminated the anæmia would cease. Uric acid could not only be eliminated from the system, but its formation could be prevented by attention to diet. The speaker offered to let any one examine his blood, but no one having volunteered to do so, he concluded his remarks by stating that it was then quite normal. One or two other gentlemen having said ditto to those who had already spoken, and time pressing, DR. TAYLOR replied briefly, and the business of the section was then suspended to enable the members to witness some demonstrations in another part of the building. The session having been resumed after an interval, DRs. DRUMMOND and MORISON, of Newcastle, read a paper on "Ascites Due to Cirrhosis of the Liver Cured (?) by Operation," but when the patient was produced some of those present did not seem to think he was by any means saved.

DR. ALLISON, of Newcastle, then read a paper on "Deformity Treated by Bone Marrow," and showed cases, casts, and photographs, which were of considerable interest.

DRs. SAMUEL WEST and BRADBURY read papers on "Uranium Nitrate in Diabetes" and expressed themselves satisfied with the results, though the drug appeared to others to be, as yet, upon its trial.

DR. JOHN WALLACE read a paper on "Exploratory Incision Versus Paracentesis in Ascites," which gave rise to some unimportant discussion.

DR. WILLIAMSON read a paper on the "Clinical Diagnosis of Diabetic Blood" and DR. ROBERTSON one on "Diabetes Insipidus Cured by Electrization of the Medulla Oblongata."

DR. SAVILL produced an essay on the "Pathology of Itching and its Treatment by Large Doses of Calcium Chloride."

DR. BOKENHAM brought forward "Statistics of Orthotherapy of Diphtheria" and DR. AITKEN read a paper on "Raynaud's Disease Associated with Uremia," which brought the list of papers submitted for this day to a close.

Third Day—Friday, July 31st.

Discussion on Tuberculosis.—DR. J. W. MOORE, of Dublin, opened the discussion on this subject. He began by alluding to Koch's cure, which came in on a wave of enthusiasm and went out after a brief period of trial on one of despair, and tuberculosis still reigned in the midst of us, affecting not only man himself but the animals on which he depended for food. It was at one time held that heredity accounted for fully forty per cent. of all cases of tuberculosis, but that was a position that had to be abandoned. Heredity certainly had an influence on the disease, but it was a

limited one, for it is the tendency to the disease that is inherited and not, as in the case of hereditary syphilis, the actual disease itself. With regard to the infectibility of tuberculosis, there is and can be no doubt that it is essentially of an infectious character, but without the presence of the bacillus that gives rise to it there is no tuberculosis. Stamp out the bacillus and you get rid of the disease. It is most important to recognize the early signs of the disease, but these are not of an unequivocal nature; for instance, the red line along the gums may be due to other causes, as may also be the clubbed finger tips and ridged nails, which are common to other diseases resulting from malnutrition. The same may be said of morning-sickness and distaste for food, which are also characteristic of the early stage of pregnancy; but there is tenderness on pressure over the apex of an affected lung, less movement of the chest walls than is natural, and an intensity of the heart sounds in the same region. The damage done by tuberculosis is practically incalculable, and its ravages are greater in Ireland than in Scotland, and especially more so than in England and Wales.

Existing causes are the malign influence of town life, dusty occupations, and such as have a tendency to lower the vitality of those who are engaged in them. The favorite site of tuberculosis is in the lung tissue (pulmonary phthisis), but it also attacks the brain membranes (meningitis), the glands (scrofula), etc. Not many years ago tuberculosis caused nearly twice as many deaths in Brussels as all the zymotic diseases put together, but owing to improved sanitation of recent date the mortality had materially declined.

In order successfully to repel the attack it is necessary to carefully study the manner in which it is carried out. The doctor instanced the case of a poor man suffering from tuberculosis in an early stage, and who was not particular as to where he let fall his expectoration, and a child previously healthy became infected through crawling about the floor. There was no fear of infection being conveyed by the breath, but kissing consumptives on the mouth was much to be deprecated. While in a moist state the sputum was practically innocuous so far as non-contact was concerned, but when it had dried and become pulverized it was the source of infection, for the dust was liable to fall on food and into water and was thus conveyed into other systems. Milk in its raw state was a frequent source of infection, and extraordinary precautions were taken in Denmark to render it harmless by cooking. Sunlight was one of the most reliable disinfectants; the bacillus could not long survive exposure to the genial rays of the sun. Deep inhalations of free air were of the utmost importance. The speaker deprecated the habit of spitting into handkerchiefs, but if these were used they should be at once disinfected by plunging them into a four-per-cent. solution of carbolic acid. Japanese paper should be used and could be immediately burned. *Delenda sunt sputa!* They must be destroyed at any cost. The too familiar "dusting" was to be highly deprecated; a damp cloth should be used, and that should also be disinfected. The foolish, almost insane, dread of night air that prevailed so generally must be combated and shown to be groundless. What was wanted was pure air (avoiding draughts), nourishment, punctuality in meals, and no stimulants. General hospitals were unsuitable for the treatment of tuberculous cases, for which special institutions ought to be provided, and these should be classified so as to have one place for the commencing case and one for those whose recovery was hopeless—the Friedenheim (peace house) of the Germans. However, where such could not be provided, special wards for consumptive patients should be set apart in the general hospitals. With regard to long sea voyages and residence at mar-

itime resorts, the speaker gave the preference to the former, but thought it was cruel to send a patient hopelessly ill away to die among strangers. A patient once told him that "sea air" was too strong for him, and the speaker thought there was something in that. Mountain resorts had their advantages, but he advised stoppages *en route*. He had heard that the climate of Tasmania was favorable, and instanced the case of a lady whose friends thought she would die on the voyage, who completely recovered there and remained well at the age of sixty-six. A high temperature did not by any means, the speaker thought, debar a patient from the use of animal food, if he cared to take it and had any appetite. Milk was very good but required to be sterilized, and kumyss had its advantages, as also had maltine; cod-liver oil, of course, was valuable, especially when combined with saccharated solution of lime. Chloride of calcium was invaluable in cases of hæmoptysis, the attacks of which were much diminished by its use. Quinine made an admirable mouth and throat wash. Cough was relieved in a most remarkable manner by the inhalation of oxygen, and extract of condurango had a marked effect in dyspepsia. Salol, guaiacol, and iodoform were useful when there was diarrhoea, and small doses of cocaine were of much benefit in vomiting. At one time mercury was freely employed in the treatment of tuberculosis, but it had fallen out of repute. With regard to the question of notifying tuberculosis as an infectious disease, the speaker thought it would not be desirable, the difficulty being where to draw the line; but he was strongly of opinion that every case of death from tuberculosis should be notified as such, and that the room in which the patient had been lying, perhaps for months, should be thoroughly disinfected.

DR. HAVILLAND HALL agreed generally with what Dr. Moore had said in his very exhaustive paper, and especially with regard to the inadvisability of treating consumptive patients in general hospitals, except in cases of acute laryngeal phthisis, which derived so much benefit from the ablation of tonsils and laryngeal growths. It was a good plan to put a five-per-cent. solution of carbolic acid into the spittoon, and to use handkerchiefs of Japanese paper, which might be immediately burnt; but he deprecated spitting into the fire, as grates had to be cleaned and spitters occasionally spit wide of the mark. The necessity of free ventilation and sunshine went without saying, but there was no ideal climate for consumptives; there was some drawback everywhere, and better results would, on the whole, be obtained if they stayed at home. He particularly warned them against going to South Africa—any part of it—particularly if there was any digestive trouble. The question of temperature was not an important one, but if anything a cold climate was better for young subjects, and a warmer, milder one for those who were more advanced in years. He did not consider sea voyages desirable, as the miserable accommodation did more harm than the air did good. Great care must be taken not to upset the digestion by prolonged treatment with guaiacol or creosote, but the carbonates of those drugs given in milk or coffee were admirable. Salicylate of bismuth was most useful in the treatment of diarrhoea.

DR. SHINGLETON SMITH was affected with tuberculosis when he was young, but was cured by a long sea voyage. He thought it was possible to attack the bacillus in its stronghold and destroy it there. If guaiacol disagreed when taken by the mouth, it could be injected hypodermically. He had used guaiacol to the extent of from sixty to ninety minims daily, until the patient fairly reeked with it. Creosote was well borne in the early stages of the disease, but less so afterward. He thought that tuberculin had been taken up rashly and abandoned as rashly.

DR. GRIMSHAW, referring to the supposed influence of heredity, was of opinion that the members of a family took the complaint from each other. He advocated large windows so as to admit plenty of light. He did not think that notification of tuberculosis was practicable except when death had resulted, when the true cause should certainly be given.

DR. AFFLECK believed in personal infection and thought that if a person afflicted with tuberculosis was admitted into a general hospital he should be strictly isolated. He also agreed with the suggestion that there should be separate institutions for patients in the initial and in the advanced stages of the disease, for it was horribly cruel, he thought, to expose even a person suffering from one incurable disease to the risk of contracting another.

DR. PHILLIP thought it was not wise, as Dr. Moore had done, to allow tuberculous patients to expectorate into the fire, or rather into the fireplace. He thought the influence of change of air on the type of the disease had scarcely been realized. Patients should be instructed as to the value of fresh air and of fresh water in the shape of a daily bath. He found that breathing night air had a wonderful effect in stopping cough and night sweats, in improving the circulation and the digestion. With regard to specific treatment, the foe must be met, and the system saturated with remedies—carbonates of guaiacol and creosote. True, these were expensive drugs, but they might be used subcutaneously. Inunctions, too, of guaiacol and cod-liver oil were very valuable. He advocated placing hospitals for tuberculosis in busy centres and not in the country, as Drs. Moore and Grimshaw had done. It was a duty to provide dying-homes for the poor incurables; but the great fault of the system is that men are not taught to diagnose.

DR. FREW said the question was not only how to bring the bacillus into position, but how to prevent others from coming in. He thought climate had much influence in these cases, and mentioned the west coast of Scotland as a favorable place to send consumptive patients to. His own experience with hypodermic injections had been unfortunate, but he would give the plan a further trial. He quite believed that guaiacol neutralized the toxin, and thought the recovery of any patient ought not to be considered hopeless. Patients often derived great benefit from their stay in hospitals but relapsed as soon as they were sent back to their wretched homes.

DR. BEZLEY THORNE said he was not an authority on tuberculosis, but he questioned whether creosote reached the lungs when given by the mouth; he thought it did not, and suggested that its action was that of a gastro-intestinal disinfectant. He instanced cases of subcutaneous injection of guaiacol (his own among the number) that had gone back when the mode of administering the drug was changed, but improved again as soon as the injections were resumed. He was struck with the overwhelming gravity of the mortality in Great Britain from the various forms of tuberculosis. A man was not admitted into a hospital until his case was practically hopeless; there was no provision for the treatment of the disease; such matters were managed much better abroad.

DR. ODELL thought it might be considered presumptuous on the part of a mere general medical practitioner to give his opinion after the learned professors who had spoken, but he thought there were places in England to which consumptive people could be sent with advantage—Torquay, for instance, where they had separate hospitals for the curable and for the incurable. The rich could go where they liked, and the poor, as a rule, were taken care of; it was the poor gentlefolk who suffered most. He fully appreciated the value of the outdoor treatment of the disease and

thought that the Koch treatment had been too quickly abandoned.

DR. VAN SOMEREN was of opinion that the condition of life was of more importance than change of climate: if the former was not good, the latter would produce little benefit. It was all very well to express opinions, they ought to be put into practice.

DR. COLIN CAMPBELL thought they tried every means of getting at the bacillus except the direct one, and yet it was perfectly easy to put thirty grains of guaiacol into the lung; it should be mixed with glycerin and the syringe used should be long enough to reach below the vocal cord. He had used this mode of treatment in over two hundred and fifty cases, and even in some cases in which there were cavities in both lungs, great benefit had resulted. His advice was "to go direct for the bacillus."

DR. BRÖNNER had used menthol with remarkable results, but thought the operation was not such an easy one as the last speaker wanted to make out. He used the menthol combined with olive oil. He considered the tuberculin treatment unfortunate.

DR. MOORE in reply said he did not think the bacillus could be reached directly in its stronghold, where it was entrenched behind a triple line of defences, for it was only too well able to take care of itself. He thoroughly endorsed all that had been said about free ablutions and believed there was a glorious future in store for orrhoterapy.

DR. GRIMSHAW moved the following resolution: "That the government be approached by the association to urge the infectious nature of tuberculosis and the necessity for treating it in a separate place."

DR. GAIRDNER seconded and said that he was not one of those who advocated treating all tuberculous patients as if they were lepers; but the disease haunted certain sites, as typhus had done and did, and he thought it was no one's place to build houses for the classes who willed to live like pigs; until the towns were rendered unliveable for them there would be no improvement.

The resolution was carried unanimously. MR. OWEN read a paper on "Thymus Feeding in Exophthalmic Goitre."

Cerebro-Spinal Fever.—DR. FREW read a paper on "Cerebro-Spinal Fever in Scotland," which he said was frequently confounded with typhoid, but admitted that the differentiation of the two complaints was difficult. It was also confounded with tuberculous meningitis and with influenza. He had seen recoveries, but death often supervened rapidly. A short but unimportant discussion followed, and the meeting came to a close.

SECTION ON OBSTETRIC MEDICINE AND GYNECOLOGY.

First Day—Wednesday, July 29th.

Address of the Chairman.—DR. HALLIDAY CROOM, of Edinburgh, delivered a short introductory address, in which he drew attention to the brilliant advances made in gynecology of late years, and said that, having raised ovariectomy to a high pitch of excellence, surgeons were now turning their attention to the treatment of uterine cancer. It was estimated that there were eight thousand women in England and Wales alone suffering from cancer, and that of all women who died of cancer, in at least one-third of the number it attacked the pelvic organs.

He viewed with scepticism some of the statistics published by German surgeons, showing operations in a large percentage of cases of cancer of the uterus with such satisfactory remote results, as he found that in very few of the cases which he saw was an operation for complete removal admissible. In order that a

radical operation may be undertaken, it is essential that the uterus should be free and that the cervix can be drawn to the vulva.

Statistics show that we may expect a duration of life of about two years without operation, so that unless the operation promises a longer period than this it is useless. He deprecated all partial operations. The mortality of hysterectomy was not great. In his own experience he had met with three hundred cases, and but very few of these were suitable for operation. Patients nearly always applied too late, and in this relation the responsibility of the physician to recognize early was great, as he believed that with early recognition and vaginal hysterectomy one should get as good results as in cancer of the breast.

Senile endometritis and cervical inflammation and catarrh caused symptoms which most resembled those of cancer.

As regarded vaginal hysterectomy for other cases, such as prolapse and fibroids, he thought it bid fair to be overdone, as neither of these diseases were necessarily fatal. He thought that it was needed sometimes for small fibroids and for persistent uterine hemorrhage which could not be checked by other means. He would not advise vaginal hysterectomy for puerperal septic conditions, as had been done in America. The only post-partum condition for which he would do it would be the rare disease known as deciduoma malignum. In chronic inflammatory diseases of the uterus and appendages, vaginal hysterectomy offered advantages over abdominal section, as the drainage was complete and there was no danger of hernia. Vaginal hysterectomy for fibroid was now being supplanted by complete removal by combined abdominal and vaginal incision, "pan-hysterectomy," and this might be done when oöphorectomy had been tried and had failed. Oöphorectomy had been done for some general diseases with good effect, notably for osteomalacia, and some cases had lately been recorded in which the removal of the appendages had been said to arrest the growth of mammary cancer.

Discussion on Dysmenorrhœa.—DR. MURDOCH CAMERON, of Glasgow, opened the discussion. He thought the spasmodic form was the most common, and he advised dilatation with solid graduated dilators. He never used tents; he always passed a sound first, then seized the cervix with volsella, with sound *in situ*, as by doing this there was no risk of including the cervical canal in the grasp of the volsella. He followed this up by the occasional use of a white-metal stem pessary in the intermenstrual periods.

DR. CHRISTOPHER MARTIN, of Birmingham, said that it was important to make perfectly certain of diagnosis, as salpingitis might be overlooked and dilatation done, with disastrous consequences. He would divide the causes into intra- and extra-uterine, and of the latter the most common were inflammation of the tubes and chronic peritonitis; and he would distinguish the factors of spasm, congestion, and neuralgia. He would treat by rest, hot douches, and glycerin plug, and, as regards drugs, would especially avoid alcohol and opium. He used suppositories of the extracts of belladonna and cannabis indica, one-half grain each. In the neuralgic form he gave antipyrin. In other cases, potassium bromide, belladonna, and viburnum prunifolium. He found that dilatation gave only temporary relief. He had tried conservative operations, consisting in opening the abdomen, freeing adhesions, treating small cysts of ovary by ignipuncture, and fixing the uterus to the abdominal wall when he found it prolapsed. With oöphorectomy as a last resource, in one or two cases he had removed the uterus by vaginal hysterectomy.

DR. INGLIS PARSONS, of London, would advise examination under chloroform of unmarried women, as

it was impossible to make a satisfactory diagnosis otherwise. He did not believe in the ovarian origin of dysmenorrhœa, and instanced cases of large ovarian tumors in which no dysmenorrhœa had occurred. He considered antelexion a cause, and treated it by dilators. He thought that the pain was due to obstruction caused by the antelexion, and found that the size of the uterus increased during menstruation.

DR. J. D. WILLIAMS, of Cardiff, thought that there was one class of cases in which the women, if married, were sterile; and in these no inflammatory lesion could be detected, but the uterus was small, antelexed, and excessively mobile. He believed that it would be found that a diseased condition of the mucous membrane near the internal os was present, and that uterine contractions took place during menstruation. He had found benefit to be derived from nitrite of sodium and diffusible stimulants. He had found an intra-uterine stem pessary to do no good and dilatation often to fail.

DR. AMAND ROUTH, of London, pointed out that dysmenorrhœa was only a symptom, and thought that most cases were of the spasmodic variety. There was too much done now in the way of mechanical treatment. Most girls with dysmenorrhœa were constipated and anæmic, and both these conditions should be treated. He had found phenacetin in ten-grain doses every three or four hours to give relief, and also found good to result from antipyrin and from nitroglycerin in one-drop doses of one-per-cent. solution. The organs could be well examined per rectum, and he did not think it was necessary to give an anæsthetic for examination purposes. In those cases of dysmenorrhœa in which the pain preceded the flow, a glycerin tampon gave relief by removing the congestion.

DR. LYCETT, of Wolverhampton, pointed out that the rheumatic and scrofulous diatheses should be recognized as causes.

DR. BEDFORD FENWICK, of London, thought most cases were due to congestion. This might be relieved by aperients, scarification of the cervix, and glycerin tampon. Many cases were due to rheumatism, and in these potassium iodide did good. Dilatation was in his opinion both unscientific and unsatisfactory, and if anything were done to widen the cervix it should be the removal of a good piece of the anterior lip.

DR. BYERS, of Belfast, remarked on the extraordinary difference of opinion shown. He thought that many cases had their origin in the nervous system. He was opposed to stem pessaries. He did not think antelexion a cause, as it was often present in a marked form without causing dysmenorrhœa. He had found cycling to do good in some cases.

DR. PARSLow, of Birmingham, had found many cases in which there was no pain during the first three or four years of menstrual life, and then pain began. These cases could not be due to any congenital malformation, and he thought they were neurotic. He thought it very unwise to make vaginal examinations or treat mechanically unless good was likely to be done, as it was most unfortunate for a young unmarried girl to get the idea that there was "something wrong with her womb."

MISS KETTLE, of Edinburgh, had also found many cases in which the pain had not commenced at puberty, and had found that the first attack frequently originated from some slight cause, as catching cold during menstruation, overexertion, or other imprudence; and in these cases the pain might last for a few periods and then disappear. In the unmarried she would not make an examination until she had tried treatment for at least three months, and she would avoid directing a girl's attention to her uterus.

DR. CAMERON, in closing the discussion, said that he thought that there was one prevalent cause which

had not been mentioned, and that was the artificial avoidance of conception.

Hysterectomy for Fibroids.—DR. A. DONALD, of Manchester, then read a paper on "Intraperitoneal Hysterectomy and Total Hysterectomy by the Combined Method, for Fibroid Tumors of the Uterus, with a Series of Cases." He considered the whole question and gave the preference to the latter operation, tying the broad ligaments in sections and bringing the sutures down through the vagina.

DR. MARTIN, of Birmingham, in discussing this paper, said that formerly he left all ligatures long and drew them down into the vagina, but now he cut off the upper ones and brought down only the lower one.

Electricity in the Treatment of Uterine Neoplasms.—DR. HERBERT WHITE read a paper on "Practical Observations on the Electric Treatment of Uterine, Mammary, and Other Growths." He used a constant current of about seventy milliamperes and punctured the growth with the negative needle. He showed photographs illustrating the good results, particularly in a case of rodent ulcer.

DR. INGLIS PARSONS said he had used currents of three hundred milliamperes in the same way, using two platinum needles, fixing the negative one and using the positive as a pencil over the surface of the ulcer.

Prevention of Tetanus of the New-Born.—DR. G. A. TURNER, of Glasgow, read a paper on "The Successful Preventive Treatment of the Scourge of St. Kilda—Tetanus Neonatorum." He gave an interesting account of the island of St. Kilda, which lies west of the Hebrides and is rarely visited from the mainland. For the past one hundred and fifty years as many as sixty-seven per cent. of the children had died from this disease, the symptoms commencing with rigidity of the jaw on the fifth or sixth day and the child dying on the eighth day. Various theories had been brought forward to account for this, some attributing it to the excess of fat in the mothers' food, others to the insanitary, ill-ventilated dwellings. Dr. Turner's advice was requested by the clergyman of the island. He came to the conclusion that the germ must enter through the stump of the umbilical cord. He advised treating the cord antiseptically with iodoform and gauze, and strict attention to cleanliness of the child; and these measures had proved so efficacious that there had been no case in the last two years.

Second Day—Thursday, July 30th.

The Causation and Treatment of Secondary Puerperal Hemorrhage.

—DR. AMAND ROUTH, of London, in opening the discussion on this subject, said that he would define secondary post-partum hemorrhage as bleeding which took place after the doctor had left the house. He distinguished the varieties of "concealed" and "evident." In the first variety the uterus distended, the cervix being blocked by spasm or clot. The causes of the condition were: Suddenly induced uterine inertia, which might be produced by emotional disturbance; partially detached pieces of placenta or membrane—these acted by keeping open the sinuses at the point of attachment, and were less dangerous when quite loose. Later in the puerperal period too early exertion, as in getting out of bed, might be a cause. The treatment, if the hemorrhage was concealed, was to pass the hand into the vagina, clear out the clots there, and then to pass the hand into the uterus, kneading the uterus at the same time with the other hand on the abdomen. In the mean time a hot douche should be made ready and administered at a temperature of 115° to 118° F.; a hypodermic injection of ergotine should be given. If the

hemorrhage was external, hot douches and kneading should be used, and, if these did not quickly succeed, the hand should be passed into the uterus. He found that he could pass the hand up to three days after parturition. In extreme cases he would compress the abdominal aorta. After the third day it may be necessary to dilate the cervix, and this he would do with Hegar's or bladed dilators. It was not generally necessary to give an anæsthetic; he would be prepared to plug the uterus with iodoform gauze if the hemorrhage was severe.

DR. WALLACE, of Liverpool, said that if it was from retained placenta he should class it as primary. He thought that hemorrhage was sometimes due to pressing the uterus down too firmly into the pelvis, and he never used the binder. He also thought that too hurried emptying of the uterus was a common cause.

DR. VAN SOMMEREN, of New South Wales, narrated a case in which all the usual means of treatment failed to stop the hemorrhage, and he succeeded in stopping it by compressing the abdominal aorta.

DR. RITCHIE agreed with Dr. Routh in his definition of secondary hemorrhage. He had found fibroids to be a cause. He had faith in prophylactic treatment, consisting in the use of tonics in the last months of pregnancy, especially strychnine; in not hurrying the birth of the placenta; and in not allowing the patient to become exhausted. He mentioned the importance of making an examination of the placenta. In reference to treatment, he would pass the hand into the uterus and inject hot water, and had found good to result from introducing a crystal of ammonia, iron, or alum into the uterus.

DR. BYERS, of Belfast, dwelt on the importance of careful management of the uterus in the third stage, and advocated turning the patient on her back immediately after the birth of the child. It was the greatest mistake to make the uterus push out the placenta before it was really separated. He always examined the uterine surface of the placenta and then examined the chorion. He had found distended bladder to be sometimes a cause of post-partum hemorrhage. Even without dilatation he sometimes found the curette sufficient.

DR. DONALD, of Manchester, had never seen secondary hemorrhage, except what had been caused by retained placenta, in hospital patients. In private patients he had sometimes seen it, due to too much food and constipation, and in those cases he gave calomel.

DR. J. D. WILLIAMS, of Cardiff, had used saline injections in severe cases. He thought secondary hemorrhage extremely rare.

DR. J. M. KERR, of Glasgow, thought that backward displacement of the uterus was sometimes a cause. If Credé's method was resorted to too soon, there was danger of pieces of placenta remaining.

DR. ROUTH, in closing, said that he had not mentioned fibroids, though he had known hemorrhage from that cause to come on a week after labor. He thought that the concealed variety was sometimes due to the use of ergot during labor, causing contraction of Bandl's ring. He hoped that the use of perchloride of iron had been abandoned; if used, he would apply it on a probe and not inject it. He did not believe in using the curette until the finger had been first introduced.

Puerperal Septicæmia.—DR. BYERS, of Belfast, read a paper entitled "A Plea for the Early Recognition and Treatment of Puerperal Fever." He said that puerperal fever was now more common in private than in hospital practice. The earliest symptoms were rise in the temperature and pulse rate. He had found the pulse to be 75 to 80 after delivery, quicker after forceps had been used, and the pulse rate might rise from other causes. He had seen cases of influenza

in the puerperal period, which caused difficulty in diagnosis. Constipation might also cause a rise. He urged the importance of a diurnal record being kept. If the temperature rose and no cause could be found, sepsis should be suspected; much time was often lost in giving quinine, antipyrin, etc. He would at once begin local treatment. The pelvic floor, vagina, and uterus should be examined, and tears of the perineum sutured and then dusted with iodoform. Cases especially liable to infection were the anæmic and those in whom the first stage of labor had been prolonged after rupture of the membranes. He advised irrigation of the uterine cavity by a gravitation douche of 1 to 4,000 perchloride solution. Antiseptic solutions, if used too strong, might cause death of the tissues and increase the danger. He used a large quantity of the solution, eight to ten pints. If the temperature and pulse fell, it need not be repeated; but if not, it should be used again, or, better still, continuous irrigation, as had been practised in France, with carbolic or boracic acid solution or lysol. This method had not received sufficient attention in Great Britain. The curettage caused no harm when carefully done. He did not, as a rule, do it before the fourth day of the patient's illness. Injections of antistreptococcic serum had not up to the present time shown very good results, but it might have a great future. Saline injections had been used. He kept up strength by stimulants and digitalis. Of abdominal hysterectomy for sepsis, he had had no experience.

THE PRESIDENT concurred, and said that if any rise of temperature occurred he would wash out at once.

Fleshy Mole.—DR. BERRY HART, of Edinburgh, read a paper on "The Symptoms and Nature of the So-called Fleshy Mole." The most marked change in the ovum in these cases was hemorrhage beneath the chorion. He narrated two cases: In the first, eleven months elapsed from the cessation of menstruation to the expulsion of the mass; and in the second eight and one-half months. Microscopic examination showed that the amnion was healthy and the villi of the chorion were perceptible, but the mucoid matrix of the connective tissue of the villi was increased. The mass was expelled in two forms: 1st, a piece of fleshy tissue; 2d, a sac containing a little liquor amnii and a shrivelled fœtus. In the first variety the portion which comes away is that which would ultimately form the placenta. The sequence of events is: Death of fœtus, which is sometimes retained, at others expelled; blood extravasation into the serotina, forming subchorionic exudations. This happens about the second month. In some the mass is expelled as early as four months and a half; in others retained to the eleventh month. When the condition was diagnosed, the cervix should be dilated and the uterus emptied.

THE PRESIDENT said such cases used to be known as "missed abortion."

Antitoxin Treatment of Puerperal Septicæmia.—DR. J. D. WILLIAMS read a paper on "The Value of Antistreptococcic Serum in the Treatment of Puerperal Septicæmia." Fourteen cases had been recorded by various authors: the earliest day for commencing the injections had been the fifth, and the latest the fourteenth. The dose had generally been ten cubic centimetres given by subcutaneous injection into the abdominal wall, the skin and syringe being first sterilized. Some good results had been obtained, but it was difficult to judge of them, as the serums used had not all been of the same strength.

Perforation of the After-coming Head.—DR. PURNLOW, of Birmingham, read a paper on this subject, in which he urged the choice of the roof of the mouth as a site for the operation, in preference to the one usually advised, viz., behind the ear.

Third Day—Friday, July 31st.

The Relative Advantages of Forceps and Version as a Means of Extraction in Cases of Moderate Pelvic Contraction.—DR. MILNE MURRAY, of Edinburgh, opened this discussion. He said that in cases of general pelvic contraction version was acknowledged to be inferior to forceps, but it was said that in cases of flat pelvis forceps were unsatisfactory and version was advised, the reason given being that forceps compressed the head in the antero-posterior diameter and so caused elongation of the biparietal diameter. He had made experiments to test the truth of this, and had found that it was possible to squeeze the child's head so as to reduce its longitudinal diameter one and one-half inches without increasing the transverse diameter. What happened was that a telescopic action took place, the frontal and occipital segments of the head slipping under the parietal, and the head also expanded in a vertical direction. This could be noticed when forceps were applied to the living, as the sagittal suture could be felt to descend, giving the operator a delusive idea that the head is descending. The explanation of the difficulties which had been experienced in the use of the forceps in the case of flat pelvis was that with the ordinary long curved forceps the direction of traction was wrong, tending to pull the head against the pubis. And he estimated that with a pull of fifty pounds as much as thirty-eight pounds of force might be wasted in this way. In the flat pelvis this was more likely to be the case than in the normal pelvis, because the inclination of the pelvic axis was greater and the pubis more horizontal. The use of axis-traction forceps avoided this, and he found that heads could be delivered by these which could not be extracted with ordinary forceps; and, as pointed out above, no amount of compression with ordinary forceps can increase the biparietal diameter of the head. He had delivered living children through pelves with conjugate of three inches, and in one case of two and three-quarters inches, by axis-traction forceps. He showed and demonstrated a pair of axis-traction forceps, in which he had made a modification which allowed the line of traction to be altered by moving the traction handle along a rod which projected at right angles from the traction rod. He had called these "adjustable axis-traction forceps." To sum up: Any case in which turning had been advised might be more efficiently dealt with by axis-traction forceps.

DR. PURSLOW, of Birmingham, thought Dr. Milne Murray had gone too far in absolutely condemning version in cases of contracted pelvis.

DR. FOTHERGILL, of Manchester, said that it had been urged in favor of version that the bitemporal diameter was substituted for the biparietal in passing through the conjugate. He thought that the same thing occurred with forceps.

DR. J. M. KERR, of Glasgow, said that in some cases, in which one side of the pelvis was more roomy than the other, some labors might be easy and others difficult in the same woman, according to the side to which the occiput was directed; and in such cases version was sometimes better when the occiput was found to be directed to the smaller side; when directed to the large side, forceps should be used.

DR. MURDOCH CAMERON, of Glasgow, thought much depended on the shape of the head, and he divided heads into "long" and "square." He showed an "antero-posterior" forceps of his own invention. He found that when forceps slipped it was generally due to the head being occipito-posterior.

DR. CONNEL, of Peebles, would never contemplate turning in preference to axis-traction forceps, and had found the latter also a powerful preventive of ruptured perineum.

DR. MILNE MURRAY, in closing, said that the blades should be applied fore and aft as regards the head, and not obliquely, as the latter caused a loss of the telescopic effect. He always used the axis-traction rods throughout, and never pulled on the application handles. He believed an occipito-posterior position would come round if left alone.

Hæmatometra and Pyometra.—MR. CHRISTOPHER MARTIN, of Birmingham, read a paper with this title. He said these cases were due to occlusion of the cervix, sometimes congenital and sometimes acquired. In the former the patient had suffered for some time from gradually increasing stenosis of the cervix, and in only one of his cases did the occlusion come on suddenly; in one of the cases in which the occlusion was acquired it followed amputation of the cervix for cancer. The treatment consisted in free incision of the occluded cervix and washing out the uterine cavity, stitching the mucous membrane of the uterus to that of the vagina, and allowing the patient to wear a rubber tube afterward. When the tubes were distended he advocated the removal of both uterus and tubes by abdominal section.

Walcher's Position.—DR. FOTHERGILL, of Manchester, read a paper on "Walcher's Position," which is to have the patient lying on her back on a table, with her sacrum on the edge, and her legs dependent, the feet being clear of the ground. The effect of this is to cause a rotation of the ilia on the sacrum and to increase the antero-posterior diameter of the pelvic inlet, while diminishing that of the outlet. Another effect which Dr. Fothergill had observed was relaxation of the perineum. He had made careful measurements with the woman in this position, and had found that the conjugate could be increased by as much as one-third of an inch. This manœuvre should always be tried before proceeding to symphyseotomy or craniotomy.

Hysterectomy for Fibroid Tumors.—DR. LE BEC, of Paris, read a paper on "Total Hysterectomy for Big Fibroids." His method consisted in opening the abdomen, tying the broad ligaments in sections, stripping off the bladder, and opening Douglas' pouch; and then, after removing the tumor, turning the stumps of broad ligament into the vagina, and stitching the peritoneum together over them. The paper, which the author himself read in English, was illustrated by numerous diagrams.

This concluded the business of the meeting.

Hemorrhage in Brain Surgery.—The control of hemorrhage is one of the most difficult problems in connection with the removal of cerebral tumors. Hemorrhage from the diploe is easily controlled by Horsley's antiseptic wax. For hemorrhage from the vessels of the meninges the ligature is an efficient means of control. If the dura be cut and an artery bleeds, the cut end can be tied just as any other vessel. If it be necessary to ligate a vessel in its continuity, the dura being unopened though with torn vessels, it can be secured by passing fine silk thread by means of the finest semicircular Hagedorn needle under the dura and around the vessel, care being taken not to wound the underlying cerebral veins themselves. For venous hemorrhage, the best method, also, is the ligature. Rarely can the vessel be seized by the forceps and a ligature applied. Pass by means of the semicircular needle of suitable size, a silk or cat-gut ligature through the cerebral tissue immediately below and around the vein, and then tie the vessel by drawing with equal force of the two ends, not constricting the vessel with so much force in tying the knot as to tear through its weak walls.—KEEN, *International Medical Magazine*, March, 1896.

Clinical Department.

IMPREGNATION—WHEN IS IT POSSIBLE?

By HENRY A. SHELLEY, M.D.,

NEW YORK.

VARIOUS views have been held by competent observers as to the time when woman may be impregnated during the lunar month. Some authors say only at the completion of the glandular function; others affirm that conception may occur at various times during the lunar month.

The illustrious Dalton thus writes in his classic work, "Human Physiology:" "The mature egg, discharged from the ovary, soon dies and is decomposed like any other portion of the body separated from its connections."

For some years I have studied the subject clinically. The orthodox members of two different religions furnished the subject matter. Orthodox Hebrew women observe the Mosaic law, living apart from their husbands for seven days after the monthly flow has ceased, making a total of at least twelve out of twenty-eight days in which sexual congress is prohibited. The fecundity of Hebrew women is proverbial. We read in Genesis: "And the Lord said unto Abram: And I will make thy seed as the dust of the earth; so that if a man can number the dust of the earth, then shall thy seed also be numbered."

Bearing in mind the dictum expressed by Professor Dalton as to the vital duration of the mature egg, it is reasonable to say that "ova are usually discharged from the ovary before the appearance of the monthly flow."

It is a common custom of strict Catholic women of the educated, upper classes of society to observe a rule of abstinence somewhat similar to that of Hebrew women. But the reason is altogether different. Such Catholic women do not wish children, for various reasons, their husbands assenting. By the way, Mr. J. S. Mill well remarks: "The fact itself of causing the existence of a human being is one of the most responsible actions in the range of human life." The law of Malthus is: There is a tendency in all animated existence to increase faster than the means of subsistence. This law is axiomatic, and is well worthy of consideration in social science. As the Catholic Church is most stringent as regards the violation or interference with the law of nature as regards sexual congress and its consequences, there remain but two things to do in order to avoid transgression of canon law—total abstinence from copulation or limitation of the act sexual to certain periods of the month, "the so-called sterile period," "*a quarto die post incepta menstrua*." What is the result clinically? A doctor, a Catholic, who faithfully observed this rule within his own household, when he found his own spouse *grosse*, sadly said to me: "Doctor, that sterile period ain't worth a d——." Frequently women who limit sexual intercourse to one or two days mid-period I find "to be with child." Alas! there is nothing certain in this transitory world but taxes and death.

To conclude, we may say in such cases as the above that the "sexual congress determines the ovipont."

These facts prove that the biological history of menstruation, bearing on impregnation, by Arthur Johnstone, is incorrect:

"It is only at the completion of the glandular function, that is, when the nidus is completely cleared out and cleaned and its epithelial covering removed, that the implantation of an ovum is possible. Therefore it is that the age and maturation of the impregnated ovum are to be reckoned from the end of menstruation."

My opinion is that whether the endometrium is in a morbidly hyperamic condition or not is a potent factor as regards conception. It is conceded that the true predisposing cause of abortion is irritability of the uterus.

Résumé: Facts sustain the following conclusions: "Ova are usually discharged from the ovary before the appearance of the monthly flow." Sexual congress often determines an ovipont (Coste). As a result coitus is often then followed by conception.

319 EAST ONE HUNDRED AND TWENTIETH STREET.

POISONING BY CANNABIS INDICA.

By G. G. FISCHLOWITZ, M.D.,

NEW YORK.

Owing to the rarity of cases of this nature, the following history is sent for publication:

On March 29th, at 11 P.M., I was hurriedly summoned to see Dr. L. C——, aged twenty-nine years, who was suffering from the effects of an overdose of the fluid extract of *cannabis indica*. The patient had, at 10:15 P.M., taken for his troublesome cystitis a teaspoonful of the above drug, after which he went to his office to read.

But feeling drowsy, he went to bed and awoke at 10:45 P.M., because of very troublesome dreams. He thought he had slept for hours, and had a feeling of tingling all over his body, especially around the angles of his jaws and in the region of his stomach, and of intense mental discomfort.

Realizing that an overdose had been taken, he allowed cold water to run over his head, which increased the discomfort about his jaws and abdomen.

He then started to read his "Materia Medica," in order to get an antidote; but though he found the proper page, he could not read, being unable to concentrate his mind. Becoming alarmed at his condition, he aroused his household and I was sent for. Before my arrival he had taken some mustard, which caused him to vomit freely.

On my arrival at 11:30 P.M. I found the patient excitedly, though in a happy frame of mind, walking up and down the sitting-room. After seating himself, he spoke very garrulously upon a number of subjects, but his memory of things past was very clear. He traced his ancestry back to his great-grandmother, who was melancholic, and he feared he himself would become insane.

He complained bitterly of the tingling and uneasiness in his limbs, and that his legs were as heavy as lead, and that when walking he felt as if wading through feathers. His tongue felt thick and leathery, and, fearing that he would become dumb, while walking he would shout out aloud, in order to correct that impression. His throat felt parched, the conjunctivæ were reddened, the pulse ranged from 100 to 118, and respiration was very rapid. He had no idea of time, minutes seeming hours, and voices in a neighboring room sounded to him as if coming to him from the top of the house. With distances he had no difficulty.

Upon attempting to drink a cup of coffee which was placed before him, he would forget to take the cup and would go on talking. Upon being reminded of the coffee, he brought the cup to his lips, but would fail to drink and continued talking.

About 1:15 A.M. I requested him to go to bed; but though much calmer than before, he hesitated about going to sleep, fearing that he would not awake.

At 2:15 A.M. he fell asleep and awoke at 5 A.M., with a severe frontal headache, but otherwise well.

In looking up the literature on this subject, I find but four cases reported in this country since 1883,

none of which ended fatally. Hamaker¹ reports a case of a physician who took forty-one drops of the fluid extract experimentally. Prentis² reports a case of poisoning by five drops of the fluid extract. Rusin³ reports two cases of poisoning by three-fourths of a grain of the solid extract.

1708 LEXINGTON AVENUE.

FOREIGN BODIES IN THE INTERIOR OF THE EYE.⁴

By W. A. FISHER, M.D.,

CHICAGO, ILL.

It is quite common practice to remove pieces of iron or steel from the interior of the eye with the magnet, many such cases having been reported. I wish to report two cases in which pieces of iron were found and extracted from the interior of the eye, yet one is strikingly different from the other.

With the literature at my command I can find nothing that equals in size the large piece of iron which remained in the eye so long without causing more serious results.

CASE I.—J. G. Graham, aged thirty-seven. Fourteen years ago, while he was driving spikes on a railroad, a piece of iron struck him in the eye, causing instant blindness. He was unable to work for about three months. Since that time he has been troubled about once a year, the attacks, at first lasting about a week, becoming more severe and lasting longer with each succeeding year.

February 13, 1896, he applied at my clinic at the Illinois Charitable Eye and Ear Infirmary, complaining of much pain, lachrymation, and photophobia. On examination I found the right eye atrophic and tender. Vision of the left eye was $\frac{2}{30}$. There were lachrymation and photophobia. The right eye was hopelessly blind and there was consequently no choice left as to treatment, enucleation being the only thing to do. He was at once anesthetized and the right eye removed. In cutting open the eye, the piece of iron was found to be completely encapsulated, while the lens was calcareous. The size of the piece of iron was eleven millimetres long, four millimetres wide (seven-sixteenths of an inch long, and more than one-eighth of an inch wide), and weighed two and one-eighth grains. The man was a scissors sharpener by occupation, and he went to work next morning, sharpened all the knives in the hospital, and expressed himself as feeling better than he had felt for three months.

This case seems remarkable when we take into consideration the size of the foreign body and the time it remained in the eye.

By way of comparison I will now report an injury from a much smaller piece of iron I removed with the magnet, and which caused destruction of the eye, necessitating its removal two weeks after the accident.

CASE II.—J. P. Roth, aged four years and ten months, patient of Dr. Harsha. November 9, 1895, the right eye was injured while he was playing with two hammers. November 11, two days after the accident, I saw him in my office with Dr. Harsha. There was a scar in the ornea, also a corresponding scar in the iris. The vitreous was completely clouded; there was no reflex. A diagnosis was made of foreign body in the interior of the eye. The child was asleep and when awakened was very irritable. I was unable to locate the foreign body on account of the restlessness

and the age of the child. As the foreign body, if left in the eye, would in all probability destroy it and subject the good eye to great danger, I decided to remove it and endeavor at least to save the globe, as it is often impossible to get children of this age to wear an artificial eye. In removing the eye I realized the importance of thorough antisepsis in such cases, being very particular to sterilize the instruments, cleanse the eye, and, in fact take every precaution as to cleanliness. When everything was ready the patient was given chloroform, the conjunctiva was opened, and an incision made in the sclera with a Graefe knife. The curved tip of a magnet that was attached to a three-cell storage battery was then introduced, and with but little effort the foreign body was located and drawn to the surface. In trying to extract it through the scleral opening, which seemed too small, it slipped from the magnet and fell into the vitreous. The opening was therefore enlarged and the piece of iron removed. As in similar operations about the usual amount of vitreous was lost. The eye was thoroughly cleansed with 1 to 5,000 bichloride solution, and the conjunctiva stitched, cleansed again, and one-per-cent. atropine solution instilled and the eye bandaged. The child slept well that night, the bandage was removed the next morning, and the eye was again cleansed with 1 to 5,000 bichloride solution, the application of atropine repeated, and the eye bandaged. There was no reaction following the operation. Atropine was instilled every day thereafter, and antiseptics were used as often as practicable. Everything progressed nicely until the fourteenth day, when a swelling appeared at the site of the scleral opening. The globe was now filled with pus. Evisceration being the only thing to do, Dr. Harsha again administered chloroform and the operation was performed. At the end of two weeks the child was fitted with an artificial eye and has worn it continually since. I report these two cases to show what the eye may or may not tolerate.

It is not always possible to remove pieces of iron or steel from the interior of the eyeball with the magnet. It has been my misfortune to make a thorough search for a piece of metal in the vitreous with a good magnet attached to a good storage battery and not find it until I had removed the eye. In my hospital work I have witnessed many similar failures. I think any one who has had much clinical experience has at times met with the same results. There are so few misfortunes of this kind, however, attending the use of the magnet in extracting pieces of iron or steel from the eye that we are not justified in abandoning the use of the magnet, but on the other hand it should always be employed, unless, perhaps, the metal has become encapsulated and the eye is quiet. Even in these cases the patient would often be better for an operation.

About two years ago in this society I saw two subjects who had pieces of metal encapsulated in the fundus of the eye. They were quiet at that time and one of them had good vision. I have had the one that had good vision as a private patient since that time. This was a patient of Dr. Tilley's. July 5, 1895, Dr. Tilley being out of the city, I was called to see this patient (Mr. T. W. F.). He had injured his right eye the day before with a firecracker. I recognized the patient as the one whom Dr. Tilley had shown in the society with the metal in the fundus and who had at that time vision of $\frac{6}{12}$. The metal had not injured the lens in its entrance, but at the time I saw him the lens was opaque and the eye far from being in a state of rest. The right eye soon cleared up and I have lost sight of him, but I am sure he would be much better with the eye enucleated than to have it in the condition it was in when I saw it.

If one is sure of having a piece of metal in the eye, and the media are not clear but are without serious in-

¹ Hamaker: Therapeutic Gazette, Detroit, 1891.

² Prentis: Therapeutic Gazette, Detroit, 1892.

³ Rusin: Southern Medical Recorder, Atlanta, 1890.

⁴ Read before the Chicago Society of Ophthalmology and Otology, April 14, 1896.

flammation, it is well to wait for the media to become clear. If there is serious inflammation and the media are not clear, nothing will be gained by waiting.

The results of magnet operations are very various so far as vision is concerned. Many patients who are reported as having good vision are reported too soon, but enough successful cases are reported to justify us in using the magnet in all recent cases. When the metal is in the anterior chamber the results are nearly always satisfactory. In removing from the anterior chamber metal that has become embedded in the iris it is best to use a flat blunt electrode. The electrode should be introduced in the anterior chamber and the metal dislodged before connecting the current. The foreign body having been dislodged, the button on the handle of the electrode may be touched and the metal removed, thus preventing prolapse of the iris.

Churning the vitreous is to be avoided. Cocaine is as good as profound anæsthesia in adults. Thick blunt electrodes are to be preferred to thin pointed ones.

Air bubbles are always a sure sign of foreign bodies in the eye.

Sometimes a piece of metal can be located by passing the electrode over the sclera. The patient will complain of pain only as the instrument passes over the metal.

It is useless to probe for foreign bodies in the vitreous.

It is not wise to try to remove a foreign body from the interior of the eye through the opening made by its introduction. It is better to make a larger opening and avoid introducing the instrument so many times.

In conclusion I will say that the possibility of preserving the globe and often useful vision warrants us at all times in using the magnet in all cases in which metal is in the interior of the eye.

103 STATE STREET.

TREATMENT OF PNEUMONIA.

By S. H. VANDOREN, M.D.,

SAYBROOK, ILL.

REALIZING that no safe and certain cure for pneumonia is given by any medical work extant in the English language, I desire to state briefly a few facts, which, I hope, will be instrumental in the hands of a part of the ninety thousand of earth's humanitarians toward lessening the fearful ravages of this chief lieutenant of death in all countries.

I shall not enter into the symptoms or the pathology of pneumonia, as these can be learned from many medical works of the day. Upon those points there is no dispute.

The world to-day is without a successful treatment and that is what I will supply. Medical men are as suddenly struck down by it as are their patrons.

The treatment upon which in my experience most reliance can be placed is as follows: Counter-irritation to chest, followed by hot poultices constantly applied until all danger is past.

Nothing new, say a thousand voices at once. No, but wait. I do not believe any person ever had pneumonia when the liver and kidneys were in a normal condition. We must establish a free secretion of all the important organs of the system.

First we would give:

℞ Tr. aconiti,
Tr. bryoniae.....āā gtt. x.
Tr. digitalis..... 3 i.
Potassii nit. 3 ss.
Fl. ext. ipecac..... gtt. x.
Syr. pruni virg ... q.s. ad 3 iv.
M. S. For adults, teaspoonful diluted every hour until

patient is better; then only as seems to be required, say every three hours while fever lasts.

I use the best imported German tinctures. They must be reliable.

We have now started right. In an active practice for twenty years I never saw a case that did not need free catharsis. I think any compound employed should act through the blood and intestinal tube, and be capable of emptying the alimentary canal by its effect upon the mucous membrane lining the intestinal tube, for if these toxic ptomains remain in the system they may destroy it, and this is why opiates of all kinds kill the patient—they check the elimination of those deadly poisons from the system, and cause debility and irritation in the lungs to increase.

So we would give:

℞ Ext. rhei,
Ext. jalapæ et sennæ āā 3 ij.
Sodii bicarb.,
Potassii tart.....āā 3 iss.
Tr. capsici..... 3 ss.
Ess. menth..... 3 ij.
Syr. simp q.s. ad O i.

M. S. Tablespoonful diluted every three hours until the bowels operate three or four times thoroughly; then daily as required to keep up free action.

In forty-eight hours after this treatment has been instituted give:

℞ Syr. ferri iodidi..... gtt. xx.
Strychninæ sulph..... gr. 3̄.
Atropinæ sulph..... gr. 3̄.
M. S. Give every four hours for one dose as above.

By this treatment you sweep out of the system the poisons that if permitted to remain produce death.

The last prescription strengthens the heart and lessens in a very marked degree the pulmonary pressure in the lungs, and the irritation rapidly subsides.

I was taught to depend upon about ten drops of syrup of iodide of iron, three times daily, in such cases for its alterative and tonic effect in assisting to clear up a hepatic lung; but such small doses are not sufficient in most cases to accomplish that result. I frequently give in acute bronchitis, especially in the aged, forty drops every four hours, until marked improvement is noted. Furthermore, the careful physician will know when to lessen the dose of strychnine.

As a rule, after I have the patient on the last prescription twenty-four hours, I reduce the strychnine to about one-one-hundred-and-fiftieth grain three or four times daily, and maintain a tolerably free circulation all through the case.

In conclusion, I want to impress upon the minds of members of the medical profession that it is not necessary for any ordinary case of pneumonia less than seventy years old to die if treated upon these lines. If the above doses do not promptly control the disease, I increase the doses until I get the system profoundly under control and then maintain that effect.

As regards the use of alcoholic stimulants, best Holland gin should be given from the start or in twenty-four hours after the chill. Why do we give gin? For two reasons:

1st, to maintain a better circulation of the blood.

2d, and most important of all, to assist the kidneys to freely eliminate the various poisons that have the natural tendency in these cases to accumulate in a body.

Colles' Immunity.—By this is meant that which is shown by those healthy mothers who, owing to syphilis in the father, have borne syphilitic children, but have themselves apparently escaped infection. This immunity has been proved in thousands of cases, and there is no longer any doubt that it may exist.

Surgical Suggestions.

Vaginal versus Abdominal Section.—Vaginal section: (1) A shallow and wide pelvis in a thin woman. (2) Exploration of the pelvis. (3) Visceral adhesion in true pelvis. (4) Displaced and adherent uterus. (5) Smaller ovarian cysts, especially the intraligamentous and parovarian. (6) Smaller fibroids, especially the soft. (7) Extra-uterine pregnancy, up to seventh month and after death of fetus. (8) Pelvic hæmatocele. (9) Puerperal hysterectomy. (10) Acute inflammation of the appendages, with peritonitis, involving cul-de-sac. (11) Inflammatory destructive diseases of the appendages, including tuberculous disease. (12) Pelvic abscess pointing downward. (13) Conservative operations on appendages that lie in the true pelvis.

Abdominal section: (1) A narrow and deep pelvis, especially if deformed. (2) Explorations above the true pelvis. (3) Visceral adhesions in false pelvis or above. (4) Large ovarian cysts, especially multilocular, with colloid contents. (5) Large fibroids, especially the firm and hard. (6) Extra-uterine pregnancy at time of rupture and of term. (7) Extra-uterine pregnancy, with tumor wholly above the brim of the pelvis and not in relation with the uterus. (8) Pelvic abscess pointing upward. (9) Conservative operations under conditions unfavorable to vaginal section, such as narrow and deep, or a deformed pelvis that is contracted. —WILLIAM M. POLK, *Canadian Practitioner*, February 8, 1896.

Malignant Disease of Uterus.—1. Cancer of the cervix uteri, if left without surgical interference, always kills. 2. The disease in most instances is primarily a local process. 3. Early hysterectomy will cure quite a percentage of these cases. 4. The microscope, while a great diagnostic aid, is not infallible in its findings. 5. The experienced surgeon is warranted in resorting to hysterectomy, even in doubtful cases. 6. Every malignant gravid uterus should be removed before the disease has advanced beyond the period of a probable cure.—CORDIER, *Tri-State Medical Society*, Chicago, April, 1896.

Club Foot.—In infants who have not walked on a congenital equino-varus the deformity can be easily cured by manipulation by correcting first the varus and later the equinus, and holding the foot in plaster-of-Paris dressing after each manipulation until overcorrection is obtained. The child should then wear a retention apparatus for a year after it has learned to walk.—TAYLOR, *Maryland Medical Journal*, April 11, 1896.

Nocturnal Emissions.—The cause of impotency, of abnormal seminal emissions, and of premature ejaculations is in most cases an intense hyperæsthesia of the deep urethra. Nocturnal emissions occurring with greater frequency than once in ten days are indicative of some pathological condition which requires treatment; seminal discharges taking place in the daytime, when the patient is awake, are of serious import, however infrequent they may be; true spermatorrhœa is very rare.—LAMPHEAR, *American Journal of Surgery and Gynecology*, February 18, 1896.

Drainage of Abdominal Cavity.—Drainage of the abdominal cavity is an expression of the present imperfect state of surgery. It is often an unavoidable evil. It should be limited to appropriate cases, and it is therefore well that the indications for it should be laid down clearly, so that we may have eventually some definite rules that will guide the surgeon in his abdominal work. There are now no fixed rules. Some

surgeons avoid drainage whenever possible; others drain as a rule. If I were permitted to pass my judgment on this question as a whole, I would say that the surgeon who has the ambition to operate quickly, to make an impression on the bystanders, should drain frequently; while, on the other hand, the surgeon who proceeds with his work carefully, step by step, with plans well laid out, with his practical knowledge resting on a firm pathological basis, will drain only in exceptional cases.—SENN, *American Gynecological and Obstetrical Journal*.

Floating Kidney.—(1) Operate on all movable kidneys which are diseased, varying the operation according to the condition present. (2) When mechanical troubles or pain are present, try a supporting bandage. If the symptoms disappear, then give to the patient the opportunity of choosing between operation and mechanical support. If a bandage does not give a good result, operate. (3) When hysterical or neurasthenic symptoms are present, then try the bandage, and do not operate unless it fails to give satisfactory results. (4) In cases of general abdominal relaxation employ the abdominal supporter, and do not operate unless the movable kidney itself is the cause of distressing symptoms. After the operation it is still necessary to use the bandage. (5) When a movable kidney does not give rise to serious symptoms, advise the use of a bandage.—ALBARRAN, *An. des Mal. des Org. Génito-Urinaires*, vol. iii., p. 577.

Bacterial Products.—Drs. Vaughan and Novy have determined the chemical products of bacteria to be: 1. Ptomaines, which are either toxic or non-toxic. 2. Toxalbumins. 3. Ferments. 4. Acids. The ptomaines are transitional products and resemble the vegetable alkaloids. Vaughan says: "The germ produces toxins by splitting up pre-existing compounds." An example of toxins is the typho-toxins, and of the non-toxic ptomaine methylamin. The toxalbumins are albuminous substances. In this class of products are the active principles of the various toxin serums, as tuberculin and tetanin. The principal ferment is the peptonizing ferment already mentioned. All these have a part in pyogenesis. When the toxins are absorbed and carried to the nerve centres we get the fever and other constitutional disturbances of suppuration.—DUNCAN, *Kansas Medical Journal*, April 18, 1896.

Dressings.—Any surgical wound dressing should be absorbent, to admit of the ready impregnation with medicinal substances and to absorb discharges. The substances in most common use are lint, absorbent cotton and gauze, tow, oakum, jute, wood wool, moss, peat, and pine sawdust.—*American Text-Book of Surgery*, p. 1,159.

Profeta's Immunity.—"La loi de Profeta," according to Fournier, is the immunity of the children of syphilitic parents, either or both of whom are syphilitic.—*American Text-Book of Surgery*, p. 134.

Hip-Joint Disease.—There has been a diversity of opinion as to the tissue in which the disease exists primarily, some surgeons asserting that its frequency of commencement is first in the synovial membrane; others in the capsule; others in the ligamentum teres; and still others, constituting the largest majority, contend that its primary manifestation is in the development of a tuberculous osteitis in the head of the femur or the cancellated bone tissue at the bottom of the acetabular cavity, the same principle holding true here as elsewhere in the predominance of the epiphyseal affection. The examination of a large number of specimens after resection of the hip-joint favors the supposition that an osteitis, resulting from an implan-

tation and development of the bacillus tuberculosis in the cancellous tissues of the bony elements of the joint, is the starting-point of this disease most frequently by far, in children at least. In adults the synovia membrane of the joint is often the first tissue to be affected.—CHARLES T. PARKES, *Clinical Lectures*, pages 457 and 202.

Tuberculous Meningitis.—Dr. Lamphear has advocated an operation in tuberculous meningitis which, so far as I know, has never been tried—namely, opening the skull and washing out the meningeal spaces, as we do the belly in tuberculous peritonitis. He reasons that the peculiar disappearance of the tuberculous process in peritonitis treated by flushing the abdomen, leads to the conclusion that a similar result might be anticipated in tuberculous meningitis when complicated with hydrocephalus.—*American Journal of Surgery and Gynecology*, vol. ii., p. 143, January, 1896.

Rupture of the Quadriceps Extensor.—Dr. Walker (*American Journal of the Medical Sciences*, p. 647), in a paper on the aforesaid subject, draws the following conclusions: 1. In recent cases in which there is not much effusion and the joint is apparently not opened, and in which the separated ends can be approximated and detained by suitably adjusted pads, the mechanical treatment may be carefully considered. In the hands of the intelligent general practitioner this method may be expected to bring about a complete recovery in the larger number of cases. From nine to twelve months will be required to re-establish fully the normal functions. 2. A too prolonged fixation in bed is unfavorable to an early recovery; therefore early massage and passive motion are strongly advised. 3. The skilled aseptic surgeon who primarily resorts to the operative method in suitable cases (but the age and vitality of each patient must be most carefully considered) may quite reasonably hope to obtain a better result in a larger number of cases and save his patient three to six months' time. Catgut, kangaroo tendon, or silkworm gut should be used, and when there is much effusion drainage should also be employed. 4. When the separation is greater than one and one-half inches, or when the case has not recovered under the mechanical treatment, the operation is indicated. 5. As the length of time required for treatment is a very important consideration, so the operative method, which has diminished this period and also succeeded in a larger number of cases without increasing the danger, will be more often indicated and more frequently applied in the hands of the skilled surgeon.

Treatment of Puerperal Sepsis.—1. Suspected infection of the birth canal should be confirmed when possible by a bacteriological examination of vaginal secretions, and every means of differentiating from other affections be resorted to, that they may be treated rationally either by medicine or by surgery. 2. Irrigation and antiseptics destroy the nutrition of the parts when continued and, furnishing increased moisture, improve the field for the development of micro-organisms, aside from the danger of death resulting from the antiseptic used. 3. The birth canal can be kept comparatively dry by absorbent dressing, removing the culture media and arresting the development of germs and infection until the abraded parts have healed.—MILLER, *American Journal of Obstetrics*, November, 1895.

Chronic Rhino-Pharyngitis.—

R. Menthol..... 1
Oil of sweet almonds, or
Liquid vaselin..... 10
M. S. Apply locally with a brush.

—HAMON DE FOUGERAY.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OMNIUM GATHERUM FROM CARLISLE.

LONDON, August 7, 1896.

THE lapse of a week since leaving Carlisle has not sufficed to turn professional gossip into its accustomed grooves. Wherever we meet, one of the earliest questions is, "How did you like Carlisle?" or "What did you think of the meeting of the B. M. A.?" or something equivalent. A very nice place to visit is the border city, with its wide, well-kept streets, substantial buildings, and hospitable, big-hearted Northern inhabitants. Carlisle, too, has a history of which it may well be proud and offers archæologists no slight attractions. It has, further, a medical history, which history and that of the worthies of the district were well told in the address of the president. Some diffident people feared the meeting might be a failure, as coming after London, but the event has justified the courage of the Cumbrians, who may continue to boast in the words of their old song:

"Canny au'd Cumberlan' caps 'em a' still."

The district around the border city is one of great interest and well worth full exploration. A number of excursions were arranged by the local committees, including one to the "Land of Scott" and another to the lake district. Cricket, lawn tennis, golf, etc., were accessible. A conversazione and a dance, garden parties, and other entertainments galore were provided by the Cumbrians, and the 1896 meeting may fairly be cited in support of the frequent taunt that these congresses are attended more for the sake of dissipation than science. I should mention that parties were conducted through the cathedral, the castle, and Tullie House by Chancellor Ferguson, and the splendid collection of birds in the museum was a great attraction, as to which the Rev. H. A. Macpherson acted as the kind cicerone.

Dr. Barnes is an excellent president, and the choice of the subject of his address was most appropriate. It must be confessed, however, that his voice could not adequately fill the room, and many were therefore unable to follow all his utterances. I hear, however, that your special reporters secured good places and have sent you a full abstract. The local press was by no means gratified with the treatment meted out to its representatives, who were excluded from the most lively proceedings. Gentle hints, not to say remonstrances, were thrown out about "meetings with closed doors" and the curious "traditional reserve" of the doctors being perhaps connected with their "proverbial differences."

It was very amusing to see the energy of a door-keeper in clearing the room of reporters at some of the general meetings. He included in his orders the representatives of medical journals, assuring them the meeting was private and out they must go. The absurdity of thinking the doings could be kept secret when so many members were present should have been manifest to the managing clique. As a member I could not be excluded, and I write shorthand, as no doubt many other members can, besides which, with every dinner table discussing the secrets, they were all "open" ones indeed. It was natural, perhaps, for these managers to wish to avoid all discussion of their conduct in the libel action, Kingsbury v. Hart, but Dr. Kingsbury had taken effectual means to prevent this. He had printed a pamphlet containing his history of the case *ab initio* and a full report of the trial.

in which he triumphed and which the council confessed to have cost £1,300, and yet they were not manly enough to acknowledge any mistake. It was very laughable to see Mr. Hart making anvil and hammer of his fists to emphasize the assertion in staccato falsetto, "I—would—do—the—same—again—in—the—same—case." No, no, Mr. H., not if you had to pay the costs! Dr. Kingsbury's pamphlet was freely distributed and is very caustic. It asserts that agents were set to work in Blackford, Manchester, Liverpool, and Preston "to try by hook or by crook to hunt up witnesses against him, but they failed to find one honest man in all Lancashire whom they could induce to give evidence," while "twenty-one of the leading professors and consultants of the county volunteered their services and were in court to support him." But the defendant did not appear. He started on the yacht trip which he advertised in the *Times* the day before the trial, and Dr. Kingsbury speaks of him as "the gentleman who had only the courage to run away." It was suggested at the trial that he was ill, but no evidence was given; in the debate at Carlisle it was said that anxiety lest he should be asked the name of his informant prompted his non-appearance. These explanations do not agree, but what matters? The case is over. Dr. Kingsbury has vindicated his conduct and shown that the enormous influence of the association cannot crush an independent man who has nothing to be ashamed of. The lesson was needed, and it is to be hoped will be laid to heart in in both the editorial and advertisement offices of the *Journal*.

How the evidence of Sir D. Duckworth, Sir T. Stokes, and Dr. Cousins broke down at the trial was duly recorded in your columns at the time. The fuller light shed on the matter in Dr. Kingsbury's pamphlet confirms the opinion then expressed. As to advertising, the lesson will now perhaps be learned that what is sauce for the general practitioner is sauce for the consultant.

Dr. Kingsbury scored a success, for although he had to modify a resolution he submitted, he carried that part of it which invited the council to draw up a code of ethics to be submitted to the association. It might seem that some of the council were scarcely suitable persons to entrust with this task, but no doubt their recommendations will soar above their practice.

Ignorance of ethics was openly professed by some and a definition demanded. But on Wednesday a section of ethics was opened under the presidency of Dr. l'Anson, who told his audience in his address that "their ethics were comprised in their duty to their brother practitioners, their patients, and the world at large." This is comprehensive enough, though surely "the world at large" includes brethren and patients. But the president went on to particularize by adding to his statement "and the necessity of upholding by any and every means in their power the honor and dignity of their profession." I do not desire to criticize these rather loose expressions; the subsequent discussions would have been more edifying if some of the speakers had conformed to the president's description. For it cannot contribute to our honor and dignity to give way to temper in discussing burning questions, and I am sure it is contrary to so-called ethics for speakers to hurl opprobrious epithets at one another.

The annual dinner went off with the usual *éclat*. The bishop was present and returned thanks for the toast of the clergy and ministers of all denominations. He humorously pretended that he nearly fell "into a trap" by speaking in an assembly of doctors of the other denominations as "irregular practitioners," and then, referring to the next toast, the military one, claimed them as "auxiliary forces" and paid them full compliment as brothers in arms.

Surgeon-Captain Witchurch, who won the Victoria Cross for his heroism at Chitral, also spoke and was received as enthusiastically as when the gold medal was presented at the general meeting.

The temperance breakfast is now regularly looked for. For some twenty-five years the National Temperance League has invited the members to a breakfast. This league is devoted to the spread of temperance by moral suasion. Sir Wilfred Lawson, who is the leading advocate of legislative suasion, was also present, and some delightful humorous passages were exchanged between him and the bishop, making this one of the most successful entertainments of the kind.

The journey back to London on Saturday was much retarded by the crowded state of the line carrying thousands in the opposite direction. Members who stayed until Monday, the bank holiday, were doubtless much more inconvenienced. Not a few took the opportunity of a few days in the lake district.

The Third International Congress of Dermatology has been sitting in London all the week, but notes of its proceedings must stand over and for once the metropolis give place to the border.

OUR BERLIN LETTER.

(From our Special Correspondent.)

RENAL DIABETES — URIC-ACID DIATHESIS — HOT-AIR
FIXATION OF BLOOD SPECIMENS—DIPHThERITIC
MYELOCYTHÆMIA.

BERLIN, August 8, 1896.

A RECENT lecture upon renal diabetes by Dr. Klemperer aroused a more than usually interesting discussion. The views enunciated by Dr. Klemperer may be summarized briefly as follows:

In the healthy person, sugar is stored up in the liver as glycogen, but if excessive quantities of carbohydrates have been taken a certain amount passes the liver, enters the blood unchanged, and is excreted by the kidneys as sugar.

This alimentary glycosuria is practically of a regulating nature. If we excite an artificial diuresis, we may produce a glycosuria, when even very moderate quantities of carbohydrates are ingested. In the cases described by Klemperer as renal diabetes, we find a permanent excretion of sugar, though the quantity of carbohydrates ingested is not increased and the circulation is not accelerated by diuretics. In the discussion, Dr. A. Fraenkel opposed the idea of a diabetes strictly renal in character. According to his view the arrest of a glycosuria upon the appearance of a chronic granular nephritis may be readily explained by assuming that the diseased kidney retains the ferment secreted by the pancreas and this ferment in return enables the tissues again to assimilate the sugar. Dr. Fürbringer had seen three patients with diabetes in whom glycosuria ceased as albuminuria appeared. Magnus-Levy had administered phloridzin hypodermically and found that, after doses of even only twenty centigrams the healthy as well as diseased kidneys would excrete sugar, but the largest amount would be excreted by the contracted kidney. These results are diametrically opposed to Klemperer's statements, who says that contracted kidneys excrete no sugar after the administering of phloridzin. The general conclusion of the discussion was that Klemperer failed to sustain his theory of a renal diabetes. Dr. Klemperer also read another paper before the Berlin Medical Society on the prophylaxis of uric-acid concretions in the kidney. The treatment of such concretions in the urinary tract must be principally surgical, because a solution of these concretions by internal remedies is utterly im-

possible, on account of the firmness of the combination of the urates with the organic constituents. Prophylaxis, therefore, is what we must aim at. The kidney should be well irrigated, food substances which aid in the formation of uric acid (as nucleins) must be avoided, and as little meat as possible should be taken, milk, eggs, and vegetables being preferable. Not all nuclein-albumin, however, is turned into uric acid as a final product, for in the case of some its transformation is effected into urea. Certain drugs, such as caffeine, have a strong tendency to increase the formation of uric acid. Muscular exertion also is followed by an increased formation of uric acid. The elimination of uric acid is favored by an excretion of neutral or alkaline urine. Of remedies favoring this Klemperer recommends bicarbonate or citrate of sodium. Urea especially has this property. It may be given in daily doses of twenty grams. It not only increases diuresis, but also is a solvent of uric acid. Piperazin, lysidin, and uratropin are more expensive than urea and of less therapeutic value than it in cases of the uric-acid diathesis.

Of interest was a demonstration at the same meeting by Strauss, who diagnosed a mediastinal tumor with the aid of the x-rays. In the photograph a shadow was to be seen in the thorax as large as a fist, situated to the left of the spinal column. According to Strauss this was a cancerous enlargement of a bronchial gland occurring thorough metastasis, the primary lesion having been in the stomach. Attempts made to locate by means of the x-rays the position of the large curvature of the stomach, after passing a metal sound, have not been successful. During the discussion Boas stated that by his method it was not at all difficult to locate the position of the large curvature by passing a tube. He considered any complicated apparatus for this purpose unnecessary.

At a meeting of the Society for Internal Medicine Krönig read an interesting paper concerning certain new methods of blood examination. One novel procedure was the fixation of blood specimens in hot-air baths. Krönig has constructed a small and a large air bath. The small apparatus is a square metal box, with a receptacle for four specimens. It is placed over a gas flame; a thermometer is attached to show the temperature. With a temperature of 150°C ., the fixation of the specimens is obtained in four or five minutes.

In the large air bath the preparations remain for one hour at a temperature of 115° to 120°C .

At the same meeting Engel reported the discovery of certain peculiar conditions of the blood in diphtheritic children. He examined thirty-two children seriously ill. He found the so-called myelocytes almost entirely absent in those children who recovered. All those (seven) died who had a large number of myelocytes in the blood. Engel calls this condition "myelocythæmia" of diphtheria. All the children were treated with antitoxin. Engel believes that the poison of diphtheria acts injuriously upon the blood-forming structures just as it acts in producing parenchymatous inflammation in various internal organs.

Lacerated Wounds of Fingers.—In cases of severe injury to the fingers by laceration or contusion, put the entire hand into a very ample soaking-wet dressing. Do not trim off any pieces of flapping skin. Incision for drainage is all that is allowable until healing is very well under way. You may then look over the ground and see whether it is necessary to sacrifice anything. A half-inch of boneless finger may be of great value to its possessor.—*International Journal of Surgery*, May, 1896.

New Instruments.

A PORTABLE STERILIZER AND DRESSING RETAINER.¹

By JOHN PRENTISS LORD, M.D.,

OMAHA, NEB.,

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IN the summer of 1894 the author conceived the essential features of the portable steam and hot-air sterilizer and dressing retainer herein described. Thinking that the market would afford something of this character, a search was accordingly made, but with negative results. Sterilizers were too large or too small; the larger were cumbersome and ill adapted to convenient use outside of a hospital; the smaller were inadequate for major operations and necessitated the carrying of a previously prepared aseptic roll for gowns, bandages, cotton, etc., which, as a consequence, were an extra incumbrance, and, furthermore, did not sufficiently simplify the technique of antiseptics in surgical preparations.

It was considered a first essential feature to have a portable receptacle sufficiently large to retain dressings required for any major operation (*i.e.*, gowns for operator and assistants, towels, gauze, cotton, silk, drainage tubes, bandages, etc.), ready packed and primarily sterilized by steam, rendered dry by hot air, and retained in a dry aseptic condition, ready for use in ordinary emergency cases and in convenient order for resterilization in cases of major degree or when extraordinary precautions are desired.

Second, to have an adequate independent heating apparatus for both steam and dry heat, to be used in emergency, but not required when the ordinary means of heating are at hand.

Third, to make the pan for the water not only sup-

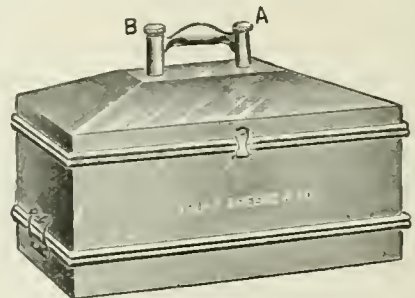


FIG. 1.

ply the steam but answer for boiling instruments, either simultaneously with sterilization of dressings or independently, without in any way disturbing the contents of the sterilizer, and also serve as a tray for the instruments, thereby relieving the satchel of this encumbrance.

The apparatus herein described has been in actual use more than a year and a half, with such results as to justify me in presenting it to the profession for their consideration.

The sterilizer, as represented in Fig. 1, is nine and one-half inches wide, ten and one-half inches to the top of the handle, and sixteen inches long. It is made of copper and brass, nickel plated. The handle is hollow. The handle post contains a perforated cork for the reception of a thermometer, after removing the mill-headed cap, *A*. The partial unscrewing of the cap *B* permits the steam to escape, when dry heat replaces the steam. The cover is secured by

¹ Read before the Medical Society of Missouri Valley at Sioux City, Ia., March 20, 1895.

clasps or hooks, as represented in the cuts. The pan is fastened to the bottom of the apparatus by hooking its handles over the pins upon the ends of the body of the sterilizer.

Fig. 2 represents the top removed, showing the gal-

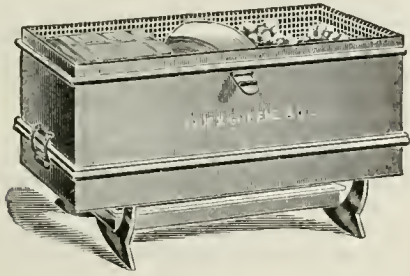


FIG. 2.

vanized-wire basket which retains the dressings. This basket is removable and has a double bottom of copper, which prevents scorching of the contents when dry heat is used. It serves also as an aseptic retainer, especially convenient in the absence of plenty of bowls, basins, etc.

Fig. 3 is self-explanatory. A second pan with a

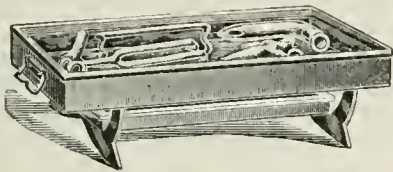


FIG. 3.

wide flange is nested with this and is used as a cover for the instrument boiler, and also as a second tray.

Fig. 4 illustrates the manner in which the flame is

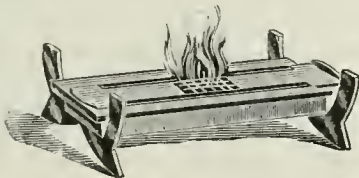


FIG. 4.

limited by the slides in the cover of the alcohol stove. By closing these slides the flame is extinguished. When the stove is used for steam the whole top is removed.

Fig. 5 represents the application of dry heat, with

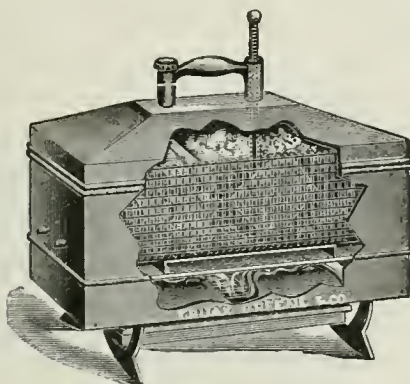


FIG. 5.

thermometer introduced through the handle.

It is not to be inferred that the sterilizer requires the use of the alcohol stove. Any heat may be used when at hand. The independent heating apparatus is intended for emergency.

The alcohol stove is four by ten inches and one

inch deep. It contains a mat of asbestos wool, which requires twelve ounces of alcohol to saturate, and will burn forty to fifty minutes. Two quarts of water will boil in six minutes, and a steam heat of 212° F. is attained with the sterilizer in ten minutes. The stove is readily packed in the pan, as is also the tin alcohol bottle. The bottle holds one pint, and the remaining four ounces of alcohol, not used for the stove, may be used for disinfecting hands, wounds, site, etc.

The whole makes a compact, capacious combination, all the parts of which are useful and necessary adjuncts to a surgical outfit.

The construction is simple, the apparatus is light and very portable. No new principle is claimed. The apparatus is simply a convenient combination of necessary utensils, all of which are required in emergency work.

The steam heat is abundant and efficient. Under steam is used, but, the air being allowed to pass off through the handle during the first minute or two, perfect saturation and sterilization of the contents by steam takes place, the same practical results being secured thereby as in other sterilizers, which are more complicated and bulky, heavier and less roomy. Besides, they do not furnish pans, etc., which are especially convenient to have in emergency work.

A small size is made for oculists and those who do minor work. Its small size yet considerable capacity commend it to a class of men who are wont to operate without up-to-date aseptis, for the reason that their work is of such a minor character that these extra pains are not deemed necessary in order to get results in the majority of cases; yet bad results are sure to follow this neglect of the only safe course in all surgical procedures.

The small-sized sterilizer is twelve and one-half inches long, five and one-half inches wide, and six and one-half inches high, including the handle; it will hold sufficient gauze, cotton, bandages, drainage tubes, silk, etc., for any minor operation.

The sterilizers are supplied with canvas or telescope covers, and are of moderate cost.

The writer has long considered it necessary for general practitioners, and surgeons as well, to break away from the old and too frequent custom of using gauze and various other dressings from their several packages, which have occupied the dusty shelves of the office for a variable period, and have, perhaps, been opened repeatedly. Gauze should be supplied in less expensive retainers, furnished in blotting paper for instance, with an outer covering of a less permeable character, which latter, when received, could be removed and the gauze with its porous covering kept in the sterilizer ready for use, and resterilized as often as contaminated by opening or using from the retainer.

If all physicians would inaugurate these reforms in the care of their dressings, their results would be much improved and operative surgeons would see fewer cases of septic wounds—the legitimate offspring of a practice much too common, in view of our present knowledge of aseptis. It would seem superfluous to make these remarks to readers of this journal, but all will admit that aseptis in office and general practice has not yet been rendered as simple, effective, practical, and easy of attainment as it should be. It has, therefore, been my aim to simplify it, so far as immediate dressings for the wounds are concerned, by having them all together in one retainer, both convenient for office use and ready for transportation and re-sterilization at a moment's notice; so that, instead of using gauze from one or more different packages, silk from another, drainage tubes from another, cotton from the roll, and bandages from the bottom of a dirty satchel, etc., they are all from one clean, reliable source, absolutely to be depended upon.

Therefore, with sterile dressings, gowns, and towels, boiled instruments, sterile hands, and a clean wound site, no man need fear to make a wound within the range of his ability. And let me here add that if we take away the fear of sepsis our general practitioners will be less loth to cut. My observation of this class of men has been that they usually know when and how to operate, but that the complex and complicated time-robbing methods of preparation, together with their uncertain results, cause them oftentimes to refer their cases to others. At the present day, with the present state of our knowledge, there should not be a hamlet or crossroads where accidental and surgical wounds are not treated aseptically. To simplify and render easy such an attainment is a service to our fellows and a blessing to mankind.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 15, 1896:

	Cases.	Deaths.
Tuberculosis.....	151	124
Typhoid fever.....	37	15
Scarlet fever.....	22	2
Cerebro-spinal meningitis.....	0	5
Measles.....	62	9
Diphtheria.....	114	31
Small-pox.....	0	0

Vaginal Irrigation without Wetting of Clothes.—A. E. Bradley, Captain, Medical Department, U. S. A., now at Fort Yellowstone, Wy., writes:

"One occasionally meets with a new method of accomplishing some certain end; it comes often as a surprise and is so simple that one wonders it had not occurred to him before. It may be that the surprise I received recently is not, to many, a new method of accomplishing vaginal irrigation, but it was to me.

"In obtaining a history the following conversation occurred:

"Do you use, or have you ever used, hot-water douches?"

"Oh, yes; but I thought they only helped me for a time."

"Did you take them lying down?"

"Yes. I used a bed pan formerly, but I always got my clothes wet and the bed too, so that it was a perfect nuisance. But after I used a hammock it went better."

"A hammock!"

"Yes. I hung the hammock in my bedroom, got my fountain syringe ready, placed a tub under the hammock; then I lay down, and could use all the water I wanted without getting anything wet. You know the water will run right through hammock meshes."

"Who told you how to do this?"

"No one; I thought it out myself."

"I refrain from comment. This method has advantages appreciated by my patient at least."

Henry Dunant, founder of the Geneva Convention and the Red Cross, his life work, and the part taken by women in this work, was the title of an address delivered by Dr. Jordy before the Berne Good Samaritan Union, November 24, 1895. We are told that Dunant came of a good Geneva family; like all noble men he owed much to a superior mother. At the battle of Solferino, in 1859, he distinguished himself in

the care of the wounded, and through his little book, "Un Souvenir de Solferino," interested Queen Augusta of Prussia, the Empress Eugenie, and other high personages, and finally succeeded in getting together the Geneva Conference of 1864 and in founding the Society of the Red Cross, the members of which care for the injured, more particularly in times of war, but also in times of peace, and are recognized as non-belligerents by the several nations who have adopted the rules of the convention. Dr. Jordy thinks George Sand's desire to credit Arrault, a Frenchman, with being the originator of the Geneva Convention is due to chauvinism. While a number of persons had suggested the idea of recognizing the wounded in battle as neutrals, he thinks there cannot be the least doubt that Dunant's work and writings first led to practical results and finally to the Geneva Convention. In 1867 Dunant had the misfortune to lose his own property and that of relatives in some venture in Algiers, and he is now living in obscurity and poverty.

Advice to Bicyclists.—Dr. Rocheblave gives the following advice: 1. No one should ride until after an examination by a physician. This examination should be made both before and after a walk or run, for some cardiac lesions manifest themselves only after a state of fatigue. 2. Ride no faster than twelve kilometres an hour. 3. As far as possible guard against the desire to ride any faster. It is very difficult not to give way to the "delirium of swiftness." With a light machine on a good road an amateur may easily make twenty-five kilometres an hour. This is too much, for the pulse is increased to 150, even at fourteen and sixteen kilometres an hour.—*Pacific Medical Journal*.

Pure Milk for Brooklyn.—Health Commissioner Emery has appointed a dairy inspector, whose duty will be to investigate the sources of the entire milk supply of Brooklyn. He is charged with the duty of examining the cow stables, the number of animals therein, their sanitary condition, the water they drink, and the drainage of the stables. If in his opinion any feature of any of the dairies is unsatisfactory, he has power to prohibit the sale in Brooklyn of the milk from that establishment.

Venereal Disease a Sufficient Cause for Divorce.—The Paris Court of Appeals recently decided that the fact of marrying before being cured of a venereal disease and knowingly communicating it to the other party in the marriage, is sufficient cause alone to allow a divorce.—*Semaine médicale*.

The Bicycle should be prohibited to women during menstruation.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

STERILITY. By Robert Bell, M.D. Svo, 88 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, \$1.75.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS. Volume VIII., for the year 1895. Svo, 404 pages. Illustrated.

A SYSTEM OF MEDICINE BY MANY WRITERS. Edited by Thomas Clifford Alburt, M.D. Volume I. Svo, 978 pages. Macmillan & Co., New York. Price, \$5.00.

A TREATISE ON APPENDICITIS. By John B. Deaver, M.D. Svo, 168 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

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Original Articles.

SOME STUDIES OF THE BLOOD IN THYROID FEEDING IN INSANITY.

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THAT decided changes in the mental state may be produced by thyroid feeding is now a well-recognized fact. This has been demonstrated in numerous cases of myxœdema and cretinism which have made marked improvement under continued treatment with this drug. Recently there has been a number of cases of insanity reported as improved, and some have gone on to complete recovery on a similar line of treatment.

In the first class of cases (myxœdema and cretinism) the treatment by the administration of some preparation of the thyroid gland is entirely rational. The gland in the patient is either defective or absent, and it is simply sought to restore to the system some principle which it has lost thereby, and which is essential to health. But the use of this remedial agent in mental diseases in patients who have apparently healthy thyroid bodies is as yet entirely empirical. Several theories have been advocated as to the manner in which the drug probably acts, but as yet very little has been done toward placing this form of treatment on a scientific basis. So good an authority as H. C. Wood, in a recent lecture on animal extracts, delivered at the University of Pennsylvania,¹ merely says on this subject: "Thyroid extract is sometimes useful in melancholia, but how it acts we do not know."

The object of the work reported below has been to endeavor to throw some light upon the physiological action of this agent. If the result has been such that it will induce others to pursue the subject further, that facts may be established which will place this method of treatment on a more rational basis, the writer will feel that his work has not been in vain.

The present paper is a report of a study of the blood in a number of cases before and during a course of treatment with thyroid. I have made no attempt at a chemical analysis, but have restricted my observations to the numerical and morphological aspect of the corpuscles. And in consideration of the fact that the function of the red blood cell is largely, if not wholly, as an oxygen bearer, I have devoted the most of my attention to the leucocytes.

The only reported study of the leucocytes in thyroid feeding with which I am acquainted is a report of a case of infantile myxœdema by M. Labraton.² In this case the author makes only two examinations in a period of time covering more than a year. This is far too small a number of observations to establish any facts in the case.

The method which I have pursued in making the examinations is as follows: The number of red and white blood corpuscles in a cubic millimetre of blood was first determined by the Zeiss-Thoma apparatus.

It has been my aim to obtain as nearly accurate results as possible. To do this I have in all cases used a dilution of 1 to 200 for the red corpuscles and counted the number of cells in one hundred squares; for the white cells a dilution of 1 to 20 was used, and the entire number in the four hundred squares was counted. Frequently several counts would be made at one examination and the average taken as the result. By reference to Abbey's table of probable errors in counting the blood corpuscles, it will be seen that by the above method the greatest probable error would be less than two per cent. To avoid error from digestion leucocytosis and to insure a similar condition in each case, the counts were all made between eleven and twelve o'clock, and several hours after a meal.

A differential count of five hundred leucocytes was then made. The films of blood on a cover glass, being dried, were fixed in absolute alcohol from two to five minutes and subjected to a contrast stain. The staining fluid used in the beginning was the triple stain of Ehrlich, but this was discontinued for one of hæmatoxylin, orange, and fuchsin, which has been much more satisfactory. The formula used is:

Hæmatoxylin, Delafield's sol	gtt. viij.
Orange G, $\frac{1}{2}$ sat. aqueous sol	gtt. x.
Fuchsin S (after Weigert), $\frac{1}{2}$ sat. aqueous sol	gtt. i.
Water	cc. xv.

The covers are passed immediately from the alcohol into this fluid and allowed to remain fifteen minutes, washed in water, and mounted in balsam. The stain should be fresh, as it soon deteriorates. Owing to the varying strength of hæmatoxylin, slight modifications of the above formula are at times necessary to obtain the best results.

I have followed Ehrlich's classification of the different varieties of white corpuscles into: 1, small mononuclear, or lymphocytes; 2, large mononuclear, including the transitional forms; 3, multinuclear neutrophiles; 4, eosinophiles. He gives the relative number of each variety in normal blood as: Small mononuclear, 15 to 25 per cent.; large mononuclear, 6 per cent.; multinuclear, 70 to 75 per cent.; eosinophiles, 1 to 5 per cent.

Some recent authorities are inclined to give the percentage of lymphocytes somewhat higher and the multinuclear form slightly less than the above, and this has been my own observation. Dr. Walter A. Wells, in an article in the *Medical News* of March 14, 1896, places the normal number of lymphocytes as high even as twenty-eight per cent.

In each of the cases given below one or more counts, both numerical and differential, were made preliminary to the course of thyroid, and during the treatment, generally lasting from a week to ten days, a count was made every second or third day.

CASE I.—M. M—, female, aged thirty-four. A case of mania of puerperal origin and nearly one year's duration. Emotional state decidedly exalted. Physical condition very good. Temperature, 99.2° F.: pulse, 65. Patient was put to bed and two blood counts were made on different days, and the average was taken to establish a preliminary count, which was: R. B. C., 4,832,000; W. B. C., 11,000. Differential count:

¹ University Medical Magazine, April, 1896.

² Gazette Médicale de Paris, January 19, 1895.

Small mononuclear, 18.4 per cent.; large mononuclear, 9 per cent.; multinuclear, 70 per cent.; eosinophiles, 2.6 per cent. She was then put on thyroid extract, ten grains three times a day. The extract was of such strength that fifteen grains represented one sheep's thyroid.

Second day of treatment: Mental condition unchanged. Pulse, 95; temperature, 99.2° F. Blood count: R. B. C., 6,272,000; W. B. C., 9,000. Differential count: Small mononuclear, 17.2 per cent.; large mononuclear, 8.2 per cent.; multinuclear, 74.2 per cent.; eosinophiles, 0.4 per cent.

Fourth day: Pulse quickened; skin flushed; temperature, 99.6° F. General condition good. Mentally exalted. Thyroid extract increased to forty grains a day. Differential count: Small mononuclear, 25 per cent.; large mononuclear, 8.8 per cent.; multinuclear, 64.6 per cent.; eosinophiles, 1.6 per cent.

Seventh day: Patient quiet, but still mildly exalted. Pulse, 106, somewhat irregular; temperature, 99° F. Taking thyroid extract, fifty grains a day. Blood count: R. B. C., 4,520,000; W. B. C., 5,200. Differential count: Small mononuclear, 37.6 per cent.; large mononuclear, 11.6 per cent.; multinuclear, 50 per cent.; eosinophiles, 0.8 per cent.

Ninth day: Twenty-four hours after thyroid was discontinued the patient was still decidedly impressed with the drug. Pulse, 105; temperature, 99° F. Much more quiet. Differential count: Small mononuclear, 26.6 per cent.; large mononuclear, 12 per cent.; multinuclear, 60.4 per cent.; eosinophiles, 1 per cent.

A note made five days later states that she was more quiet and rational than for months past. Patient continued to improve with an occasional period of a few hours' excitement, and made a complete recovery.

CASE II.—S. A.—, male, aged forty. A case of mania of six months' duration. Emotional state exalted. Talk rambling and disconnected. Has had double hæmatoma auris. Physical condition very good. Temperature, 98° F.; pulse, 65. Preliminary blood count: R. B. C., 5,616,000; W. B. C., 8,600. Differential count: Small mononuclear, 31 per cent.; large mononuclear, 6.8 per cent.; multinuclear, 61.4 per cent.; eosinophiles, 0.8 per cent. He was then put on thyroid extract, thirty grains, the equivalent of two sheep's thyroids, a day.

Third day of treatment: No change whatever mentally. Temperature, 98.6° F.; pulse, 75. Thyroid increased to thirty-six grains a day. Differential count: Small mononuclear, 32.6 per cent.; large mononuclear, 5 per cent.; multinuclear, 59.8 per cent.; eosinophiles, 2.6 per cent.

Fifth day: Patient decidedly impressed by the drug, of which he is taking forty-five grains a day. Pulse, 84; temperature, normal. Mental state decidedly exalted; talking constantly. Blood count: R. B. C., 5,440,000; W. B. C., 9,200. Differential count: Small mononuclear, 45.6 per cent.; large mononuclear, 6.6 per cent.; multinuclear, 45.8 per cent.; eosinophiles, 2 per cent.

Seventh day: Somewhat more quiet, but still maniacal. Pulse, 85, tension very much diminished; temperature, 98.2° F. Taking thyroid, fifty grains a day. Differential count: Small mononuclear, 43 per cent.; large mononuclear, 6.4 per cent.; multinuclear, 50.2 per cent.; eosinophiles, 0.4 per cent.

Eleventh day: Patient markedly under the influence of the drug. Pulse, 102, and quite characteristic; temperature, 98.4° F. He is quiet and his facial expression is much brighter. Thyroid has been diminished to thirty-six grains a day. Differential count: Small mononuclear, 34.6 per cent.; large mononuclear, 10.2 per cent.; multinuclear, 54 per cent.; eosinophiles, 1.2 per cent.

Eighteen hours after last dose of thyroid: Patient

quiet but rather disconnected in his talk. Temperature, normal; pulse, 96. Blood count: R. B. C., 4,368,000; W. B. C., 5,200. Differential count: Small mononuclear, 37.2 per cent.; large mononuclear, 7.2 per cent.; multinuclear, 53.4 per cent.; eosinophiles, 2.2 per cent.

Five days after treatment was discontinued there was a very decided change in his mental condition. Emotional state entirely normal. An extract from the case records says he was very much better and talked quite rationally. He took a lively interest in things about him and read the newspapers, something he had not done for a long time before. Blood count: R. B. C., 5,136,000; W. B. C., 6,800. Differential count: Small mononuclear, 45.6 per cent.; large mononuclear, 7.2 per cent.; multinuclear, 45 per cent.; eosinophiles, 2.2 per cent. The change in the mental state and the improvement noted above, while quite pronounced, was of only a few days' duration, when the patient relapsed into a maniacal condition, very similar to that before the course of treatment was begun.

CASE III.—K. S.—, female, aged thirty. Case of simple melancholia of five and one-half months' standing, this being the second attack. Some improvement had been made, but it was slow and her mental state had been unchanged for some time past. Mildly depressed. General health good. Pulse, 60; temperature, 98.2° F. Average of blood counts made on three successive days preliminary to treatment: R. B. C., 4,832,000; W. B. C., 8,800. Differential count: Small mononuclear, 25 per cent.; large mononuclear, 8.4 per cent.; multinuclear, 63 per cent.; eosinophiles, 3.6 per cent. Desiccated thyroid, twelve grains of which represented one sheep's thyroid, was given in doses of ten grains three times a day.

Fourth day of treatment: No change mentally. Temperature, 99.6° F.; pulse, 98, rather quick. Complaints of pain in the extremities. Thyroid has been increased to forty grains a day. Differential count: Small mononuclear, 35.2 per cent.; large mononuclear, 11.6 per cent.; multinuclear, 48.8 per cent.; eosinophiles, 4.4 per cent.

Fifth day: Mental condition remains unchanged. Temperature, 99.4° F.; pulse, 112. Complaints of pain in the extremities. Rather restless at times. Quite well under the influence of thyroid, of which she is taking forty grains a day. Blood count: R. B. C., 5,656,000; W. B. C., 8,000. Differential count: Small mononuclear, 37.6 per cent.; large mononuclear, 12 per cent.; multinuclear, 45.2 per cent.; eosinophiles, 5.2 per cent.

Sixth day: General condition same as on day previous. Temperature, 99.4° F.; pulse, 128, weak and compressible. Thyroid has been increased to fifty grains a day. Differential count: Small mononuclear, 36 per cent.; large mononuclear, 12.2 per cent.; multinuclear, 46.4 per cent.; eosinophiles, 5.4 per cent.

Ninth day: No appreciable change in the mental condition. Still mildly depressed. Temperature, 99.2° F.; pulse, 125, weak, tension low. Thyroid was discontinued to-day. Blood count: R. B. C., 6,464,000; W. B. C., 6,000. Differential count: Small mononuclear, 34.4 per cent.; large mononuclear, 12.6 per cent.; multinuclear, 48.6 per cent.; eosinophiles, 4.4 per cent.

The patient's mental condition appeared to be in no wise affected by the course of treatment. The symptoms produced, however, were quite characteristic of the drug. It is of interest to note that the range of temperature in this case was much above the average noted in the other cases.

CASE IV.—P. B.—, female, aged forty-nine. A case of chronic melancholia of four years' duration, having the appearance of partial dementia. She was

quite dull, rarely ever speaking or taking any notice of anything. General health poor. Temperature, normal; pulse, 100. Physical examination revealed a well-marked insufficiency of the mitral valve. Preliminary blood count: R. B. C., 5,432,000; W. B. C., 8,200. Differential count: Small mononuclear, 10.8 per cent.; large mononuclear, 3.6 per cent.; multinuclear, 79.2 per cent.; eosinophiles, 6.4 per cent. Patient was put on desiccated thyroid, thirty grains a day, which was increased to forty grains on the second day.

Third day of treatment: No change whatever mentally. She is getting well under the influence of thyroid, of which forty grains are given a day. Temperature, 99° F.; skin flushed and moist; pulse, 105. Differential count: Small mononuclear, 20.2 per cent.; large mononuclear, 4 per cent.; multinuclear, 70.8 per cent.; eosinophiles, 5 per cent.

Sixth day: Taking forty grains a day. No marked change in mental state. Seems a little more irritable and talks more. Is thoroughly under the influence of the drug. Pulse, 120, weak and rapid; temperature, 99.2° F. Skin moist. Blood count: R. B. C., 5,312,000; W. B. C., 8,800. Differential count: Small mononuclear, 15.4 per cent.; large mononuclear, 4.2 per cent.; multinuclear, 79.2 per cent.; eosinophiles, 1.2 per cent.

Ninth day: Still taking thyroid, forty grains a day. Temperature, 99.8° F.; pulse, 132; tension very much diminished. No change in the mental state; still dull and stupid. Blood count: R. B. C., 5,288,000; W. B. C., 7,200. Differential count: Small mononuclear, 17 per cent.; large mononuclear, 7 per cent.; multinuclear, 75 per cent.; eosinophiles, 1 per cent.

A short time after the treatment was discontinued there was seen to be a very marked change in the mental condition of the patient. She began to take much more interest in her surroundings; would talk more, and her will power, which had been almost entirely abolished, began to reassert itself. There was no change of any consequence in her reasoning powers, however, and she soon drifted back into her apparently hopeless state.

CASE V.—P. V—, male, aged thirty. Had been insane three months. Emotional state very much exalted. Talks constantly in a disconnected manner. Has a general feeling of well-being. Physical condition fairly good. Temperature, normal; pulse, 85. Secretions appear to be normal. Preliminary blood count: R. B. C., 5,104,000; W. B. C., 11,100. Differential count: Small mononuclear, 17.2 per cent.; large mononuclear, 5 per cent.; multinuclear, 77.2 per cent.; eosinophiles, 0.6 per cent.

Thyroid extract, thirty grains, was given on the first day. It was increased to thirty-five grains on the second, and on the third day forty grains were given.

Third day of treatment: Somewhat more maniacal and quite irritable. Skin moist and flushed. Temperature reached 100.2° F. in the afternoon; pulse, 100. Blood count: R. B. C., 5,048,000; W. B. C., 4,400. Differential count: Small mononuclear, 29.6 per cent.; large mononuclear, 5.8 per cent.; multinuclear, 64.4 per cent.; eosinophiles, 0.2 per cent.

Fifth day: Patient more quiet but very emotional. Influence of thyroid on blood pressure quite apparent. Pulse, 102; temperature, 99.8° F. He is taking thyroid extract, forty-five grains a day. Differential count: Small mononuclear, 29.4 per cent.; large mononuclear, 5.8 per cent.; multinuclear, 64 per cent.; eosinophiles, 0.8 per cent.

Seventh day: Thoroughly impressed with the drug and apparently quite sick. Temperature same as on previous day; pulse, 110. Still rambling and disconnected in his talk. Blood count: R. B. C., 5,988,000; W. B. C., 6,600. Differential count: Small mono-

nuclear, 29.6 per cent.; large mononuclear, 5.6 per cent.; multinuclear, 63 per cent.; eosinophiles, 1.8 per cent.

Tenth day, fifteen hours after last dose of thyroid: Spent a comfortable night and is much more quiet this morning. Effect of the drug is still marked on the pulse. He has lost considerable flesh, although his appetite has been good. Blood count: R. B. C., 5,376,000; W. B. C., 5,800. Differential count: Small mononuclear, 27.2 per cent.; large mononuclear, 7.4 per cent.; multinuclear, 63.8 per cent.; eosinophiles, 1.6 per cent.

Ten days later the patient has improved very much physically and has about regained his former weight. There is also a very apparent change in his mental condition: he is much more quiet and his emotional state is only slightly exalted. Is still quite delusional, however, and incapable of reasoning. It was decided to give him another course of treatment similar to the first. He was accordingly put to bed again and another preliminary blood count made, which gave the following result: R. B. C., 5,368,000; W. B. C., 7,800. Differential count: Small mononuclear, 26.8 per cent.; large mononuclear, 6 per cent.; multinuclear, 66.4 per cent.; eosinophiles, 0.8 per cent. Patient put on thyroid extract again, thirty grains a day.

Third day of second course of treatment: Took thyroid, sixty grains. Pulse, 120; temperature, 99° F. No marked change mentally. Blood count: R. B. C., 5,338,000; W. B. C., 6,000. Differential count: Small mononuclear, 26.8 per cent.; large mononuclear, 7.4 per cent.; multinuclear, 65.4 per cent.; eosinophiles, 0.4 per cent.

Sixth day: Thyroid extract, sixty grains a day, is continued, and the patient is thoroughly under its influence. Temperature, 99.2° F.; pulse, 124, weak, and tension decidedly diminished. He is quiet but mildly exalted. Differential count: Small mononuclear, 26 per cent.; large mononuclear, 8.4 per cent.; multinuclear, 65.2 per cent.; eosinophiles, 0.4 per cent.

Eighth day: Treatment was discontinued. He has lost several pounds in weight and is quite weak. Continues to be quiet. Blood count: R. B. C., 5,296,000; W. B. C., 7,000. Differential count: Small mononuclear, 30.6 per cent.; large mononuclear, 9.8 per cent.; multinuclear, 58.8 per cent.; eosinophiles, 0.8 per cent.

Patient soon regained what he had lost physically. The improvement in his mental condition was continuous and very rapid. A note on the case made two weeks later says: "He now talks rationally and engages readily in conversation. Is no longer noisy and incoherent. Talks rationally on all subjects, and spends considerable of his time reading and seems to appreciate what he reads. He now sits up most of the day, but his pulse is still very rapid and not strong." Recovery was complete and has been permanent.

For the sake of brevity in the remaining cases only the preliminary count and another when well under the influence of the drug will be given. The numerical count of the red and white corpuscles is omitted in some cases where it was of no especial interest.

CASE VI.—I. H—, female, aged thirty-one. Chronic melancholia of a mild type, complicated with hysteria and hypochondria. Had been insane two years. Preliminary count: Small mononuclear, 33 per cent.; large mononuclear, 4.4 per cent.; multinuclear, 59.4 per cent.; eosinophiles, 3.2 per cent.

Large doses of thyroid extract were given and pushed until at the end of the fourth day the pulse was so feeble and rapid that it could hardly be counted. Patient complained of severe pains in various parts of the body, and could with difficulty be kept in bed.

This case was much more thoroughly impressed by the treatment than any of the others. Treatment had to be discontinued at the end of the fourth day. A differential count made then gave the following interesting result: Small mononuclear, 55.4 per cent.; large mononuclear, 9.2 per cent.; multinuclear, 34.6 per cent.; eosinophiles, 0.8 per cent.

The result in this case was entirely negative.

CASE VII.—J. G.—, male, aged sixty-two. Chronic melancholia of sixteen months' duration. Preliminary count: R. B. C., 5,008,000; W. B. C., 7,200. Differential count: Small mononuclear, 27.4 per cent.; large mononuclear, 9.2 per cent.; multinuclear, 55.4 per cent.; eosinophiles, 8 per cent.

Thyroid was pushed until a very decided effect was produced. Temperature at one time reached 100.4° F. A count made while patient was well under treatment gave: R. B. C., 5,240,000; W. B. C., 8,600. Differential count: Small mononuclear, 32.6 per cent.; large mononuclear, 16.8 per cent.; multinuclear, 47.2 per cent.; eosinophiles, 3.4.

No change was observed in his mental condition when treatment was discontinued, nor for several weeks thereafter. About one month after the course of thyroid he began to improve and clear up rapidly, and was discharged as recovered. Some doubt exists, however, as to whether or not his improvement was the result of the course of treatment, as recovery in his case was quite different from the others.

CASE VIII.—E. W.—, female, aged twenty. A mild type of mania of thirteen months' standing. Preliminary count: Small mononuclear, 24 per cent.; large mononuclear, 14 per cent.; multinuclear, 61 per cent.; eosinophiles, 1 per cent.

Differential count made on the seventh day of treatment: Small mononuclear, 31.2 per cent.; large mononuclear, 9.6 per cent.; multinuclear, 58.2 per cent.; eosinophiles, 1 per cent.

There was apparently no change whatever produced in her mental state.

CASE IX.—E. M.—, male, aged eighteen. A case of insanity of pubescence of eighteen months' duration. Preliminary count: Small mononuclear, 38.2 per cent.; large mononuclear, 6 per cent.; multinuclear, 54.4 per cent.; eosinophiles, 1.4 per cent.

Differential count made on the eighth day of treatment, when the patient was very thoroughly impressed with thyroid, resulted as follows: Small mononuclear, 51.6 per cent.; large mononuclear, 9.4 per cent.; multinuclear, 36.8 per cent.; eosinophiles, 2.2 per cent.

Result entirely negative, no change being produced.

CASE X.—C. C.—, male, aged thirty. A case of paresis in the first stage. Duration of disease, about four and one-half months. Symptoms well marked. Preliminary count: Small mononuclear, 19.8 per cent.; large mononuclear, 11.5 per cent.; multinuclear, 66.7 per cent.; eosinophiles, 2 per cent.

On the sixth day, when the effect of the treatment was very marked, a count was made, as follows: Small mononuclear, 28.2 per cent.; large mononuclear, 14.8 per cent.; multinuclear, 54.8 per cent.; eosinophiles, 2.2 per cent.

There was quite an apparent change in the patient's mental state when the thyroid was discontinued. He continued to improve until in the course of a few weeks he had lost delusions and talked rationally. Although four months have now elapsed since he was taken off treatment, there has been no return of his mental symptoms. Many of the physical signs of his disease have also disappeared. He is evidently enjoying a period of remission, such as is sometimes found in cases of paresis. This condition was undoubtedly produced by the course of thyroid.

From the examination made of these cases, as well as others, the study of which was more or less incom-

plete and therefore not reported, it appears that the number of red blood corpuscles is not materially affected by the administration of thyroid. In the stained specimens there is no deviation in the appearance of these cells from the normal.

There is also to be found no decided, constant, or characteristic change produced in the total number of white blood cells by the administration of this drug. In some cases the leucocytes are found to be increased, in others diminished in number, and my observation has been that the latter condition occurs more often. In no case have I seen anything approaching a leucocytosis nor any marked increase in the number of white corpuscles.

In the differential count, however, we see a very decided change produced in the relative number of the different varieties of leucocytes during a course of thyroid feeding. This change consists in the increase of the percentage of the small mononuclear cells or lymphocytes, and a corresponding diminution in the multinuclear neutrophils. By referring to the above tables, it will be seen that this condition exists in every case. It will also be seen that the increase in the lymphocytes bears a fairly regular ratio to the increase in the dose of the drug. It is quite reasonable to suppose, therefore, that this condition is a result produced by the administration of thyroid. This effect begins to be apparent on about the third day from the beginning of the course of treatment, and continues several days after it has been discontinued.

It is in the small mononuclear variety of lymphocytes that we see the only change in the appearance of the leucocytes in stained specimens. The lymphocytes in a specimen of blood taken from a patient thoroughly under the influence of thyroid extract are found to be much smaller, and the nucleus become stained more deeply than in a specimen taken from the same patient before treatment. This difference may be assumed to be the indication of the difference of the age of the cells. Uskow, of St. Petersburg, as the result of a prolonged and very close study of the blood, comes to the conclusion that the small lymphocytes with deeply stained nuclei are the youngest elements in the blood. This being the case, we are forced to the conclusion that the drug acts as a direct stimulant to those tissues of the body whose function is the production of the lymphocytes, namely, the lymphatic or adenoid tissues.

The blood of a patient who is taking large doses of thyroid extract also appears to undergo some chemical change. This is manifested by the very much more tardy manner in which the blood flows from a prick in the skin, making it at times difficult to obtain enough to fill the tubes of the hematocytometer without making quite a large puncture. The blood also coagulates more readily than under ordinary circumstances. What the nature of this chemical change is I cannot say, for, as previously stated, I have attempted no chemical analysis.

Now, let us see what bearing these cases may have upon the various theories advanced to account for the action of thyroid in mental disease.

Some writers upon the subject of thyroid therapy have advanced the idea that the good results obtained by it might be explained by the tonic line of treatment, with an increased appetite, more nourishing diet, etc., following the course of treatment. That this theory is entirely illogical and insufficient to explain the results obtained, will be apparent to all when we consider that the most decided improvement is often seen during the administration of the drug and before the tonics have been given. It has been so with some of my own cases.

Bruce, in his excellent article on this subject in the *Journal of Mental Science* for January, 1895, is inclined

to the opinion that it acts by producing a febrile state with its resulting reaction. I very much doubt that this is the true explanation; and, in fact, his paper itself would contradict the theory, for some of his patients made decided improvement in whom there had been a very slight if any rise of temperature. The highest temperature reported as due to thyroid feeding is no very marked deviation from the normal.

In Case I. it will be seen that the highest temperature recorded is 99.6° F., while the temperature before the patient was put on treatment was 99.2° F., an increase of less than 0.5° , and yet she began to improve immediately and made a rapid recovery.

In Case III. the temperature was normal at the preliminary examination, and registered 99.6° F. on the fourth day of treatment. In this patient there was absolutely no change in her mental state. The other cases will also show a similar lack of ratio between the increase of temperature and the mental change produced.

If the improvement noted in cases of insanity treated with thyroid extract is due simply to the febrile state produced, then why do we not have an equally high percentage of recoveries following intercurrent disease accompanied by high temperature? That such recoveries do occasionally occur is an undisputed fact, but, compared with the whole number of febrile diseases occurring among the insane, they can be considered only as interesting phenomena.

In the *Journal of Mental Science*, for October, 1895, Dr. Bruce reports sixty additional cases treated with thyroid. As a result of this work, he, while still adhering to the theory advanced in his first paper, comes to the further conclusions that thyroid is a direct cerebral stimulant and that the ingested thyroid supplies some material to the body which the gland is supplying in deficient quantities.

That this drug is a cerebral stimulant, direct or indirect, would certainly appear from its awakening the higher cerebral centres to functional activity in some cases of dementia in which the intellectual powers had been dormant for a long period of time.

That thyroid supplies some principle to the blood and thereby to the body is the most plausible explanation of its action. The cases cited show that it has a constant and decided effect upon the corpuscular elements of the blood by a stimulating action on the adenoid tissues. I am led to believe that it is by this action on the adenoid tissues that some principle is added to the organism which is being supplied in a deficient amount. It has been my observation that those patients do best on thyroid whose preliminary blood counts show a low percentage of lymphocytes. In Cases I. and V., in which recovery was complete and undoubtedly due to thyroid, it will be seen that the preliminary counts of lymphocytes were 18.4 per cent. and 17 per cent., respectively. Case X., which made the most marked improvement of any that did not entirely recover, had 19.8 per cent. of lymphocytes on preliminary count. The lowest percentage of lymphocytes found in any case before treatment was in Case IV., which had only 10.8 per cent. This patient, as will be seen, was partially demented, but still showed a decided mental change under treatment.

On the other hand, in Cases III., VI., VIII., and IX., whose preliminary counts of lymphocytes were respectively 24, 33, 24, and 38.2 per cent., absolutely no change was produced in their mental condition.

From these facts it is very plausible to suppose that in some forms of insanity there is a sluggish action of some of the tissues intimately connected with the function of hæmatisis, which tissues, being stimulated by a vigorous course of thyroid, elaborate and turn into the circulation some principle which has a beneficial action on the cerebral cortex.

While I thoroughly appreciate the fact that the number of cases studied has been too small to allow of a positive statement of the effect of this remedial agent, certain of the results obtained have occurred with such uniformity in every case that I am led to hope that by a more extended use and careful observation we may yet arrive at the true manner of its action.

In conclusion, I wish to acknowledge the valuable assistance of Dr. Thomas P. Prout, of the hospital staff, in the study of these cases.

HYPNOTISM AND SUGGESTION, WITH A CASE OF SPASMODIC STRICTURE OF THE OESOPHAGUS.¹

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IN the following paper I use the terms hypnotism and suggestion collectively, but I do so because I believe it more practicable to speak of both together, since psychological suggestion merges imperceptibly into hypnotism and *vice versa*, and both probably affect the same portions of the cerebral mass, although with different degrees of intensity.

The words hypnotism and suggestion, in short, mean nothing more nor less than the processes which make a person believe what is not true, or what at the time he does not believe is true. This hypnotic state is explained by the fact that once a person having been made to think that he or she is asleep (for he may believe so when the eyes are not even shut), the phenomena of ordinary sleep will continue the natural time, during which the suggestions made will have profound effects. This is corroborated by the fact that persons can be hypnotized during natural sleep. Evidently, then, if we can prevent ourselves from shocking a sleeping person to wakefulness, and if at the same time we can induce the belief that we are the operators, the process is just the same. In natural sleep, a person has no operator, no supreme controller; in hypnotism he has: this is the difference. I have had subjects in the lethargic state who said after me that a long wooden rod was a pen, who wrote on my hand when I called it paper; and yet on opening their eyes they said they knew it was not true, but had to say so because I told them it was so. I have often said to waking patients, "Go to sleep again," and they have immediately fallen into slumber.

Webster defines hypnotism as follows: "Sleep, especially a kind of sleep or somnambulism said to be produced by means of animal magnetism; also a similar condition produced in persons of very delicate organizations, by gazing at a very bright object, as a metallic ball highly polished and strongly illuminated."

Dunghlison defines it under "Animal Magnetism" as "Mesmerism, Pathetism, Psycheism, Neurogamia, Biogamia, Biomagnetismus, Zoömagnetismus, Exoneurism, Anthropomagnetismus, Gargale, Gargalismus, Gargalus. Properties attributed to the influence of a particular principle, which has been compared to that which characterizes the magnet. It is supposed to be transmitted from one person to another, and to impress peculiar modifications on organic action, especially on that of the nerves. The discussions to which this strange belief has given rise are by no means terminated [1868]. There is no evidence whatever of the existence of such a fluid. Highly impressible persons can be thrown into a kind of hysteria or magnetic sleep and somnambulism, designated by Mr. Braid hypno-

¹ Read, in part, at a meeting of the Eastern Medical Society, February 7, 1896.

tism, neurohypnotism, and nervous sleep, and at times called, after him, Braidism; but farther than this, the efforts of the magnetizer cannot reach. It is a mode of action upon the nerves through the medium of the senses."

Suggestion, separate from hypnotism, seems to have received little notice in our medical literature. Dana gives, as synonyms of hypnotism the terms trance, artificial cerebral automatism, and electro-biology. Gradle gives the additional synonyms, provoked somnambulism and artificial trance, and he characterizes it as a state interfering with or entirely suspending the free will and judgment, together with readiness to obey the most unreasonable suggestions of others. Its effects, he says, resemble catatonia, etc., but differ from them in being transitory. Dana says, in defining hypnotism, that the state is one in which the phenomena allied to those of perturbed sleep (somnambulism) are exhibited, and considers it as a morbid mental state characterized by (1) perversion or suspension of consciousness; (2) abeyance of volition; (3) automatic response to commands or external impressions; and (4) intense concentration of the nervous force in some particular direction.

It seems to me that our whole lives must be inextricably bound up with psychical auto-suggestion (apart from hypnotism), since imitation seems to be the basis of its effects, and our every action seems to be the result of some impression, the outcome of certain imitative reminiscences.

What is the exact relation between the imitative faculty and "suggestion"? The child tries to imitate its guardian and its surroundings; and yet an advice or a command is followed or not, according as it is pleasing or the reverse. The same may be said of adults, although duty and civility modify the results. Has auto-suggestion anything to do with the urinary or other secretions, with defecation, with coition or with parturition? Is the attraction of the sexes hypnotic in nature? The thoughts are certainly concentrated in this condition. We might go further and ask if all animals, all plants, including even the single-celled animal or the bacterium—we might ask if all these are subject to the same force! Are all our actions the result of auto-suggestions? Is automatism unconscious suggestion? Are our reflex actions connected with hypnotism? We dream during sleep, and remember it after we awake. In the same way, the hypnotized subject dreams of some things which occur to him and not of others. Why should some impulses reach the centres of consciousness and memory and others not? We touch a hot stove and draw our finger away by a reflex action; then we first become conscious of what has happened. But the hypnotized subject does the same thing; tell him that he is sitting on a red hot stove and he not only jumps up, but he rubs himself! Is this merely automatic? A young girl follows the mental commands of her father to the letter, and yet not a word is spoken. Can the hypnotic be educated in certain directions? If an animal or a human being receives a great injury, he becomes unconscious, and we say that he is suffering from shock; but very often we get the evidences of so-called shock from a trivial injury, and even this may result in death. Now, what relation has this shock to mental suggestion? Has the subject's fright or fear of the consequences, or have the abhorrent actions of bystanders, brought on the condition? We know that the sudden receipt of very bad news, or similar circumstances, may throw a susceptible person into a cataleptic condition. Can some of our "heart failures" be attributed to the same cause? Can we make a person die by hypnosis? We can kill an animal by it!

A woman, even during (or after) the most difficult

version or instrumental delivery (with or without an anæsthetic), rarely becomes profoundly shocked, and a death from shock under such conditions is very rare.

In what way, again, do drugs act on the system? Why is one drug a cerebral excitant and another a depressant or hypnotic? How is it that sulphonal produces sleep on the second and even on the third day after it has been taken? Is there any hypnotic suggestion in this?

Dana claims that the understanding of hypnotism gives a key to all the cerebral automatic states. A certain portion of the cerebral cortex, he says, remains inactive during this process. This is caused by transitory inhibition of these functions. A steady monotonous impression is made on one of the senses to the exclusion of the others. This dulls the perception of the rest; during battle wounds are frequently not felt.

When an image is formed on one point of the retina, the sensibility of the other portions is reduced. If we fix our eyes on a luminous point, the surrounding objects become invisible. Suggestions are acted upon without the judgment based on the total evidence of the senses and on the remembrances of past experience. (It is thus, by the suggestive power of a lawyer, that a justice may be forced to take a wrong view of a case before him.)

Any slight irritation produces general spasms in strychnine poisoning, because the natural resistance to the nervous connections is diminished in the spinal cord. We must therefore infer that in hypnotism this resistance is increased and even blocked entirely in certain directions, but the opposite may also be made to occur.

Heidenhain and Bubnoff, on testing the galvanic excitability of the cortical motor centres in the dog, found it increased for a few seconds by every previous stimulus, even when the latter was too feeble to excite a muscular contraction. An electric stimulation of insufficient strength could also be rendered effectual by any slight irritation in the region of the muscles under the control of the centre experimented upon. Thus the excitability of the motor centre of the fore-leg could be distinctly raised by stroking the leg. On the other hand, the cortical excitability could be reduced in numerous ways. For instance, the contracture sometimes following stimulation of the corresponding centre could be checked by blowing on the leg. In short, they found that the excitability of the cortex was in anything but a stable condition, and that it fluctuated in either direction from remarkably slight causes.

The hypnotic anomalies of the motor system are shown by the researches of Tschiriew and Momsen, who have shown that the skeleton muscles are not in any state of tonic contraction until a muscle or its tendon is put on the stretch. When this occurs, as by tension of the antagonistic muscles, a gentle reflex tonic contraction is immediately produced. We get in this way the tendon reflex, a sudden jerk. This is increased often in the trance, showing hyper-excitability, and is also shown in the cataleptic condition. This exalted sensibility of the spinal centres must be attributed to the influence of the cerebral centres upon them. In the contractures the cortical motor centres are involved, for Munk and others have shown that these centres must be closely connected, if not identical with, those presiding over the "muscular sense," and the nerves of this sense—the tendons, aponeuroses, and other deep structures near the muscles, as well as the probable sensory nerves of the muscles—are the ones excited.

Locke, the poet, described the will as the "power to begin or forbear, continue or end the several actions

of our minds and motions of our body, barely by a thought or preference of the mind."

Dana, in the "Reference Handbook of the Medical Sciences," says that our reflexes may be classed as follows: (a) The simple reflexes of the spinal cord and medulla. (b) The dexterities: riding, playing, dancing, walking, playing on instruments and even suckling at birth (which is acquired without practice), and we might add a great many others to these; *i.e.*, even lecturing becomes in a degree automatic. These are called the machine-like (or automatic) actions; the centres are located in the lower ganglia and hinder part of the brain. (c) The third or highest system of reflexes: ideation, perception, etc. These include emotions of fear, etc., and ideas. Thus, a single frightful sight may give rise to prolonged feelings of terror.

In hypnotic conditions the entire phenomena are reflex, undisturbed by the will; these cause, no doubt, changes in the vascularity of the brain, with rapid breaking down of nerve tissue.

The peculiarity of hypnotism seems to be that, unlike the normal state, when a suggestion may be followed or not (according as it is received favorably or unfavorably), in this state it must be followed because the control of the will is absent. Patients will sometimes hesitate before following a command, but this must be ascribed rather to ignorance than to resistance; and yet, in the first stage, resistance is frequent. Can resistance be present in the more profound states of hypnotism? If a patient vomits in spite of commands to the contrary, can this be called resistance?

I will now describe a case of spasmodic stricture of the œsophagus, in which I tried the value of hypnotism. I must admit that the case is rather incomplete in some respects, but as this complaint is not specially noticed in our literature I undertake to describe it. Before beginning, though, I would like to say that the mass of my experiments have been on gynecological cases.

On August 27th of last year, Mr. A. C.—, aged thirty-one, called upon me with the following history: He had been ailing three months; had been married twelve years; no children; no specific history obtainable; said that his difficulty in deglutition became more and more profound as time progressed. At first he could eat solid food, but with difficulty; then he could swallow only pasty food, then liquids only, and finally even these were regurgitated. I failed to pass even the finest semi-elastic urethral catheter (they were the only ones at hand, but were made pliable in hot water, the wire staffs being discarded). He said: "I can take nothing since a long time but milk; anything like meat or bread first goes down and then comes up through my mouth and nose; sometimes when the bread is very soft a small crumb goes down; when I begin to swallow water it goes out again through the mouth and nose; and I have no appetite to eat."

This looked a little like hysteria, but still the previous history seemed to point clearly to an organic stricture of some kind. I made another attempt to pass a catheter, but failed even with a No. 9. The throat seemed to be very sensitive, and he gagged and vomited with each effort. He succeeded in swallowing a No. 9 soft-rubber bougie and also about eight inches of the stomach tube. I ordered boiled chopped meat and the following prescription:

R Hydrargyri chloridi corrosivi gr. $\frac{1}{12}$.
Potassii iodidi gr. x.
Syrupi sarsaparillæ compositæ 3 i.
M. S. Take the dose three times a day.

He said he could eat very soft spring chicken.

August 28th I passed a No. 11 catheter, and ordered

the mercury, etc., to be continued. He wanted to know if he should consult a professor. I gave him a note to Dr. Howard Lilienthal, in order to determine positively if there was any stricture.

On November 10th, three months later, I saw him again, when he related to me the following story: He had shown my note (addressed to Dr. Lilienthal) to a druggist who was a friend of his, and was advised by the latter to see another physician by whom he was treated for a time, but was finally sent to the German Hospital.

At this time again, although I could not pass the smallest semi-elastic catheter, he could swallow, of his own accord, the large soft-rubber stomach tube. The case was therefore plainly a spasmodic stricture of the œsophagus.

I ordered:

R Spiritus ætheris compositi,
Tincturæ valerianæ ammoniatæ āā 3 ss.
Misturæ asafœtidæ,
Aquæ āā 3 ss.

This he was directed to take every four hours, and also beef tea or kumys.

November 11th there seemed to be some gastric irritability, so I ordered:

R Sodii bicarbonatis gr. x.
Magnesiæ ponderosæ gr. v.
Sacchari lactis gr. v.
Olei anisi gtt. ss.

The stomach tube was not retained so well as the day before, although the smaller semi-elastic ones passed and were retained, as were the smaller soft ones.

November 12th he said he felt better, but had had ten passages the previous day and one on this day. I made the No. 11 semi-elastic catheter pass by distracting his attention; this was done by inducing him try to pull his hands apart. He then swallowed the No. 13 without trouble. I ordered Hoffman's anodyne, valerian, and asafœtida in doses of ten drops of each, *t. i. d.*, after meals, in a wineglass of water.

On November 18th the valerian mixture was continued, but the powders were changed a little by adding five grains of saccharated pepsin in place of the heavy magnesia; barley, farina, and milk were ordered.

On the 20th he said that "the food stops and then goes down with a gurgling sound." I gave him potassium bromide in half-drachm doses, with syrup, citric acid, and water. I tried a soft-rubber tube larger than the stomach-tube, but saw no signs of blood stains on the tube and desisted.

On November 22d I passed a flexible steel tube with fangs that could be spread apart by pressing the opposite end; this was withdrawn open. I ordered raw chopped meat.

November 24th he complained that he gagged after eating raw meat and had to put his finger in his throat, which caused part of the meat to be vomited. I tried to pass a No. 9 wooden rod, but had to desist for fear of doing harm. I ordered the compound spirit of ether and valerian in twenty-drop doses, *t. i. d.*, and bromide at night only.

On December 5th I decided to hypnotize him, as he seemed to be tiring of his prospects. I told him to look in my eyes, and made passes across his forehead and down his face for about ten minutes, suggesting sleep all the time. He showed a tendency to smile when I began, but he finally fell off into a deep state of hypnotism. Before treating him I made a few experiments. Under the suggestion that his chair was a hot stove, he jumped up in a natural manner, rubbing his trousers. He showed natural excitement when I told him that a child was falling out of a window: he

went on all fours and trotted about at my suggestion that he was a horse. Impersonating a cat for me, he caught a pencil in a natural way, taking it for a rat. He was a Russian Pole and understood very little English. He imagined himself an actor on the Hebrew stage, even recognizing his friends in the audience; he spoke in the German-Jewish jargon and sang in the same strain. Then he was made to believe that the theatre was an English one, and he tried to imitate Booth to the best of his ability; French, of course, he did not understand, but my limited vocabulary of the language he imitated admirably. He believed himself in heaven or in sheol, according to my desire, but showed that he had only his ordinary impressions about them. He played the piano harmoniously, under the impression that he was Paderewski, using every finger and at my demand playing slow or fast; he had probably never touched a piano before. He shot an imaginary bird, thought it was winter or summer, and felt correspondingly hot or cold. He found a needle, although I had to direct his movements, as he seemed unaware of things in his way and would undoubtedly have fallen over everything obstructing him. He sat down and played with imaginary toys when I told him he was a baby, or acted like an old woman or giddy female at my desire. He impersonated Corbett at my request and did well with Fitzsimmons. His limbs became rigid or mobile in any part or in any position; or some became mobile and others rigid at the same time, as when he thought he was a pump, the rigid left upper extremity being worked like a pump handle. Then, again, a clean needle was passed through the loose skin of his hand, while he exhibited a pleased expression. While he believed a part immovable, the greatest force would hardly overcome the rigidity, yet a single suggestion made it lax again.

Now I began to make use of the therapeutic properties of hypnotism. I made passes over the œsophagus, telling him that he would be able, when he awoke, to eat food of any kind without any difficulty. In order to emphasize this, I gave him imaginary food, which he appeared to eat and drink with ease. After awakening him, which I accomplished only after considerable clapping of hands, combined with suggestions for him to wake, I asked him what had happened, and he said "I ate zwieback."

December 6th I hypnotized him more readily this time and told him that zwieback and everything else would go down without any trouble. I made ascending "passes" and told him to wake up. After a time he came out of the condition, opening his eyes with a start.

December 11th I invited a number of neighboring physicians in his presence, but he seemed to have got frightened, and would not enter the hypnotic state under any consideration; he pleaded that he was not at all sleepy. I ordered Hoffman's anodyne and valerian in forty-drop doses. I ordered also fifteen drops of saturated solution of the bromide every four hours. Perhaps the gaslight or the comparative want of quiet disturbed him also.

December 12th he said that "farina goes down but milk sticks and is spit out again; the pill goes down without water but not with water." Since the first séance he seemed to be suffering from some outside depressing influence, as shown by his actions and apparent fear, and also from the fact that solicitous friends appeared on two occasions to ask about him. I failed to hypnotize him.

In the evening of December 14th he was again hypnotized. From this out he was hypnotized regularly until he became delinquent and finally disappeared altogether. At one time I ordered him mentally when he failed to appear punctually, and he

came; but this may have been merely a coincidence. At another time I learned that he was taken to Brownsville to prevent him from coming, and finally, after hypnotizing him in the presence of his wife, it seemed to have a still worse effect and he was kept away altogether. I ordered him by postal card a week later, but his wife appeared instead, evidently determined to keep him away at all hazards.

Let us see what other authorities have to say on the subject.

Gradle makes the following statement: "When a susceptible person stares at some bright object, like a button, without being disturbed otherwise, or when the forehead is stroked by an operator, the subject appears to become drowsy in the course of a few moments. . . . The first time it may require a persistence of some fifteen minutes or more. Gradually the object appears indistinct to the subject, his eyelids droop, and he seems to fall asleep. Occasionally more of a dazed condition occurs than actual sleep."

The subject may be awakened by shaking him. The reaction of the pupil to light is usually not abolished although the subject may be sightless. The person indicates that he sees, but does not interpret correctly what he sees. The sense of hearing may or may not be interfered with. The taste is usually, the smell sometimes, abolished. Carpenter mentions a young woman who found the owner of a glove, in a company of sixty, by the smell. Very frequently subjects have the ability to perform delicate movements without the sight. They have been made to write with the eyes bandaged. They may row or ride horseback, or dance. They will recall incidents in their past which they do not remember in their normal state.

Gradle says further that a certain number of patients will recall some of their experiences, but as if in a dream. The muscles can be thrown into steady contraction by pressure on them or their nerves, with the finger or any instrument, as precisely as by electricity. Some of these contractures may persist, in hysterical patients, even after the subject's return to the normal condition, but by a gentle rubbing of the antagonistic muscles the contractures can readily be stopped. In another phase, the cataleptic, the entire body presents the wax-like flexibility of catalepsy. Charcot found three stages in hysterical patients, lethargy, catalepsy, and somnambulism. The lethargic state is produced by staring or by gentle pressure on the eyeballs. It is characterized by mental stupor and hyperexcitability of the motor system. Contractures produced on one side of the body can be transferred to the corresponding parts opposite, by holding a magnet near the part to be affected. This effect is prevented by making the limb anæmic with an Esmarch bandage. If we apply pressure to muscles through the bandage, the contracture will be sure to follow its removal; even while the bandage is applied, the contracture can be transferred back again by the magnet.

The lethargy gives way to the cataleptic state on opening the eyes, and especially on exposing them to a strong light, or by suddenly producing a loud noise. (Most of my subjects have been awakened by these means.) The features of this state are plasticity of the muscles and of the mind, the latter revealing itself by the miens and gestures of the subject on suggesting any train of thought. By keeping open only one eye this side will be cataleptic, but the other will remain lethargic. The somnambulist state may then be induced by gentle rubbing of the forehead. In this latter state the delusions, hallucinations, and imitative tendencies predominate. In those not afflicted with hysteria, these separate stages are not evi-

dent. The derangements of circulation, respiration, and other involuntary functions are merely the result of the intense emotions experienced. These "stages" give the erroneous impression that they are transferable only by following the directions given, whereas, as a matter of fact, these changes are more subservient to "suggestion" than to anything else.

Dana says that by cultivation almost any one can train himself to enter the state at will: he further states that the person who has been hypnotized at first sits or lies quietly in the position he assumed during the manipulations of the operator. Some of my subjects have fallen back when asleep; one of them stood with difficulty, he seemed to be so sound asleep, and, although I suggested repeatedly that he was not sleepy, he suddenly fell (fortunately in a rocking-chair), the shock waking him up. No notable changes, Dana says, occur in the pulse, respiration, temperature, pupils, or skin. Some increase in the cerebral blood supply, though, is said to be present.

The patient will now, at your command, talk, walk, run, gesticulate, assume expressions of fright, anger or joy. Outside of these he hears, sees, smells, tastes, and feels nothing. He can be made cataleptic, somnambulistic, or paralytic. This state is termed somnambulistic trance. If left to himself, he gradually sinks into a deep sleep, from which he can with difficulty be roused. After rarely more than one or two hours he awakens as from an ordinary slumber; this state is called trance coma or lethargic hypnotism. The three forms of the French writers are hardly possible, according to Dana. Sensitive subjects can be thrown at once into any one of these states (including the cataleptic).

The best method of inducing this state, he says, is to hold for five or ten minutes some bright object at a distance of from six to eight inches from the eyes, and a little above the horizontal plane of vision. (I sometimes induce it by making them look at the quicksilver in a thermometer bulb while facing a bright gaslight and simultaneously looking into their eyes.) It is self-induced by fixing the attention rigorously upon some object, says Dana, as in the ecstatic states of the saints and the nirvana of the Buddhists, as well as the states of some clairvoyants, spiritualistic preachers, and "mind healers," and it enters also into rational therapeutics. He refers undoubtedly to the use of suggestion, independent of hypnotism, for he adds, that "the capacity of the human mind for hypnotism or semi-hypnotic states is, therefore, a most curious and important fact." After a time even a word of command is sufficient to hypnotize a subject. The practice is injurious, he claims, tending to exhaust the nervous force and weaken the will. Faith-healing institutes, Dana thinks, are more pernicious than ginmills. This seems to indicate that it would be better to take up this matter in its incipiency and make some attempt to obtain legislation before it has gone too far.

The subject is dehypnotized by command or pass of the hand, or by any impression that the patient expects for the purpose. Under the spell they have been observed to have a diminution of the spinal reflexes and a muscular hyperexcitability. They sometimes show a most extraordinary exaltation of the visual, auditory, or other special sense, although the statement of Luys that medicines in sealed vials can be made to act is hardly credible.

To distinguish malingering of hypnotism, which sometimes is done for purposes of injury or crime, the following rules are laid down: (1) Careful examination of the subject by an expert is necessary to note the general actions. (2) The muscular hyperexcitability is tested by percussing the motor points. (3) The alleged anæsthesia is tested by unexpected burn-

ing, or pinching, or injury. (4) Testing the tetanic rigidity by the revolving tambour. In conscious states a tremor soon appears when the hand is kept extended at arm's length. (5) The subject may be tested with eyeglasses and other apparatus to determine anæsthesia of the special senses.

It is very aggravating at times to have a subject almost completely under the influence and then have him awakened by some disturbance. When the subject shows a tremor of the eyelids or makes motions as of swallowing saliva, or sighs, or motions with the hands, or wipes tears from the eyes, in spite of continued efforts, he will not be hypnotized at this séance beyond the first (the lethargic state). He will talk to you and tell you anything you ask of him, hearing and knowing meanwhile everything that is going on around him. In spite of this, however, suggestion will have a marked effect, although occasionally it requires some persistence. For instance, once in a while a patient will insist for some time that she does not experience what you tell her. In the end, however, you will generally succeed. I have often been successful in hypnotizing even when the subjects plainly did not wish to be hypnotized, and I have given marked relief to numbers by suggestion without asking them to sleep at all.

One advantage of direct suggestion, apart from hypnotism, is that it can be used *ad libitum*, as it produces no apprehension on the part of the patient.

Some cases of profound hysteria in males are very obstinate toward the influence of hypnotism. These are especially the patients who feign almost every symptom known. A large percentage of subjects can (with sufficient patience) be brought under the influence. Liébault states that in one thousand and four persons, twenty-seven could not be hypnotized, three hundred and thirty-five became sleepy, while all the rest passed into the trance. While hysterical females yield more readily than any others, Heidenhain noticed that strong muscular development is also favorable to its production. Infants and idiots could not be hypnotized by him.

Dana says that about one in every ten or fifteen adults is susceptible. It is said that the "magicians" in India hypnotize a whole audience, and I have demonstrated the possibility of this by hypnotizing a whole group without moving from the centre of the room. In my experience in dispensary practice, the large majority do not get beyond the first stage (although I have succeeded better of late). The worst drawback which I have had to contend with in my experiments is the great distrust which the attempt usually engenders, although I do better now by grouping subjects together. The foreign Hebrew element, especially, is extraordinarily superstitious. One young man was mortally afraid that I was going to use a knife on him when he was asleep. Another patient, a middle-aged woman, seemed to be afraid that I had evil intentions.

I became acquainted with hypnotism while a chemist nearly fifteen years ago. Dr. Parrish at that time was the first I met who understood the subject practically, he having taken a course of instruction from two professional lecturers. I made no practical use of it, however, until recently.

It has been frequently claimed that by fixing the attention upon a person unseen, he or she will be attracted by it. I concentrated my attention recently upon a subject separated from me by two glass doors. She had seen me pass in from the street to the vestibule and apparently thought I went on upstairs. Although she turned and looked at me, I have little doubt that she became aware of my presence and saw me staring at her.

If in a theatre, you concentrate your attention on

a person in front of you, he or she will often turn around; but this is caused by the fact that other people, noticing your unusual actions, draw his or her attention to you. We all know that there is a language in looks and actions. Bend your head forward suddenly in a car and look at something—all the passengers will look after you. Your actions have said plainer than words, "There is something unusual there," and they all want to see what it is. It must be remembered, when people see things without looking at them, that although the macula lutea with its fovea centralis retinae is most powerful in sight-giving properties, still the surrounding parts of the retina can also produce mental impressions, and, considering that we have two eyes, this gives us a very large range of vision; although looking straight ahead, we can see objects on both sides of our heads. We have all been the subject of attention in assemblages at times, and yet have felt no particular attraction; that was because we are accustomed to it. In other instances we have felt embarrassed, and have tried therefore to avoid such congregations.

The old method of hypnotism, says Dr. Luys, was to cause the subject to look one steadily in the eye, while the operator's hands were continuously passed about his head. To be successful by this method, he says, the subject must feel that he is going to be hypnotized and must not offer the slightest mental objection. (My experience does not agree with this.) The principle of his hypnotizing machine is a constantly moving, glittering surface.

The great requisite for successful hypnotization is unbounded self-confidence and fearlessness. If you are afraid that the patient may laugh at you, you will never succeed. I have hypnotized the very patients who were forced to smile at first. I was asked recently by a man of apparently strong will-power if I thought I could hypnotize him. "Why," said I, "you would be the easiest of subjects!" Still I did not believe so myself at the time, and yet the effects of my answer could have been observed in the patient's subsequent demeanor.

Dr. Abbot Combes, who was a student under Charcot, claims that every advanced physician nowadays should know how to hypnotize. He takes a hen and bends the neck to one side and then draws up one of the wings over the head. Holding her in this position, he whirls her around twice and then sets her down. With eyes wide open, she sits perfectly rigid; placed upon her back, she makes no effort to regain her upright position; when one of the wings is spread out, it remains there. This is the second or cataleptic stage, in which she remains for several minutes. Other birds of smaller varieties are handled in the same way, with similar results.

A young man is seated by him in a chair and he doctor points his finger at him, keeping it about five inches away from the subject's head and on a level with his eyes. The young man's eyes droop and in a very few seconds he is in the first stage (somnolency). By pushing open the eyelids (and pressing slightly upon the eyeballs?) the second stage, or cataleptic condition, is reached. Placed in any position, no matter how uncomfortable or ridiculous, the subject remains there. When needles are introduced into the flesh, the man never winces; he is deprived of all feeling. A minor surgical operation, as the amputation of a finger, could be performed without the least difficulty, but a major operation, as that of removing the arm, would produce such a shock to the nerves as to bring the subject out of the trance.

By stroking the middle of the forehead with the finger he produces the third and last stage, hypnotic suggestion. (He thus calls the stages by the more appropriate terms, somnolence, catalepsy, and sugges-

tion—or still better terms would be insomnolence, catalepsy, and servility.) All the stages are frequently present at the same time, in varying proportions. "He will remain under my control," says the doctor, "unless I suggest that he is under the control of some one else or awaken him: if I place him under the control of any other person, I have no control over him until the governing party suggests again that he should be under my control." The subject is burned with cold iron, and drinks water, thinking it is milk. If a woman has hysteria, he suggests that she will not have another attack until she sees him again: the effect is generally very satisfactory. The length of time the influence lasts depends upon the number of times she has been hypnotized, how susceptible she is to the influence, and what her capability for receiving the suggestion is; as a general thing it lasts for from two to four weeks. The patient is awakened by blowing in his or her face. When a disease is long-continued, says Dr. Combes, as in functional epilepsy of from fifteen to twenty years' standing, it is hardly possible to cure it in this way. In alcoholism, you can keep a man from drinking by suggestion, but it will not reduce the inflammation of the brain cells in delirium tremens. When patients complain of pain as the result of an operation accomplished two years previously, with no foundation for such complaint, they are cured in this way. Alcoholics are told that if they drink in the future it will make them sick, and it does generally make them vomit; this suggestion lasts for two or three weeks. Sometimes we say, "Don't go into a saloon." The same is done for the smoking-habit, when necessary. If they complain of headache after continued hypnotism, the treatment is usually suspended for a while.

The doctor does not believe that a man who is thoroughly moral and principled could be induced to commit a crime, nor could a virtuous woman, according to him, be made to surrender herself. (Can they resist without the presence of the will?) Still, he admits that subjects have engaged in antics which would have made them feel disgraced in the normal state. It is claimed that a subject would forget to do a criminal act as soon as he had left the presence of the operator.

In producing the hypnotic state artificially in man, Dana says, his attention is first fixed upon some particular object, as a bit of glass, which is held slightly above the level of vision, so as to put the ocular muscles upon a certain strain; after a few minutes, in sensitive subjects, the nervous force seems to lose its equilibrium, and to concentrate itself in one particular direction; the whole mental life of the subject is narrowed into one field. The equilibrium of nervous force being once overturned, it remains unstable, and can be turned in one direction or another, at the will of the operator. The subject is told that he is a murderer and must die, and he is overpowered with fear and remorse. The hypnotic is to all intents and purposes anæsthetic (unconscious to feeling) and blind and deaf to everything except an expected suggestion from the operator, who is the only link between him and the external world at this time. The concentration of his nervous force upon some particular function, such as that of sight, hearing, or touch, exalts these senses, so that vision is clearer, hearing more acute, and the touch more sensitive.

Certain persons of a highly sensitive, nervous temperament, are liable to spontaneous attacks called trance, which is nothing more than a day somnambulism. These individuals are generally hysterical, and their attacks may be accompanied by or complicated with catalepsy, ecstacy, or various other hysterical phenomena. In some cases this is said to be congenital, any excitement of the brain producing a spell; in others

it may be acquired, after the subject has been mesmerized. A case is reported of a patient with chronic periodical tic douloureux who fell in a state of "somniloquence" after each attack; her religious eloquence was a modern illustration of the prophecies of the priests of the Delphic oracle. If the hypnotic is left alone, his condition passes after a few hours into true sleep. Those periodically hypnotized can recall in one séance what occurred at a previous one.

The slighter degrees of hypnotism resemble profound reverie or abstraction; the absorbed reverie of the student, however, is different from the absorbed contemplation of the hypnotic. The student is constructing and building under voluntary direction; the latter is going automatically over old ground.

Gradle claims that hypnotism can be more easily produced in functionally nervous patients than in healthy subjects. The patient, he says, stares at a bright object, in a quiet room, or listens to a monotonous noise like the ticking of a clock; or having his forehead or nape of the neck warmed by means of the hands of another person, or the radiant heat from warm plates held at a short distance, will answer the same purpose in some instances.

It is true that the action of a mesmerizer who has had experience in producing this state facilitates its occurrence, but the popular idea that it requires a mesmerizing operator is not fully accurate. This state can be produced more readily the oftener it is accomplished. Susceptible and credulous subjects have been mesmerized at a stated time, even in the absence of the operator. A direct mesmeric influence is an unsupported myth, not bearing rigid criticism. The touch of a magnet may be used for producing hypnotism, but there is no other connection between them. Usually certain muscles are kept on a strain in its induction.

Braid's method of treatment by hypnotism was to direct the attention during the trance upon the parts depressed in function and to direct it from the organs supposed to be in a state of excitement.

He suggested its use for surgical operations, and quotes Esdaile as having performed three hundred operations under it. Wiebe obtained encouraging results in cases of hysterical spasms and tremors and in hysterical hemianæsthesia; also in non-hysterical neuralgia. Voisin obtained good results in the management of insanity. He found it useful to calm excitement, to feed obstreperous patients, and to elicit their history. Pritzel put a girl into a trance during her first labor; the birth was accomplished in one and one-quarter hours without pain; she recollected nothing about it.

Its therapeutic indications are, then, prolonged pain, as neuralgia, or the passage of a calculus; if other methods are available it is not prudent to take the chance of failure (though this is not so essential now, since its use is becoming popularly understood). For surgical anæsthesia it is too uncertain. A good field is hysteria, somnambulism, catalepsy, ecstasy, and some forms of insanity. Since some individuals complain of mental stupor and physical lassitude after hypnotization, it is probably not safe to repeat such experiments often (its effects cannot therefore be altogether imaginary).

It must not be forgotten that a good deal of time is unconsciously expended on these cases, and herein may lie part of its value. A young woman thus describes her own cure from neuralgia by pure suggestion. She was shown into a pretty room and placed in an easy chair; a silk cushion was placed under her head, a footstool supported her feet. The attendant lighted a small spirit lamp under a vaporizer and put a dainty bib under her chin. With a soft sponge moistened in warm water and some sweet-smelling material, the masseur made the application, and man-

ipulated the aching spot with firm, cool fingers. Vigorously, but gently, she rubbed the surface with the soft, practised cushions of her finger tips. This brought the blood to the surface with a peculiar sensation of refreshment. After this treatment some fragrant cream, medicinally treated, was rubbed in. The cream that did not penetrate was washed off with cold perfumed water, to prevent taking cold from exposed pores. The final step was a mild application of electricity by means of a soft kid pad over the face. After three-quarters of an hour of this enforced leisure and dallying with creams and perfumes, a week-old neuralgia was chased away.

Hewitt and Sims, in their treatise on the "Diseases of Women," devote four chapters to the subject of the hystero-neuroses, which are very interesting in this connection.

Chambers' Encyclopedia, edition of 1883, gives the following description of the subject: "From the Greek *hypnos*, sleep, a term invented by the late Mr. Braid, of Manchester, to designate certain phenomena of the nervous system which in many respects resemble those which are induced by animal magnetism, but which clearly arise from the physical and psychical condition of the patient, and not from any emanation proceeding from others. The following are his directions for inducing the phenomena and especially the peculiar sleep-like condition of hypnotism: Take a silver lancet case or other bright object, and hold it between the fingers of the left hand, about a foot from the eyes of the person experimented on, in such a position above the forehead as to produce the greatest strain on the eyes compatible with a steady fixed stare at the object. The patient must be directed to rivet his mind on the object at which he is gazing. His pupils will first contract, but soon dilate considerably, and if, after they are well dilated, the first and second fingers of the operator's right hand, extended and a little separated, are carried from the object toward the eyes, the eyelids will most probably close with a vibratory motion. After ten or fifteen seconds have elapsed, it will be found that the patient retains his arms and legs in any position in which the operator places them. It will also be found that all the special senses, excepting sight, are at first extremely exalted, as also are the muscular sense and the sensibility of heat and cold. But after a time the exaltation of function is followed by a state of depression far greater than the torpor of natural sleep. The patient is now thoroughly hypnotized. The rigidity of the muscles and the profound torpor of the nervous system may be instantly removed, and an opposite condition induced by directing a current of air against the muscles which we wish to render limber or the organ we wish to excite to action: and then by mere repose the senses will speedily regain their original condition. If a current of air directed against the face is not sufficient to arouse the patient, pressure and friction should be applied to the eyelids, and the arm or leg sharply struck with the open hand.

"From the careful analysis of a large number of experiments, Mr. Braid is led to the conclusion that by a continued fixation of the mental and visual eye upon the subject, with absolute repose of the body and general quietude, a feeling of stupor supervenes, which renders the patient liable to be readily affected in the manner already described. As the experiment succeeds with the blind, he considers that it is not so much the optic as the sentient, motor, and sympathetic nerves, and the mind, through which the impression is made."

We see from the above that hypnotism was considered at this time to be entirely distinct from mesmerism or animal magnetism, which is described in a separate article, being defined as "a supposed

influence or emanation by means of which one person can act upon another, producing wonderful effects upon his body, and controlling his actions and thoughts. It was fancied to have some analogy to the magnetism of the lodestone," the article goes on to say, and hence its name. "Electro-biology, odylism, table-turning, spirit-rapping, table-talking, and spiritualism have been classed as only modifications of the same phenomena. The art of inducing the magnetic state, as practised by its discoverer, Mesmer, involved the use of apparatus—the *baquet* or magnetic tub, iron rods, etc., but the more common means have been passes made by the hands of the magnetizer from the head of the subject (or patient) downward, or simply making him fix his eyes on the operator.

"He then generally feels a creeping sensation stealing over the surface, and shortly falls into the mesmeric sleep—a state more or less resembling somnambulism or sleep-walking.

"About one person in ten is found capable of being thus affected to a greater or less extent.

"While in this state, the functions of the body are liable to be much affected; the pulsations of the heart and the respirations are quickened or retarded and the secretions altered, and that chiefly at the will of the operator. [It might thus be useful in dropsy.] One liquid tastes as the other, and is hot or cold, sweet or bitter, as the subject is told."

According to this mesmeric theory, the nervous energy of the operator has overpowered that of the subject, as a powerful magnet does a weak one, and the two are *en rapport*, as it is termed. In some cases, the mesmeric trance assumes the form of clairvoyance. The author goes on to say that "it has been clearly established, however, that the notion of a force of any kind whatever, proceeding in such cases from a person or from a magnetizing apparatus, is a delusion."

Where it is to be looked for was indicated, though not followed up, as early as 1785, in the report of the commissioners, one of whom was Franklin, appointed by the king of France to examine these pretensions of Mesmer. They reported that "on blindfolding those who seemed to be most susceptible to the influence, all its ordinary effects were produced when nothing was done to them but when they imagined that they were magnetized, while none of its effects were produced when they were really magnetized but imagined that nothing was done; that when brought under a magnetized tree [one of Mesmer's modes of operating] nothing happened if the subjects of the experiment thought they were at a distance from the tree, while they were immediately thrown into convulsions if they believed they were near the tree although really at a distance from it; and that, consequently, the effects actually produced were purely imaginary."

Braid traces the whole thing to the brain of the subject acted on by suggestion, a principle long known to psychologists, though never made so prominent as it ought to be. In reviewing the subject Dr. Carpenter traces the operation of this principle (*Quarterly Review* for September, 1853) through the most ordinary actions, which no one thinks wonderful, up to the most miraculous of the so-called "spiritual" manifestations.

A train of thought is internal suggestion (auto-suggestion), but impressions from without originate and modify these trains, constituting external suggestion (direct suggestion). These phenomena enable us to explain the physical excitement attendant on "revivals," "camp meetings," etc.

No wish of the mesmerizer, or of any other person, was ever known to affect the "subject," until it was conveyed to him by voice or otherwise (unless we accept the cases recently reported). If he is more subject to the will of the operator, this is because he was

impressed with that idea. He is thus made to lose and recover memory, or even his own identity.

The manifestations of table turning, such of them as are genuine, are explained by the operation of expectant attention. A number of individuals sit around a table with their hands resting on it, having the idea in their minds that it will or may move, the direction of the expected movement being also agreed upon. Accordingly, if none of the party are very sceptical, it generally does move after a time, all declaring, and in perfect good faith, that they did not press upon it. And yet it has been proved by a contrivance of Faraday that there always is pressure, though without the will or consciousness of the performers.

The wonders related by believers are to be received with suspicion, but without accusing the relators of bad faith (because they are suffering from the effects of auto-suggestion).

The mysterious indications of the divining rod and of an oscillating body, such as a ring suspended from the finger, are all to be accounted for by unintentional muscular movements.

Beard and Rockwell, in their treatise on "Nervous Exhaustion," 1888, say that "morbid states of the nervous system which we call trance, but which are popularly known as hypnotism, somnambulism, catalepsy, all being special varieties of the special generic condition, trance, is one of the interesting, though perhaps not most frequent or the most serious of the sequels of neurasthenia."

Neurasthenia is not, by any means, they say, the most common of the exciting causes of this state. In the middle ages, among many wild, savage, and semi-barbarous races, trance existed, and in modern times it has spread as a mental contagion, even among persons who have great strength of constitution, or at least who have but very little of the nerve element in them.

Trance of this variety, in its psychical form, is found to-day among certain classes of people, but the majority of the cases of trance, among our better classes, are seen in women who have entered the state through the doors of neurasthenia. Our so-called starving girls, with their ecstasies and visions, are oftentimes neurasthenic for years before they develop trance phenomena.

The time may be near at hand when we shall be able to observe these mental phenomena by actual sight. We can photograph the skeleton through the body already, and who knows but with the aid of multiple instantaneous chromo-micro-photography we shall think nothing some day of looking at the brain-cells in action, in natural colors?

In connection with general hypnotism, another question presents itself, and that is this: In view of the fact that this state has a tendency to depress the mental faculties, should parents, guardians or teachers be allowed to load the minds of children with fairy stories or with mythological religion? Since religious mania takes such a prominent place in our works on mental disease, it seems only natural that all but real historical religion should be excluded from the studies and the libraries of children. Would it not be more advisable to teach them psychology and its laws in an appropriate form?

Although Spitzka, 1889, in his "Insanity," has nothing to say on hypnotism or its allied conditions, I abstract the following paragraph as being of interest in this connection.

"In private practice, melancholia, particularly of the lighter grades, is very common, and is not unfrequently treated as neurasthenia—whatever that may or may not be—and dyspepsia, and, thanks to the self-limiting tendency of the lighter forms of the psychosis, it is frequently cured on either theory."

It has been said that every genius is to a certain extent, insane. I believe myself that it would be truer to say that every person who concentrates his mental faculties in one particular direction, is more or less hypnotic, at greater or smaller intervals, and for varying lengths of time.

Brown in his "Medical Diagnosis," 1890, speaks of somnolence, among other causes, as being the result of a "natural aptitude for sleep possessed by persons of a lethargic temperament."

Howe, in his treatise on "Excessive Venery," 1889, under "Mental Emotions," cites: "'A powerful imagination will create that which it imagines' in a short space of time." A new mental creation, without a basis in fact, obscures and distorts that which is real.

The records of hospital and private practice show that there is little limit to the power of this influence in creating organic changes, when the nervous system of the patient is abnormally sensitive. (This being the case, why not reverse the emotions by opposing impressions?) He goes on to describe a case, while he was an interne at Bellevue Hospital, in which a hysterical patient developed peritonitis with tympanites and later an apparent mastitis with swelling of the breast, through being placed in proximity with patients suffering from these affections; twelve months after, to his great surprise, he found the same person, who was supposed by the staff to be dying from inflammatory softening of the brain.

Hamilton, in his "Medical Jurisprudence," says that it is very rare that trance can be given as an excuse for the active commission of a crime. It might be possible to account for the ignorance of an individual by the fact of his being unconscious or being thrown into a state of suspended consciousness through fright or a strong moral impression.

A case is related of a theft claimed to have been committed in the mesmerized state. In court the man appeared to be in a sound sleep and did not understand the questions put to him by the magistrate. It was stated that he fell in this state after his arrest, although before this he had given an account of himself. No medical aid could arouse him. Even his brother, who was a lecturer on mesmerism, could not arouse him, although he answered questions readily. The brother said that he was susceptible for a long time, and that on one occasion he became violent and had to be restrained. The prisoner subsequently recovered, after going for several days without food or drink. He was sentenced to fine and imprisonment. An act of violence, Hamilton says, had it been committed, would have suggested criminal irresponsibility, but theft implies personal benefit. The verdict was probably a righteous one.

Dana (*Medical Annual*, 1889) states that the doctrines of Bernheim are far more correct than those of Charcot. The operator talks to the subject in a firm voice, assuring him that he will go to sleep in a short time, telling him to make no resistance—that his sleep will be natural, that nothing will be done to worry or fatigue him, that he will dream pleasant dreams, that he will wake up feeling better; then that he is feeling drowsy, objects seem confused, the lids are falling, they are closed—in a moment more the patient goes off to sleep. This is the persuasive or suggestive method. It requires from five to fifteen minutes. The method is applicable to neuralgias, neurasthenias, hysterical, convulsive, and paralytic troubles, alcoholic and morphine habits, amenorrhœa, rheumatic troubles, etc.

Tuckey (*Medical Annual*, 1890) says that Liébault hit upon the value of suggestion in the hypnotic state. Intelligent artisans he found to be the best subjects, especially when tired out by the day's work. Anæmic and phthisical patients, and adoles-

cents of both sexes, are also easily hypnotized. Even if the patient has been frequently hypnotized, mental emotion, such as fear, will prevent it succeeding.

Liébault finds in 100—uninfluenced, 5; slightly influenced, 15; sleepers, 65; somnambulists, 15. The same proportion is found among the phlegmatic Dutch and many somnambulists are found among the Swiss. A larger proportion of English is uninfluenced (two per cent.), and there are fewer somnambulists (eight per cent.), but this may depend upon coincidence. The condition is analogous to but differs from sleep; in sleep imagination has full play and runs riot in dreams, whereas in hypnotism it can be controlled, so as to influence even the heart and circulation, the vasomotor centres, and intestinal and uterine secretions.

In hysterical paralysis, aphonia and amaurosis, neurasthenia, spinal irritation, railway spine, brain fag, sleeplessness, functional derangements of the genito-urinary organs, such as ovarian irritation, vaginismus, impotence, nocturnal enuresis, headaches of nearly all kinds, even migraine or neuralgias, and even in gouty sciatica in old men it is useful.

In menstrual difficulties, whether dysmenorrhœa, amenorrhœa, or menorrhagia, not only when dependent on functional causes, but even sometimes when there is structural change, e.g., subinvolution; in occupation neuroses, as writer's cramp (for which hypnotism is often combined with massage); in painful local affections, as cramp, torticollis, and lumbago; in some cases of epilepsy, and especially in hysterio-epilepsy, it will modify the attacks even in the traumatic forms.

In nervous dyspepsia, colic, and some forms of constipation and diarrhœa, it may be employed; also in the sympathetic and functional troubles of organic disease, as palpitation and sleeplessness in cardiac disease, or constipation and lightning pains in locomotor ataxia. As an anæsthetic during labor it may sometimes be useful, as well as to relieve after-pains. In hypochondriasis and in melancholia it may be tried, but it is difficult to influence patients with mental disease. In acute mania it may succeed, but great patience is necessary. It effects wonders in dipsomania, the morphine habit, masturbation, and other vices; these cases should be kept under observation for twelve months to prevent a relapse.

The rules laid down by Beaunais are as follows: (1) Never hypnotize except with the patient's free consent and if necessary that of friends. (2) Never make any experiment without the knowledge and consent of the patient. (3) Never operate except in the presence of a third person. (I consider these rules altogether too stringent.)

93 MADISON STREET.

Syphilis in Infants and Young Children.—If "snuffles" are present, irrigation with boric-acid or thymol solutions, or bichloride of mercury (1 to 1,000), or with a one or two per cent. aqueous solution of ichthyol, will be suitable. For mucous patches, mild solutions of nitrate of silver, or of mercuric chloride are of benefit, while for the condylomata, cleanliness, dryness, the use of nitrate of silver, or of calomel in powder form, five to twenty per cent., are indicated. Fissures at the angles of the mouth I have seen much benefited by balsam of Peru, painted on in full strength, ichthyol ointment, ten per cent., or by touching with the nitrate-of-silver stick.—ELLIOT, *New Orleans Medical and Surgical Journal*, May, 1896.

Disinfection of Hands.—It seems conclusive that the great enemy to all surgery, the hand of the operator, is best disinfected as first taught in Baltimore, by the use of solutions of permanganate of potassium and oxalic acid.—HENRY O. MARCY.

WHAT IS THE BEST OPERATIVE PROCEDURE FOR RETRODEVIATIONS OF THE UTERUS?

By AUGUSTIN H. GOELET, M.D.,

PROFESSOR OF GYNECOLOGY IN THE NEW YORK SCHOOL OF CLINICAL MEDICINE.

In considering the treatment of retrodeviations of the uterus, the maintaining cause of the displacement must be borne in mind, and the existence or absence of an associated disease of the adnexa must be determined. We may divide these cases into three classes:

The first class will include those in which the organ is freely movable and will admit of replacement, but in which the displacement recurs upon the removal of the support which replaces it. In these cases a metritis and an endometritis or their result are the maintaining cause, the relaxed uterine supports being a secondary consideration, at this time, though in the beginning they may have occupied a more prominent etiological position.

The second class will include those cases in which, in addition to a metritis and an endometritis, adhesions or surrounding exudation bind the fundus of the organ immovably in Douglas' cul-de-sac. In these cases a previous or perhaps an existing inflammation of the adnexa is the cause of the fixation, though moderate fixation from adhesions may occur independently of inflammation of the appendages.

In the third class may be included those movable retrodeviations complicated by prolapsed, enlarged, and sensitive ovaries, which preclude the use of a vaginal support for maintaining the uterus in a corrected position.

Now let us consider the objections to and the disadvantages of some of the operations which have been devised for these displacements, and see if they are necessary or justifiable, and, if so, when they are indicated.

The Alexander operation is the least objectionable, since it seeks to restore the organ to a normal position in the pelvis. Its chief disadvantages are: (1) the time which the operation requires; (2) the doubt about finding the ligaments sufficiently strong in their long overstretched and atrophied condition to bear the strain to be put upon them; (3) the prolonged convalescence necessary before the shortened ligaments can be regarded sufficiently strong to support the uterus; (4) the risk of hernia; (5) the cicatrices which may become the seat of keloid. (Several cases of this kind have come under my observation and have proven very disagreeable and intractable.)

The shortened ligaments do not interfere seriously with subsequent pregnancies, though in two cases which came under my observation considerable pain in the region of the wounds and shortened ligaments was experienced in the later months of pregnancy.

The actual indications for this operation may, in my opinion, be regarded as very circumscribed. It would seem to be particularly applicable to the cases belonging to the third class mentioned above, viz., when a movable retrodeviation is associated with prolapsed, enlarged, and sensitive ovaries which cannot bear the pressure of vaginal support, but which are not sufficiently diseased to require removal. In ordinary movable retrodisplacements when the operation is supposed to be indicated, it is unnecessary. This operation may be done for fixed retrodisplacements, the adhesions being previously broken up through a vaginal incision opening Douglas' pouch. But when the adhesions are extensive I believe it will be more satisfactory to separate them from above through an opening in the abdominal wall, and when they are

not firm or extensive Alexander's operation is unnecessary, as the malposition can be satisfactorily overcome by a procedure to be described farther on.

Ventrofixation as ordinarily done may hardly be regarded a justifiable operation. It draws the uterus up out of the pelvis and fixes it in an abnormal position. These patients sometimes suffer considerable pain resulting from the strained and unnatural position of the organ. This unnatural position must prove a complication to subsequent pregnancies. Several unfavorable cases have been reported.

The suspension operation of Kelly, in which the uterus is suspended by its posterior face from the anterior abdominal wall and in which it is not fixed permanently, but is merely suspended and eventually recedes to the distance of about an inch and swings in an easy position of ante flexion, is certainly less objectionable and is more rational. It should, however, be limited to those cases of firmly fixed retrodisplacements associated with diseased adnexa which require removal. It is unnecessary in movable retrodeviations. When the uterus is firmly adherent, I believe it is safer and more satisfactory to open the abdomen and break up the adhesions from above than from below through a vaginal incision.

I cannot see that intraperitoneal shortening of the round ligaments possesses any advantage over suspensio uteri, and the operation consumes more time.

Vaginal fixation should not, in my opinion, be regarded as a justifiable operation. It substitutes an exceedingly awkward fixed anteversion for a movable posterior displacement. The complications during labor following this operation which have been reported should be sufficient to condemn it. It has already been abandoned by its originator, Mackenrodt.

It will be admitted, I think, that if the intra-abdominal pressure can be brought to bear permanently upon the posterior face of the uterus, it will be held anteverted. It must, likewise, be admitted that if the maintaining cause of the displacement when the organ is or has been made movable (the metritis and endometritis) be at the same time overcome, a positive cure must result. This will, of course, presuppose the possibility of a cure of such disease of the uterus and also retraction of the relaxed suspensory ligaments.

I believe that ninety per cent. of all the cases of movable retrodeviations are amenable to a very simple procedure which I have employed with success for the past ten or twelve years. I have employed it also in cases of moderate fixation when the adhesions could be separated by manipulations through the vagina and the abdomen without opening the peritoneal cavity, the patient being under anesthesia to secure absolute relaxation. This should, of course, be undertaken only when we can be certain that there are no pus accumulations in the pelvis. When the adnexa are incurably diseased, it is wiser to open the abdomen, and, after removing such diseased structures as is necessary, suspend the uterus from the anterior abdominal wall.

The procedure to which I refer aims at a cure of the metritis and endometritis, which may be regarded as the most prominent etiological factors in maintaining movable displacements. It consists of careful dilatation of the canal, thorough curettage of the cavity, followed by frequent irrigation to promote and hasten the formation of a healthy endometrium. Immediately following the operation of dilatation and curettage, a glass drainage tube is inserted, which in the case of flexion, acts as a splint, holds the organ straight, and converts it into a version. It will then be an easy matter to adjust vaginal tampons of iodoform gauze so as to throw the uterus into a position of anteversion and hold it there. It is very necessary to adjust these tampons daily and keep the patient confined to bed.

At the same time the tube is removed and cleansed, the cavity irrigated, and it is reapplied.

I have found that if this is kept up for a week, in the majority of cases a vaginal pessary may then be adjusted to hold the uterus in an anterior position without the aid of the glass tube in the canal, even in old flexions with considerable induration of the walls. In some cases, however, it will be necessary to retain the tube in the uterus for a few days longer after the vaginal pessary has been inserted. When it is found that the pessary will maintain the organ in an anterior position, and the tube can be dispensed with, the patient is permitted to get up. She must, however, be kept under close observation for a time, to make sure that the pessary is maintaining a correct position; and the cavity should be irrigated from time to time until a healthy condition of the endometrium has been restored. Measures to promote retraction of the relaxed uterine supports (faradization, for instance) should likewise be employed. This will very materially aid in bringing about a cure, which I consider is secured when the vaginal pessary can be dispensed with.

This procedure brings about rapid softening of the uterine walls and favors the retention of the uterus in a normal position by the vaginal support.

In cases of retroversion, when the organ is in a state of subinvolution in the soft stage of metritis, after the dilatation and curettage the cavity is packed with iodoform gauze for a week, to stimulate contraction and depletion. The gauze, however, is removed and renewed every twenty-four hours, the cavity being freely irrigated at the same time. Vaginal tampons are inserted to hold the uterus in a position of anteversion, and at the end of a week a vaginal pessary is inserted and the patient is permitted to get up.

The only disadvantage of this procedure is the time and trouble which the after-treatment necessitates in order to accomplish a satisfactory result, but this is more than counterbalanced, it seems to me, by its absolute safety and the restoration of the organ to a normal position in which its function is not interfered with. As compared with shortening of the round ligaments, which is so often done for movable displacements, the chief advantage in favor of this procedure is the shorter confinement to bed and the quicker convalescence. It is also, I believe, more certain and more rational.

To recapitulate, Alexander's operation is not necessary in movable retrodeviations unless they are complicated by prolapsed, enlarged, and sensitive ovaries which do not require removal.

Ventrofixation substitutes a fixed abnormal position, for some reasons more objectionable than the original displacement.

Suspension of the uterus from the anterior abdominal wall is indicated for firmly fixed retrodeviations, especially when the adnexa are diseased, and it yields a very satisfactory result.

Intraperitoneal shortening of the round ligaments possesses no advantages over suspensio uteri.

Vaginal fixation is never indicated and should be discouraged.

The operation of dilatation with curettage, and the subsequent use of a glass drainage splint for the correction of the flexion, is indicated in the large majority of movable retrodeviations, and is more rational, since it restores a normal position of the organ without submitting the patient to any risk, and does not entail prolonged confinement to bed.

351 WEST FIFTY-SEVENTH STREET.

The Horseless Carriage is now used by French country physicians.

NOTES FROM THE LABORATORY AND DISPENSING-COUNTER.

By AUGUST DRESCHER, A.B., PH.G.,

NEWARK, N. J.,

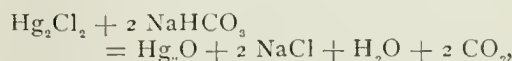
CHEMIST TO THE NEW JERSEY STATE BOARD OF HEALTH.

Dispensing Calomel with Sugar of Milk.—For years all of us have dispensed calomel, together with "cane sugar," in the form of powders, and no fault may have ever been found with this combination. Within the last few years it has been found by many of our physicians to be necessary to follow the "progressive line"—that is, to change the "old-fashioned" cane sugar to milk sugar, in the case of admixture with calomel, and even with more delicate and more easily decomposable chemicals. "Milk-sugar fame" came from abroad, and we here naturally ape European fashion, whether rightly or wrongly. In my experience calomel and milk sugar, safely ensconced in a good powder paper, as is the common practice among pharmacists, will not keep so long as a mixture of "cane sugar" and calomel, without showing signs of decomposition (turning gray).

This is generally not noticed, because of the large quantity of sugar of milk present, the excess hiding the discoloration; but when, as in my store it is often the case, small amounts of sugar of milk are wanted with calomel, so that the powder can be placed dry upon the tongue or into the mouth of a small child, the metamorphosis of the calomel can be easily noticed before the administration of the dose.

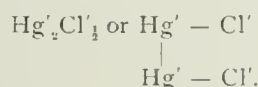
Calomel with Sodium Bicarbonate.—Quite recently a graduate of pharmacy asked me to account for the "black streaks" in the mortar in which he had been triturating calomel with sodium bicarbonate. He knew well enough that sodium carbonate, heated with certain metallic salts, effected reduction, but of its effect in the cold or that of the bicarbonate he had no idea.

The same thing happens to us almost every day, when we triturate calomel with sodium bicarbonate in various quantities, to form "tablets" (this new curse of pharmacy). The reaction is simply this:



and the tablets turn gray. In mixing powders we had the chance of pulverizing finely each ingredient in the mortar by itself, and then mixing them all together upon paper with a spoon or spatula; but tablets must be moistened, even if only with alcohol and a little water, in order to bring the particles more nearly together. The alcohol cannot be supposed to act in the case, conceding to it all its powers of affinity.

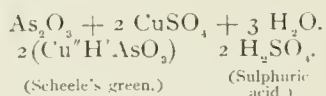
Incidentally, I would here say that among the authorities on chemistry there ought not to be a difference of opinion as to the formula for calomel. Even good authorities on chemistry have quoted HgCl . The majority is, it appears to me, in favor of Hg_2Cl_2 . Logical reasoning suggests at a glance the latter to be the more correct. For, when we construct the formula of a compound, we naturally first of all look at the oxides capable of formation. Upon their formulae we generally base the whole series of possibly formable salts. Thus we have: $\text{Hg}'_2\text{O}$ = mercurous oxide, and $\text{Hg}''\text{O}$ = mercuric oxide, showing Hg to be both a monad as well as a dyad. In accordance, the formula of calomel must be:



Were we to adopt the formula of HgCl , we would not account for the oxide, except that we accepted

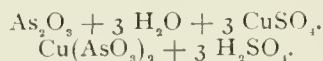
HgO₂, involving a fraction of a unit, contrary to our custom at present.

Copper Arsenite (Scheele's green).—H₃' (AsO₃)''' (arsenious acid), being a tribasic acid, admits of the formation of three series of salts by saturation with monadic basic radicals. With copper arsenite (in tablets) the writer has had an experience quite recently, and the salt was prepared and the tablets were served, all made in his own laboratory, in less than one hour's time. The article in question is well known to chemists, but there are many druggists or pharmacists who do not know it as a drug. It was made in a hurry in the following manner (as chemists apply the Cu test for arsenic), taking proper care to have stoichiometric equilibrium established for this purpose. The reactions:



The atomic weights were used in round numbers: As, 75; S, 32; O, 16; Cu, 63.

Since then I have selected another relatively more productive progress, which, however, does not produce real "Scheele's green" but saturated Cu₃(AsO₃)₂, which physicians, it seems, prefer. It can be made just as the other salt, by applying more CuSO₄. Thus:



For the production of the CuHAsO₃ a great deal of skill is required, as the liquid out of which it is to be precipitated must be critically neutral, the least excess of either acid or base acting as a direct solvent, resulting in loss of yield.

In closing, I would remind my readers of the difference between copper arsenite and "Paris green" of the trade. Paris green, French green, Schweinfurth green, are all mixtures of Scheele's green with more or less copper subcarbonate or subacetate, such color-shades as may be required for technical purposes.

Progress of Medical Science.

Puerperal Pulmonary Thrombosis.—At a recent meeting of the Edinburgh Obstetrical Society, a report of which is published in *The Lancet*, Dr. J. Lomond Lackie read a paper on "Puerperal Pulmonary Thrombosis," with an illustrative case. The patient was a strong, healthy primipara, aged twenty-six. She enjoyed good health during pregnancy, but during the last few weeks of gestation suffered from considerable anasarca of the legs; there was no trace of albuminuria. The labor was easy and there was an unusually small quantity of blood during labor and after the separation of the placenta. The puerperium was practically normal. On the twelfth day she walked from the bed to a chair, a distance of twelve feet, and as she reached the chair she exclaimed she was dying, complained of shortness of breath, and collapsed on the floor. Her face became livid, she struggled for breath, and speedily became unconscious. Dr. Lackie saw her within six minutes of the onset, when she was dying; the extreme lividity of the face was very marked. Restoratives and ether were used, but she died two minutes later. On post-mortem examination the uterus was found to be normal in size, the fundus being just above the brim of the pelvis, and it was somewhat flabby. The cavity was normal and aseptic. There was no indication of clotting in the veins of the pelvis or in the femoral veins, at least in their upper part. All the organs of the body seemed healthy; but

on opening the pulmonary artery there was found a thrombus, white, dense, and fibrinous, adherent to especially one side of the vessel, and extending into both branches and their ramifications for some distance. On the surface of this clot there was more recently coagulated blood. The right ventricle of the heart was also occupied by a recent dark purple clot. There were absolutely no premonitory symptoms to lead one to anticipate this result. The small amount of blood lost during labor was unusual, as this condition seems to occur more easily in those weakened and anæmic from hemorrhage. A few cases of recovery have been recorded. Ammonia and diffusible stimulants can be given, and, if life is prolonged, inhalation of oxygen may be of service.

Bismuth Naphtholate.—Dr. Edmond Chaumier regards beta-naphthol as the best of all intestinal antiseptics, although it has a disagreeable taste. It can be prescribed as a mixture with some bismuth salt or as a combination—beta-naphthol bismuth, which has no burning taste. The last in the alimentary canal decomposes, breaking up into naphthol and bismuth oxide. It is a gray powder, slightly aromatic, and contains 26.5 per cent. of beta-naphthol. In infantile diarrhœa the fetid stools lose their odor, the watery evacuations become thicker, and the green color disappears under the influence of this drug. It can be administered in two to five per cent. solution in quince syrup, of which the dose is one teaspoonful. In diarrhœas of larger children and of adults the remedy acts quickly, and with a sufficient dose—seventy-five to one hundred and fifty grains in wafers—they disappear within one or two days. If the pain is severe opium may be added. For both infants and adults it is well to continue the remedy for some time after the diarrhœa has stopped. The diarrhœa of the tuberculous is of great importance, because it interferes with nutrition, emaciates the patients, causes them to lose strength, and prevents the administration of proper remedies. The remedy has been used as well in the temporary diarrhœa, which in a few days will undo the benefits of several months, and in the chronic form, which is almost continuous and constitutes the principal lesion. In the first case the creosote carbonate, the only active and safe drug against tuberculosis, should be stopped and naphthol bismuth given, not only during the disease, but for several days after. In the chronic cases, when the diarrhœa has existed for several months or years, the abdomen is painful upon pressure and the appetite is very much diminished. After prolonged use of the drug these symptoms disappear and the creosote can again be administered. In typhoid fever (two cases) the intestinal disinfection was perfect, the tongue was always clean and moist, and the convalescence was brief.—*American Journal of the Medical Sciences*.

Appendicitis.—(1) All cases do not require operation; on the contrary, some cases are best treated without operation. (2) In cases requiring operations the appendix should be removed; (a) when there is no pus; (b) when an endo-appendiceal abscess is present; (c) as a rule, when there is a peri-appendiceal abscess that requires drainage through the general abdominal cavity; and (d) when there is general peritonitis without adhesions, with the exceptions noted. (3) A simple incision should be made and drainage provided in cases with circumscribed abscess, when this can be done without opening the healthy peritoneal cavity. An exception should be made to this rule in cases in which the removal of the appendix will not add to the gravity of the operation.—PORTER, *Medical News*, September 14, 1895, p. 290.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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RECTAL EXAMINATIONS IN THE DIAGNOSIS OF ABDOMINAL DISEASE IN CHILDREN.

It has been truly said that more mistakes in diagnosis are made from failure of observation than from lack of knowledge or misinterpretation of facts. This is more especially true in the case of children and infants, in whom subjective manifestations are not to be depended upon even when intelligently conveyed. It is for this reason that any addition to our diagnostic resources will be hailed with satisfaction, and in such a light must be viewed the recommendations contained in a communication dealing with the subject of rectal exploration in the diagnosis of abdominal disease in children presented by Dr. George Carpenter at a meeting of the East Sussex Medico-Chirurgical Society (*The British Gynecological Journal*, May, 1896). His first experience in this connection, he relates, was acquired in the discovery by a senior colleague of a myeloid sarcoma of the anterior surface of the sacrum in a little girl who had long suffered from constipation. "Not satisfied with firing off all the drugs in and out of the pharmacopœia," this practical man determined to use the "hands and brain that nature had provided him with" and "proceeded to make a rectal examination." Influenced by this example, Dr. Carpenter began the systematic employment of rectal examination in the diagnosis of abdominal and other obscure disease in children. He cites a number of illustrative cases in which this mode of procedure rendered the utmost service. Thus, in the case of a small boy, three years old, presenting an umbilical fistula and enlargement of the mesenteric glands, rectal examination disclosed the existence of a pea-sized nodule in the position of the prostate gland and extending from it slight enlargement of the seminal vesicles on either side. A probe introduced into the sinus reached the prostatic enlargement, and it was concluded that a tuberculous abscess of the prostate had burrowed along the urachus and had found vent at the umbilicus.

In the diagnosis of tuberculous peritonitis digital examination through the rectum, in conjunction with bimanual palpation, is capable of yielding conclusive information, disclosing, especially in the early stages, a lumpiness due to matting of the intestines. An anæsthetic facilitates the exploration, but is not al-

ways absolutely necessary. With the patient's legs well drawn up, the thighs flexed on the abdomen, the pelvis raised on a cushion, the left hand of the examiner on the abdomen and the right index finger in the rectum, the right side of the abdomen can be explored. By reversing the hands the left side can be examined up to a level depending upon the length of the examining finger and the size of the child. If the intra-abdominal tissues that can be included between the finger in the rectum and those upon the abdominal wall are inconsiderable in thickness, peritonitis can be safely excluded. If, however, the thickness of the tissues is considerable, it is probable that the peritoneal coat of the bowel is thickened by lymph. Bimanual palpation is capable of disclosing not only intestinal matting, but also peritonitis without definite abdominal nodules, or a thin plaque of omental thickening perhaps coarsely granular. At the same time glandular involvement if present can be appreciated. The partially filled bladder must not be mistaken for a peritonitic exudate, and conversely a localized collection of pus or other fluid may simulate a distended bladder. The use of a catheter will aid in the differentiation. If doubt exist as between fecal lumps on the one hand and glandular enlargement or intestinal matting on the other, an enema will make the distinction. Intestines involved in peritonitis tend to move *en masse* when pressed upon, and do not yield so quickly to the fingers as in health. Small empty and constricted coils of intestine may yield a sensation similar to that of inflammatory thickening of the intestine, but the mistake is not likely to happen more than once and will be avoided if such a condition is borne in mind.

Rectal examination may thus not only give valuable positive information in a doubtful abdominal case, but it may throw a totally different light upon a case of abdominal disease which may appear to admit of but one interpretation. In the case of a child presenting broncho-pneumonia and an abdominal tumor following whooping-cough it was feared that tuberculous peritonitis existed; but rectal examination, with bimanual palpation, disclosed the tumor to be a horseshoe kidney. Malignant disease, and especially sarcoma, may give rise to nodules which can sometimes be detected only by rectal examination or by bimanual palpation. Intussusception, likewise, may be discoverable only by this means. Simple inflammatory affections of the peritoneum may simulate tuberculous or other lesions by the formation of abdominal tumors. Abdominal abscesses are often tuberculous, but occasionally they have a different origin, sometimes starting from the vermiform appendix, rarely from an antecedent pneumonia or following typhoid fever, and are sometimes of unknown origin. A not common variety of abdominal tuberculosis is attended with involvement of the mesenteric glands, in the absence of other complications. Even less commonly the intestines are surrounded by tuberculous false membrane, which can be readily stripped off. The invaginated portion in case of intussusception conveys to the examining finger a sensation like that of the os uteri advanced in pregnancy. With a knowledge of this fact the differen-

tiation from tuberculous peritonitis may sometimes be made.

In children the sacrum as well as the rectum is almost straight. The infantile bladder is egg-shaped, with the larger end downward, and as the pelvis is shallow it is almost entirely an abdominal organ. As soon, however, as the child begins to walk, the bladder sinks more into the pelvis, though even then its attachments are so loose that it readily rises wholly into the abdominal cavity when distended or otherwise displaced—a feature observed almost until the period of puberty. The child's uterus consists almost entirely of cervix and it lies in the upper part of the pelvis. At birth the ovaries have descended as far as the brim of the true pelvis, but in children a few weeks old they are found close to the external iliac arteries at the side of the pelvis. The ovaries are for the most part elongate oval in shape; occasionally more or less rounded organs are found. The falciform or utero-sacral ligament forms a guide to the oviduct. The former pursues a sickle-shaped course surrounding the rectum, being attached behind to the sacrum and in front to the lower part of the cervix. Using this structure as a guide, the tubes and ovaries, which are on a higher plane, can be readily manipulated between the exploring finger and the bony wall of the pelvis, or bimanually. The ureters can be examined at the same time. It is sometimes possible to detect in the ovaries the small cysts or dropsical ovisacs not infrequently found post mortem. The uterus, on account of its mobility, is not readily detected in this way, but if the bladder be emptied any marked abnormality can be appreciated by bimanual palpation. In young children the uterus can be rolled between the finger and the symphysis pubis, and its contour made out with ease. Ovaries and tubes may be displaced into the inguinal and crural openings. A case is on record of a child three months old in whom an ovary and oviduct that had descended into the inguinal canal were removed. Tuberculosis of oviducts, uterus, and ovaries is extremely rare in children. Inflammatory disorders of the tubes and ovaries in children have received but little, if any, attention. A case is on record of a little girl in whom symptoms of pelvic peritonitis developed in the sequence of an attack of gonorrhœa. Salpingo-oöphoritis sometimes complicates vulvo-vaginitis in children. The inflammation may subside into latency and be revived at the period of puberty.

With the knowledge thus far gained, as indicated in the foregoing delineation, an agency of practical value is placed in the hands of the clinician in the employment of rectal examination in the diagnosis of abdominal and other disease in children.

Fat Witness Fees.—At the Carlisle meeting of the British Medical Association it was stated that Sir Thomas Stocker received \$1,000, Sir Dyce Duckworth \$600, Mr. Ward Cousins \$300, and Dr. Bateman \$200 for their services in testifying in behalf of the editor of the *Association Journal* during the suit brought against him by Dr. Kingsbury.

THE TREATMENT OF ACNE.

THE lesion in acne is an inflammation of the sebaceous glands and adjacent tissues. All writers upon the subject agree that the causes are to be divided into three classes: the overproduction of sebum, impediments to the escape of the sebum, and irritation of the gland by foreign matters, such as pyogenic organisms from outside or drugs eliminated through the glands. These three general causes represent the fundamental factors in causing the disease. We find that a further analysis of the etiology, however, such as is given in an article on the subject of acne by Dr. R. A. McDonnell (*Yale Medical Journal*), increases the number of causes to eighteen or twenty; and one concludes from a study of the list that acne can be produced by almost anything, from indigestion to a state of exalted self-consciousness.

The article by Dr. McDonnell gives a *résumé* of some of the modern methods of treating this troublesome disorder. In the acutely suppurating forms, incision, so as to allow free bleeding, followed by washing with antiseptics and the application of aristol powder is indicated. In perhaps the more numerous class of suppurating cases, in which the suppuration is slight and the number of pustules very great, incision is impracticable, and the application of some preparation which will produce desquamation is recommended. A preparation containing ten parts of beta naphthol, fifty of sulphur, twenty of green soap, and twenty of vaseline is recommended. This is to be spread thickly over the affected surface, allowed to remain on for about three-quarters of an hour, and then wiped off. This application is made every day in the evening, for five days. As a result, the surface desquamates in thin epidermal scales. A soothing paste is then applied every evening and allowed to remain all night. The well-known Lassar paste, composed of salicylic acid, oxide of zinc, starch, and vaseline, is recommended for this. In the milder, non-suppurating cases, in which firm red papules abound, the application of the Lassar salicylic paste is often sufficient, so far as external medication is concerned. Return of the trouble is prevented by the use of cleansing lotions, which keep the gland ducts open. For this purpose a five-per-cent. resorcin soap is recommended. But the ordinary measures of bathing in very hot water and thorough friction of the skin are often efficient. Some dermatologists use ichthyol soap and others advise soap linament, some antiseptic being incorporated with it. Reinold prescribes, for example, bathing the face night and morning with hot water applied on a sponge previously kept in a one-per-cent. sublimate solution. The face is rubbed for several nights with black potash soap, the latter being left on till morning. The face is then washed with warm water and dusted with starch. After a few days emollient applications, such as boric-acid solutions or glycerin and water with sulphur, are applied.

The internal measures necessarily depend very much upon the age and condition of health of the patient. Acne in a period of adolescence is due to the physiological stimulation of the sebaceous glands,

produced by the sudden increase in the growth of the hair. But this is often aggravated, as is well known, by reflexes, anæmia, and sexual neuroses. Dr. McDonnell thinks that, as a routine prescription, the pill of aloin, belladonna, and strychnine is to be recommended. The aloin, undoubtedly, is the only one of these constituents that does any particular good. A good many people find that they cannot eat certain foods without the development of acne. Oatmeal, cheese, butter, bananas, and candy are some of the substances which affect the sebaceous glands unfavorably. Internally, arsenic may be given also, and, empirically, ichthyol, in doses of five to seven grains, and sulphide of calcium are recommended. The latter drug had, at one time, much vogue, but its reputation has hardly been sustained.

The number of remedies, external and internal, which have been recommended and which can be advantageously employed in the treatment of acne is very great, and it is most important, after all, therefore, that the physician discover the cause underlying each case of acne, in order that he may treat it intelligently and prevent a recurrence.

News of the Week.

Dr. C. H. Hughes, of St. Louis, has been appointed honorary president of the section of neurology and psychiatry at the Pan-American Medical Congress. All who intend to present papers in this section are requested to communicate with Dr. Hughes.

Cattle Plague in Jamaica.—A very serious plague has broken out among the herds of cattle in the island of Jamaica, and the government has sent for Mr. Williams, the cattle expert of Scotland, to study the disease and, if possible, to prevent its further ravages.

Picric Acid is recommended by Thiery, of Paris, in the treatment of burns. He immerses the part for five minutes in a solution of the strength of one part to sixty of water and then wraps the part in wadding, protecting it, if excoriated, by iodoform gauze.

Just an Employee.—Among the widely advertised attractions of a new shop in this city is to be a hospital for the benefit of any of the shoppers who may be taken ill. There will be a resident physician, and it is announced that his services will be gratuitously rendered to any of the patrons of the establishment, "just as those of any other employee of the house."

Roentgen Rays for Cancer.—Dr. Despeignes claims to have had a measure of success in treating a case of carcinoma of the stomach with the x -rays. They were passed through the part twice a day for half an hour each time and by the end of a week the patient's condition was markedly ameliorated and the tumor was evidently smaller.

Need of Caution in the Use of the Roentgen Rays.—Dr. W. V. Gage, of McCook, Neb., writes: "I wish to suggest that more be understood regarding the action of the x -rays before the general practitioner adopts them in his daily work. Several cases of alo-

pecia and erythema have followed its use in Omaha and Lincoln, and in one case of my own, when the rays were utilized in trying to determine the presence of a foreign body in the stomach of a child, erythema and finally sloughing took place, leaving a lesion over the region penetrated by the rays, which is at present the size of the hand."

Treatment of Pneumonia.—In the article with this title by Dr. Van Doren, in the issue of August 22d, the second formula was incorrectly printed. Instead of sodii bicarb., potassii tart., $\text{āā } \frac{1}{2}$ iss., it should have read: sodii et potassii tart., $\frac{1}{2}$ iss.

The Unwritten Law.—Commenting upon the proposal to draw up a code of ethics of the British Medical Association, *The Lancet* says that "professional ethics cannot be put into written form. They are essentially 'unwritten.' To write them would be to spoil them. They are like the aroma of some flowers—an aroma which when concentrated becomes offensive."

The Medical Practice Law in Hawaii.—No one is permitted to practise medicine in the Republic of Hawaii without a license. A person wishing a license must pass an examination before the board of medical examiners, and if this is done successfully the board of health is notified, and recommends the minister of the interior to issue a license. All applicants must pay to the minister of the interior a fee of ten dollars. Any violation of this act entails a punishment by fine of not more than \$250. A license may be revoked at any time by the minister of the interior for professional misconduct, gross carelessness, or manifest incapacity.

Smoking and Intellectual Labor.—Dr. Drysdale, writing to the *British Medical Journal*, à propos of certain recently published statistics of smokers among the students of American colleges, recalls some facts discovered by Bertillon in 1855. He found on inquiry made by him concerning the pupils of the Polytechnic School of Paris that 108 of the pupils smoked and 52 did not smoke. He then arranged the 160 pupils into eight divisions, according to the place they held in examination, 20 in each rank, and found that of the 20 who stood highest, 6 were smokers and 14 non-smokers. Of the next 20, 10 were smokers and 10 non-smokers; of the next 20, 11 smoked and 9 did not smoke; thus showing how much higher the non-smoker stood intellectually than the habitual smokers. He also found that the mean rank of the smoker, as compared with that of the non-smoker, deteriorated from their entering to their leaving the school. As a result of Bertillon's inquiry, the minister of public instruction of France issued a circular, addressed to the directors of schools and colleges, forbidding the use of tobacco and cigars to students.

Bichloride Injections in Leprosy.—Dr. H. Radcliffe Crocker reports in *The Lancet* for August 8th two cases of leprosy in which very marked improvement followed deep injections of one-fifth of a grain of corrosive sublimate made once a week for a long period.

Navy Department—Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for two weeks ending August 21, 1896. August 9th, Assistant Surgeon M. K. Johnson detached from the U. S. S. *New York* and ordered to the Coast Survey Steamer *Bache*. August 12th, P. A. Surgeon G. A. Lung ordered to the receiving ship *Vermont*. August 12th, P. A. Surgeon E. R. Stitt detached from the receiving ship *Vermont* and ordered home on waiting orders. August 21st.—Passed Assistant Surgeon A. M. D. McCormick detached from the *Bancroft* and ordered to the Naval Academy. Passed Assistant Surgeon E. M. Shipp detached from the *Monongahela* and ordered to the *Bancroft*.

Patients Poisoned in a Hospital.—A nurse in the City Hospital at San Francisco went out one evening recently, leaving the patients in his ward in charge of one of their own number. This man gave two of the patients a draught from a bottle containing poison instead of the medicine prescribed for them, and they died from the effects of it.

American Microscopical Society.—The nineteenth annual meeting of the American Microscopical Society was held at Pittsburg, on August 18, 19, 20, 1896, under the presidency of A. C. Mercer, of Syracuse. An address of welcome was delivered by Dr. W. J. Holland, chancellor of the Western University. Among the papers read were the following: "Comparative Histology," by Prof. Edith J. Claypole; "Courses in Histology and Methods of Conducting Them," by Prof. S. H. Gage, of Ithaca; "Photomicrography by the Use of an Ordinary Objective Practically Considered, with Specimens of Work," by Thomas J. Bray, of Warren, O.; "On Astronomical Photographs, with Photomicrographic Apparatus," showing pictures of a partial eclipse of the sun taken on an eight-inch focus, by President Mercer; "The Antivivisection Bill," by Pierre A. Fish, of Chicago; "The Acetylene Light as Applied to Photomicroscopy," by William H. Walmsley, of Chicago; "What is the Best Method of Teaching Micro-Science in Medical Schools?" by Dr. Vida A. Latham, of Chicago; "The Structure of the Teeth and Spines of Some Fossil Fishes, *Mazada* and *Ctena Canthus*," by Prof. E. W. Claypole, of Akron, O.; "The Development of the Brain in Soft-Shell Turtles," by Susanna Phelps Gage, of Ithaca, N. Y.; "The Rotifera in Sandusky Bay," by Prof. E. W. Claypole, of Akron, and D. S. Kellicott, of Columbus, O.; "On the Public Water-Supply for Small Towns," by Dr. M. A. Veeder, of Lyons, N. Y.; "The Requisites of a Pure Water Supply," by Dr. William C. Krauss, of Buffalo, N. Y.

The International Congress of Psychologists, which was held this month in Munich, will meet again in Paris in 1900.

Obituary Notes.—DR. J. C. WORTHINGTON, a surgeon in the United States army, died in Louisville on August 11th, of acute articular rheumatism.—DR. ARMAND DESPRÉS, of Paris, died during the first week of August, at Interlaken. He was born in 1834, and was graduated in medicine in 1861. He was a good

surgeon of the olden times, but was such an obstinate Chauvinist that he would never accept the principle of antiseptic surgery, since it was not a French discovery.—DR. C. M. KITTREDGE, of Fishkill-on-the-Hudson, died suddenly at his country home in New Hampshire, on August 19th. He was a graduate of the College of Physicians and Surgeons in this city in 1863.—DR. A. SYDNEY ROBERTS, of Philadelphia, died at Newport, R. I., on August 17th, after a brief illness, at the age of forty-five years. He was at one time a promising orthopaedic surgeon, but he retired from the practice of his profession a number of years ago, and had since, until recently, been living abroad.—DR. ANDREW FLEMING, of Pittsburg, died at Magnolia, Mass., on August 18th, at the age of sixty-eight years. He was a graduate of Jefferson Medical College and a successful practitioner.—DR. WILLIAM F. HERTZOG died at Friedensling, near Reading, Pa., on August 20th, at the age of forty years. He was a graduate of Long Island Medical College and was at one time active in county politics.—DR. JOHN B. HAINES died at South Bethlehem, Pa., on August 15th, at the age of sixty-seven years. He was formerly engaged in the practice of his profession in Philadelphia, where he at one time occupied a seat in city councils, and where he had also been assistant physician to the county prison.

The Cumberland County (N. J.) Medical Society held a meeting at the Hotel Cumberland, Bridgeton, N. J., on July 14, 1896, with the president, Dr. Oliver, in the chair. A paper on "Penetrating Wounds of the Abdomen" was read by Dr. Cornwell. Dr. S. M. Wilson read a paper on "Hydrophobia," in which he questioned the value of Pasteur's method of treatment and emphasized the importance of prophylaxis by means of strict supervision of the dog. Dr. Theophilus Parvin, of Philadelphia, will address the next meeting of the society, which will be held the second Tuesday in October.

Obituary.

WILLIAM HENDERSON WILKES,

WACO, TEX.

DR. WILLIAM HENDERSON WILKES died at his home in Waco, Tex., August 14th, after an illness of six weeks. Dr. Wilkes was born at Raymond, Miss., in 1833, and was graduated at the University of Nashville, in the class of 1855. He enlisted as a private in the Confederate army, and gained rapid promotion for gallant conduct, being retired with the rank of colonel and acting brigadier-general. In 1868 he began practice in Waco, Tex., in which place he had since lived, except for a period of one year, during which he held the chair of obstetrics and diseases of children in Kansas City. In 1882 he was elected mayor of Waco and was reelected in 1885. In 1888 he was appointed professor of the theory and practice of medicine in the Texas Medical College at Galveston, but declined to remove from Waco again. In 1891 he was chosen president of the Texas State Medical Association. In April of the present year he was again elected mayor of Waco, which office he held at the time of his death.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Sixty-Fourth Annual Meeting, Held at Carlisle, July 28, 29, 30, and 31, 1896.

(Continued from page 273.)

SECTION ON SURGERY.

First Day—Wednesday, July 29th.

The Surgical Treatment of Prostatic Hypertrophy.—DR. DAVID MACFARLANE, of Dundee, opened the discussion. He referred to the work of Sir Henry Thompson and Mr. Reginald Harrison in connection with the advances in surgery of the bladder, especially its drainage, and to the occasional observation that the symptoms of cases of enlarged prostate had been ameliorated by removal of portions of the prostate gland during the operation of lithotomy. He then spoke of the elaboration of the operation of prostatectomy. The mortality of operations on the prostate undertaken under the usual conditions being still high, attention had been largely directed during the last three years to the results of castration for prostatic hypertrophy, the introduction of which was largely due to Dr. White, of Philadelphia, and whose cases, especially the series published in 1895, showed great success. Owing to lack of time he passed over physiological considerations about the function of the prostate and its relations to the testes, and went on to the clinical experience of the effects of castration and vasectomy. In castration, although the results were valuable, they were not perfect; and then auxiliary methods, such as catheterization and caustics directed to the state of the urine, and sometimes puncture of the bladder, were often employed at the same time. It was difficult to say how much of the benefit was due to these measures. In the record of one series (Ferich's) drainage was used in addition. Of fifty-two operations, forty were successful; eight patients died, and in six no diminution in size was apparent. He had studied the records of thirty-seven cases of resection of the vas, and in twenty-six a good result was noted.

Personally, he had performed double castration for enlarged prostate three times, and resection of the vas for the same cause twice, but had never done single orchidectomy. In the cases of double orchidectomy all the patients had been leading a complete catheter life for some time; in two cases as long as seven years. After operation all were improved, but one patient still used the catheter every twenty-four hours. After two months shrinkage of the prostate was noted, in two cases to one-half the previous size. Also shortening of the urethra was noticed.

He thought that probably the rationale of the shrinkage was a reflex reduction of hyperæmia with subsequent real atrophy. The theories brought forward to explain the exact effect on the gland were discussed, and he leaned to the theory that the changes were due to the medium of the nervous system, but at present the evidence was conflicting. Anyhow, the amelioration of the symptoms, including the return of vesical contractility, was remarkable. He thought that the large soft form of hypertrophied prostate was more amenable than the smaller hard fibroid form.

One objection that had been brought against White's operation was that in certain cases mental disturbances resulted from the operation. With this he did not agree, but thought these symptoms were due to uræmia from the state of the urinary tract and not to the operation itself.

If resection of the vasa deferentia were followed by equally good results to orchidectomy, then the less severe operation would be the better. But at present the statements of results did not agree. As to the results of experiments on animals: In dogs Griffiths found that the testicles were not affected by vasectomy, while others observed atrophy of these organs. White says there is a loss of weight after eight days. The inference was that although in some cases atrophy followed, in most it did not. At present there was no evidence of the result of vasectomy in man, on a normal prostate. He had twice performed the operation; one subject died of uræmia. The other, who had been leading a catheter life for seven years, still required to use the catheter, but some diminution had taken place in the size of the prostate and the symptoms were ameliorated. But the diminution in size was not so marked as in orchidectomy.

He had found no mention of mental disturbances following this operation, save once. He thought it equally difficult to explain the shrinking in this, as in White's operation. White says it is due to certain nerves being included in the ligature. Probably the explanation was to be found in engorgement of the testis from obstruction to its outflow, with subsequent atrophy. In doing the operation both testicles had better be removed at one sitting.

He concluded that in a certain proportion of cases castration was needed, and might be done with good results. In many the hypertrophy was much diminished, and all the symptoms relieved. Vesical contractility may often be restored, but even if contractility did not return relief was obtained. Lastly, vasectomy showed slower and more uncertain results.

MR. REGINALD HARRISON spoke chiefly of division of the vas deferens in cases of hypertrophy, as an alternative to orchidectomy. His method of reasoning appeared to be as follows: Removal or atrophy of the testes in man is followed by atrophy of the prostate. Then in cases in which the vas was destroyed by injury, atrophy of the testicle followed. Therefore, divide the vas deferens rather than remove the testicle, since the operation would be less dangerous.

He divided his own cases into two groups—one group of twelve cases, in which he did single vasectomy; a second group of ten cases, in which the double operation was performed. Of the first group, seven received permanent benefit, and five either showed negative results or were lost sight of. The cases were not of the severest character, but the improvement in symptoms was marked. Of the second group, five received considerable, and he thought, lasting benefit, while the remaining five were either too recent to judge or not benefited. In the double operation he preferred to wait a month or so after the first vasectomy before operating on the opposite side.

The points gained were, diminished frequency of micturition, a lessened use of the catheter, an improved condition of the urine, while the actual catheterization was easier and vesical spasm less marked. He considered that many cases were helped by White's operation or by vasectomy, but some were not amenable to either. He was not opposed to castration; he believed that ill mental results did sometimes follow. He thought that at present we had not sufficient information for selecting cases, and hoped the discussion would help to determine when orchidectomy and when vasectomy would be more suitable.

MR. MANSELL MOULLIN thought that all statistics as to the results of operation were valueless. He did not refer to any particular series, but thought no comparison between the cases was possible, even without the still further disturbing elements of different surgeons and different nationalities. He would himself rely on individual experience alone. He then

went on to point out that the operation of prostatectomy seemed in danger of neglect. This might be due to the high mortality (twenty per cent.) of the earlier cases. But Mayo Robson had done eleven cases with one death, and he himself had had five cases with no death. If septic cystitis and pyonephritis were present at the time of operation, the mortality must be high, but if suprapubic prostatectomy were done while the urine was still healthy the mortality would fall and relief be given. Castration should be reserved for cases which could not withstand suprapubic prostatectomy, or when age was sufficiently advanced to do away with the very real if sentimental objection. He did not believe in unilateral orchidectomy, and gave the case of a gentleman with one testis atrophied from infancy who had a median outgrowth in the neck of the prostate, and in whom no difference in size could be detected in the lateral lobes.

DR. LANDBERG, of Bergen, spoke in favor, both of White's operation and of vasectomy, but thought the first was the more certain. He believed that the nervous theories of the relief were right. As to complete ligation of the whole cord, he recorded a case of gangrene of the testis when such had been done. He dwelt on the difficulty of exact differential diagnosis of all cases, but did not fear that the operations in question would be abused in Norway.

MR. CHIENE said he had an intense respect for the testis, and believed orchidectomy should be done only after all other means of relief had been tried and had failed. He believed the treatment could be summed up into, first, a proper use of the catheter; then, if more were required, suprapubic cystotomy should be performed. If the urine were sweet, a lobe of the prostate might be removed if necessary. If the urine were found septic, the indication would be for drainage, for six weeks, combined with rest; then subsequent removal of a lobe if required. Lastly, he would recommend a perineal tube. But he would advise a man to wear a perineal tube and his testicles, rather than no tube and no testicles.

MR. SOUTHAM, of Manchester, thought that active measures were required in only a small proportion of all cases. He believed in irrigation of the bladder, the use of substances to render the urine antiseptic, and an earlier recourse to the catheter. If suprapubic prostatectomy were employed, a pendulous easily removable middle lobe was often found. If not, a ring or collar of prostatic tissue might be removed, or enucleation (which was a serious operation) of the gland might be attempted. He also advocated drainage through a suprapubic opening for several weeks, or the making of a permanent fistula. Of double castration he thought the results sufficiently encouraging, but all patients did not regain a complete power of voluntary micturition. He had had no actual experience of vasectomy.

MR. MORTON related a case of double castration, in which, although the gland atrophied, about twelve ounces of residual urine remained in the bladder. He believed that the operation of election depended largely on the means and intelligence of the patients.

MR. JORDAN LLOYD thought that there was much nonsense talked and written about the whole subject. Although when younger he had been animated by a burning desire to operate on the prostate of every man who attained the age of fifty-five years, his views had since become modified. He had had a large experience of the ailments of old men, as he was surgeon to the Birmingham Workhouse, and he had been struck by seeing how well these old men with large prostates went on, if let alone. He thought that there was great difficulty in determining the actual condition of the gland, and the treatment must depend on that.

The different varieties of prostatic enlargement were referred to, and he thought that the cases in which prostatectomy succeeded were those of polypoid enlargement, while it did not answer so well when the hypertrophy was general.

In passing he wished to speak most highly of the value of the simple soft Jacques' catheter. It was quite harmless, easily cleansed, and if it could be used no operation was needed.

Again, in examination of the growth the mere rectal examination was a fallacy. Often rectal signs of enlargement were present, but no prostatic symptoms, or no signs of hypertrophy were noted per rectum while symptoms were present. A sound in the bladder and finger in the rectum were much more useful. Cystoscopy might or might not be of use. It gave a limited view only, but should be tried.

Perineal drainage he never used, and he had a patient at present who had worn a suprapubic tube with comfort for eight years.

DR. CAMERON, of Toronto, agreed in the main with Dr. MacEwan's and Mr. Harrison's papers. He preferred the low operation for drainage, since the result as regards the atrophy of the gland was better. He spoke of the possibility of removing the prostate by morcellement per perineum. Also polypoid growths might be dealt with by this method. The researches of Johnson, of Cincinnati, on the production of the menopause by inclusion of nerve fibres in the broad ligaments by ligature were mentioned, and the possibility of good results of interfering with the nerves of testes might be similarly explained.

He had done orchidectomy in nineteen or twenty cases, with one death. The results in all the others except two were good. In these mental symptoms developed, and in one case, in view of the results of Brown-Séquard's investigations, he administered the extract of fresh sheep's testicle with a good result. The other cases got well in a few days. He drew attention to the excellent work of American surgeons.

DR. MACEWAN, in closing the discussion, said that Mr. Harrison's cases of vasectomy were the largest in number he had seen, and, as the results were so good and the operation so harmless, he should in future be inclined to do that first and castration subsequently, if required. He quite agreed that prostatectomy was the most suitable for intravesical growths, but general enlargement must be treated by orchidectomy. In reply to Mr. Chiene's arguments, he did not find that the patients had any sentimental objection to parting with their testicles, but were glad to grasp at any means of relief for the condition. Drainage of the bladder was very useful indeed when patients were too feeble or too reduced to stand any more radical proceeding.

Subphrenic Abscess.—DR. LAUENSTEIN read a paper on "Subphrenic Abscess and its Treatment." He spoke of the first diagnosed case by Dr. Barlow, then of one which came under the care of Dr. Williams in the same year, and finally the more recent work on the subject by Leyden. He defined the condition as a collection of pus beneath the arch of the diaphragm. Its origin might be primary or secondary to affections of neighboring viscera, *e.g.*, stomach, duodenum, kidney. It might be metastatic or due to extension of disease from the thorax or ribs. The general symptoms were not characteristic, and the diagnosis had to be made from local signs—pain, sense of oppression, increased sensitiveness to touch along the side and above the diaphragm. Possibly there might be signs of pleurisy above or of adhesions to intestines below. The diagnosis might be confirmed by exploratory puncture. He discussed the natural method of termination by perforation into the stomach, lung, etc., and

considered that the prognosis depended on whether or not surgical aid were given. He found that only six cases of those left alone recovered, while thirty-nine out of seventy treated surgically lived; so that, as the chance of self-healing was remote, the treatment should be prophylactic in cases in which the condition might be suspected. Here he thought medical treatment was needed. But when it was once developed the surgeon should take charge of the case and the abscess be thoroughly opened and drained, a thick double drainage tube being left in. He gave details of six cases of his own.

Carcinoma of the Mamma.—DR. SNOW read a paper on three hundred cases of operation for malignant disease of the breast. He drew special attention to the insidious marrow lesions, and showed photographs of cases in which the prominence of the sternum was well marked. He gave details of cases, in one of which a woman was operated on for pure scirrhus of six months' growth, and had remained immune up to the present, sixteen and a half years. Another had been free for eleven and a half, another for eight years.

The appearance of carcinoma in the second breast he considered to be always simultaneous with general infection, and although he had removed a second breast in one patient he would never again do so, either simultaneously or subsequently.

The great obstacle to the radical cure was the insidious infection of the marrow, and the practical point was a wide and free dissection of the subcutaneous tissue. Such operations as amputation at the shoulder-joint for the sake of clearing the axilla were necessarily too late, and therefore useless.

Skiagraphs.—DR. DAVIDSON gave a demonstration of the x-rays. He showed numerous photographs. In one case the heart of an adult was well shown. Another was a photograph of a case of coxa vara. In another, of the leg and foot, the tendo Achillis, outlines of muscles attached to the tibia, tarsal bones, and articular cartilages were easily seen. The chief points about the practical working were to have a large and powerful induction coil—one ten inches in diameter was required—and to so arrange the electrodes by manipulating them that the current just takes the lamp, instead of jumping across the space between the electrodes. This was got by placing the ends close and then separating them until the spark no longer passed and the lamp glowed. This he had learned from an interview with Professor Roentgen, who said that thus the maximum photographic effect was got. Also by means of the fluorescent screen the members present were able to see a bullet, lodged somewhere in the thorax, on the left side below the ninth rib in a young adult. It had been in the patient's body about three years.

Oxygen in Surgery.—DR. GEORGE STOKER read this paper, and showed the apparatus required for the use of oxygen in surgery. The progress of the cases, both naked eye and microscopical, was illustrated by slides projected on the screen. The chief points were the very good effect in chronic ulcers of the leg, severe burns, baldness, alopecia areata, and eczema. He showed actual patients. Also the effect on the organisms present in the wounds was detailed. This seemed to be in the nature of getting rid of mixed cultivations and leaving only a pure cultivation of certain organisms which Dr. Stoker found by experience to be harmless, as the patients in whom they were present rapidly got well. The methods for the application in eczema, otitis media, and ulceration of the cornea were also exhibited. The strength of oxygen used was usually twenty-five per cent. The applications, so far as could be judged, were attended with marked success.

Second Day—Thursday, July 30th.

The Surgical Treatment of Appendicitis.—DR. MACDOUGALL opened the discussion on this subject, devoting his time chiefly to the clinical aspects of the affection. It had been asserted that no prognosis could be got from the symptoms. With that he did not agree. The cases could be classed from a clinical point of view as mild simple appendicitis, appendicitis with abscess, appendicitis with perforation, and relapsing cases.

The symptoms to which attention should be directed were pain, tenderness, muscular rigidity, tympany, condition of the temperature, tone of the pulse, presence or absence of vomiting, facial aspect, and, about the third day of the disease, tumor. Examination per rectum should be always practised, and especially gave help in children's cases.

The treatment was absolute rest in bed, fluid diet, leeches, the use of ice bag, but opium only when pain demanded it. Aperients should not be used for fear of risk to any adhesions present. Sometimes enemata were useful, and intestinal antiseptics, such as salol and naphthalin, should be tried. If the case were going on well, a fall of temperature, diminution of tenderness, and lessening of the swelling would follow.

If abscess supervened the symptoms were more severe, the swelling was more acute, and the temperature was higher or rose steadily. The abscess might remain localized or simulate closely general peritonitis. Or there might be suppuration and no local tumor be discernible.

Acute perforative peritonitis was attended by symptoms which cannot be overlooked. Such often came on in persons of previous good health, and with no history of former attacks. These cases were rare, but the liability to perforation gave need for much watchfulness.

The fourth kind showed symptoms similar to simple appendicitis, but there seemed to be a curative process underlying these attacks, as they often became less severe and ceased.

The treatment must in first attacks be prophylactic. The recognition of the cases was often difficult, as the onset was so insidious in character. Then subperitoneal perforation might give rise to doubtful signs. A case was related in which the temperature gradually rose to 103° F. Signs of septic poisoning supervened and a retroperitoneal abscess was found containing two and a half ounces of pus. It was impossible to say when the pus commenced to form. The necessity of early rest to prevent perforation and general peritonitis was absolute.

If the symptoms justified it, after a careful local examination, an incision should be made for exploratory purposes.

In children appendicitis was by far the most common cause of abdominal inflammation. The speaker related a case in which, in a young girl, operation had been undertaken for what was thought to be a perforated gastric ulcer. None was found, but at the post-mortem a large abscess in the iliac region with general peritonitis was discovered. The moral was, when in doubt think of the appendix. Cases of inflammation and even fibroid of the right broad ligament had been mistaken for appendicitis, but usually a bimanual examination would clear that up.

The prognosis depended largely on an early recognition, followed by careful treatment.

As to the treatment, a large number of cases got well without any surgical intervention at all. Of course in the third group of cases there was no question as to the line to be adopted. But in a case of average severity, if the symptoms after forty-eight hours did not show a tendency to increase, then one

should watch and wait. If a quick, thready pulse, vomiting, more pain, and depression came on, with increasing abdominal distention and thoracic breathing, then surgical intervention should not longer be delayed. In children it should be the rule to operate earlier, as their condition changes so rapidly.

In fact, each case must be considered on its own merits, and we must be ready to recognize that we might be sadly deceived. Such a case might seem to be getting well, when sudden symptoms of perforation might come on and in less than forty-eight hours all be over. He instanced a case of a man aged twenty-seven years, who was admitted into a hospital on the third day of the disease. Within twenty-four hours the condition was hopeless and he died in less than four days. Then in cases of strangulation of the appendix it might be impossible to judge from the symptoms how severe the condition was.

As to the technique of operation, usually the oblique incision was best; but the appendix might be found bound down out of reach by adhesions. The appendix might be removed: the wound closed usually without drainage.

In all cases of septic peritonitis the iliac fossa should be carefully explored. Through a median incision the abdomen may be well flushed with saline solution at a temperature of 110° F. if the state of the peritoneum called for it, and the appendix should be removed if the patient could bear it. In some bad cases the patient might be so weak that a general anæsthesia would be fatal. In such local anæsthesia should be used, such as freezing with the spray, and the pus evacuated and abscess drained.

Experiment showed that in many cases the peritoneum did not readily become infected during operation, which was a fortunate fact, since removal of the appendix earlier, during the third or fourth day, was difficult to do without soiling the peritoneum.

Is removal of the appendix absolutely necessary? No. The part might be plugged with gauze and shut off from the general abdominal cavity, and drained with success. To search for and remove every appendix in this condition was poor surgery. The welfare of the patient must be primarily considered and completeness of the operation after.

In deep-seated posterior collections the incision might be well back and the peritoneum easily avoided. If the abscess were well localized, and after incision the appendix was found involved in the abscess wall, it was often best to leave it alone. Of course if intestinal obstruction were present from adhesions, these must be broken down, and protection of the peritoneum by careful disinfection and gauze packing employed.

The various methods of removing the appendix in chronic cases were discussed. He preferred an oblique incision and covering the stump with a peritoneal flap if possible.

He hoped to bring out an opinion as to what were the most valuable signs indicating early operation. The initiation of early operation in these cases was largely due to the work of American surgeons, who drew attention to the statistics of the comparative mortality of cases early operated on and those left alone. From the records of one hundred and fifty-one cases, extending over three years, at the Edinburgh Royal Infirmary, grouped under the headings of appendicitis, typhlitis, and perityphlitis, the mortality was thirty-seven. The mortality at St. Bartholomew's and St. Thomas' was twenty per cent. There were cases without peritonitis and without perforation.

Much depended on the early differential diagnosis, and one should endeavor to make out the stage the lesion had arrived at, as the treatment to be adopted depended on that.

One question was, what would the mortality be if it

became the general practice to operate early? Might not too great precipitation rob the patient of his chance of spontaneous recovery? The operation itself was not a light one: it needed competent assistants and favorable surroundings. The cases were not always straightforward and difficulties often arose. The aid of the surgeon should always be early invoked in these cases by the physician, especially in acute cases.

MR. SOUTHAM said he had operated ten times on the recurrent form. He found the appendix bent and bound down twice, distended twice, in two cases containing hard faecal masses. In four cases suppuration had taken place—three locally, one generally. The appendix was removed eight times.

Medicinal measures he thought powerless to prevent recurrence; the only radical cure was to remove the appendix. And that should be done in the quiescent interval after an attack.

He would not operate after a first attack, but if two well-marked seizures had taken place and any local signs were left, he would proceed to operate. Three of his operations had been after a second attack.

As a rule the appendix would be found either constricted, twisted, thickened, or distended, and there was always a risk of ulceration. In general the result of perforation was fatal.

As to the method of procedure, if possible the stump should be covered with a peritoneal flap.

MR. RUTHERFORD MORISON took the following as guides to operation:

1. After a second attack.
2. Cases accompanied by abscess.
3. All cases of perforation.
4. The sudden onset of urgent symptoms in quiescent cases.

He objected to the incision being made through the linea semilunaris, as the drainage was difficult and paralysis of segments of the rectus muscle resulted from division of its nerves. If in operating an abscess were found quite outside the peritoneum, he would only drain. If the peritoneum were opened the appendix might be found lying on or behind the cæcum and it ought to be removed if possible. He preferred a big incision and packing off the lower end with gauze and sponges. In the female with pus in the pelvis, it should be drained per vaginam.

In peritonitis with pus free in the cavity, simple drainage should be employed. In cases of pocketed pus he spoke of evisceration of the intestines, by means of a large incision from the ensiform cartilage to the umbilicus, and giving the bowels an antiseptic bath.

MR. MORTON, of Bristol, said he would operate in every severe case for fear of general peritonitis. He mentioned Murphy's records of one hundred and forty-one cases, and maintained that without operation certain subjects were bound to die. He had personally operated on two cases. It was impossible from the symptoms to tell the condition of the appendix. As to the risks of operation, Murphy lost only two and Norris had no death in fifty-nine cases. Mr. Treves gave the mortality as eleven per cent. in non-suppurative cases; it was thirty to forty per cent. if suppuration occurred early. He strongly advocated early operation and did not believe any clinical classification possible.

MR. JORDAN LLOYD agreed with the last speaker. He said the clinical phenomena were puzzling, but this was because the appendix was of considerable length, and its blind end was free to swing in any direction. He thought that the varieties of the disease depended on the position of the tip rather than on anything else. The following varieties might be made out

1. The tip in the iliac fossa.

Here the symptoms were classical, and in these cases the iliac swelling might be made out.

2. The tip in the pelvis.

Here there was no iliac swelling, but a finger in the rectum revealed the state.

3. In the lumbar variety there were no iliac or rectal signs, but the swelling appeared in the loin.

4. The tip in these cases swings forward into the abdomen, and these he should call the umbilical variety. There would be a localized swelling or abscess surrounded by a resonant area.

As to treatment, having located the trouble, the operator should make the incision accordingly. The incision will vary with the particular kind of abscess present. He agreed with Mr. Morison as to the great value of a vaginal opening in pelvic cases. In an ordinary iliac case, whether or not he would remove the appendix depended on the condition of the patient. In the lumbar cases, which were the most fatal variety, the incision should be far back, in the abdominal kind over the swelling. If diffuse general peritonitis were present, the middle line was the best place for the incision.

No hard and fast rule could be laid down about early operation, but he had never yet had to regret having operated early.

DR. RENTON said that catarrhal subjects should get well with rest and did. But this should be prolonged from five to seven weeks at least. In relapsing cases the appendix ought to be removed.

He believed in small incisions, to lessen the tendency to hernia. The appendix should not be laboriously hunted for to the detriment of the patient. Curiously enough, in some cases the pain complained of was in the side opposite to the lesion. He thought that in intense cases of suppurative peritonitis, many were lost because the operation was done too late. In cases where the vitality of the patient was low he strongly advised local anæsthesia, washing out of the pus, and getting the patient back to bed as soon as possible.

MR. VERRALL said that in catarrhal cases the physician should give early relief. The relapsing cases became less and less dangerous, but more and more difficult to treat. He believed that the only satisfactory termination of the operation was when the appendix was removed. The total mortality according to two hundred and sixty-four cases collected by Hawkins was fourteen per cent. Murphy in two hundred and seven cases had a mortality of 9.93 per cent., with early interference. Thus an early operation lowered the mortality and saved pain, further attacks, and loss of time, this latter being an important element to poorer patients who could not afford to be frequently lying up for lengthy periods. He preferred a long incision with plenty of room to see the parts, and packing could be used to shut off the peritoneum if necessary. He did not agree about hurrying the actual operation for the sake of getting the patient back to bed soon and trusting to the chance of all being well. He believed in removing every atom of pus by extensive flushing. He emphasized the danger of mistaking a lull in the symptoms for a termination of the disease.

MR. PAUL BRIGHT, of Bristol, said he would like to know exactly when and in how many of the cases Dr. MacDougall proposed to remove the appendix. In his experience the less done in the way of surgical interference—in the early stages, when there was much suppuration—the better, and when the condition was grave neither chloroform, ether, nor any but local anæsthesia should be used.

MR. MITCHELL BANKS questioned whether the Americans had not overdone matters, especially in

the way of statistics. He had never seen such a large number of cases of appendicitis, yet it ought to be quite a common condition to allow such a number of operations being done for it. He used to see cases of typhlitis, but now the cæcum seemed to be suffering from neglect, while the appendix was in high favor. He thought that many of these cases had nothing at all to do with the appendix. If the appendix were so often at fault, what became of it when it had not been customary to remove it? He thought the colon and cæcum might yet be taken into favor again. As to the operation, no rule could be made. The collection was either outside the peritoneum, localized inside the peritoneum, or gave rise to diffuse peritonitis. In his experience all cases of diffuse peritonitis terminate fatally. He rather favored a long horizontal incision. He was much against all unnecessary mystification. The object of the operation was to find pus and let it out. He thought that in some cases the pain complained of was due to the formation of adhesions.

In DR. MACDOUGALL'S reply he pointed out that the mortality after operations done during the acute stage was greater than if the cases had been left to themselves; that is, when operation was done as a routine practice and not on selected cases. He agreed with those speakers who preferred a free incision.

Intestinal Anastomosis.—DR. MITCHELL BANKS read a paper on some experiences with Murphy's button. The points to be cleared up were: Whether it was the quickest and best method of joining the intestine, and whether any serious consequences had followed its use. He gave details of six cases:

CASE I. was a stricture of the ileum close to the cæcum. Owing to the enormous distention of the ileum above the stricture, after the excision of the narrowed portion had been done it was found very difficult to adjust the ends of the bowel. However, by means of stitches at doubtful points it was finally accomplished. The girl died in twenty-six hours from shock, but at the post-mortem it was found that the union was quite efficient.

CASE II.—The patient had a fistula above the iliac crest, through which almost all the bowel contents passed, very little escaping per anum. The condition was one of great distress. The fistula was excised and an end-to-side apposition of the ileum to the cæcum done. The patient did well and lived six to eight months in comfort.

CASE III.—Done for stricture of the colon; the patient died of shock.

CASE IV.—Operation was performed for vesico-intestinal fistula. The affected intestine was excised and the ends were approximated by button.

CASE V.—A very good case, in which an intussusception in a boy was excised.

CASE VI. was that of a woman who had a faecal fistula left after strangulated hernia. This was cured and the intestine united by means of a button, but she refused subsequently to part with the button. In all the other cases the button was passed within four or five weeks. Mr. Banks showed a skiagraph of this patient, in which the locality of the button was seen by means of the x-rays.

In reviewing his cases he decided that the operation was easy, quick, satisfactory, and followed by no ill results.

MR. A. H. TUBBY read a paper on metatarsal neuralgia, a painful condition of the foot first described and explained by Morton (Morton's disease). The pain was often very severe, quite incapacitating the patient. It appeared to be due to squeezing of the digital branches of the nerves to the toes between the heads of the metatarsal bones on either side of these nerves. The diagnostic points were pain of peculiar

character, usually some prominence of the head of a metatarsal bone, as if it had been partly pushed out of place, and the otherwise healthy character of the feet. Relief was obtained in minor cases by a tight instep band squeezing the waist of the foot, compressing the bases of the metatarsal bones, causing the digital ends to diverge and separate, and so take pressure off the nerve. This should be combined with a boot made tight at the instep but broad and roomy for the toes.

In some cases operation was needed, and the head of a metatarsal bone, generally the second, should be excised. The result was good, all pressure on the nerves being removed and symptoms alleviated. Details of cases were given.

Hepatic Abscess.—MR. MORTON reported a case of abscess of the liver discharging through the lung. Many attempts were made with the exploring needle and subsequently by operating to get at the abscess. The difficulty seemed to be due to its having more than one cavity. The point in the discussion was that Dr. Powell was much against exploratory puncture. He said so common was it to find abscess some little time after the exploratory introduction of the needle, that he had come to regard it as cause and effect. He believed in exploratory abdominal incision with examination of the liver. He gave details of his cases. Certainly in one case with a small abscess the size of a walnut on the under surface of the liver, it would probably take a serious amount of needling to discover it.

Third Day—Friday, July 31st.

The Surgery of the Subperitoneal Tissue.—MR. WILLIAM ANDERSON, of London, opened the debate on this subject. He said that although cases of the surgery of this structure were common enough, the literature of the subject was very scanty; that is, the subject taken as a whole. The knowledge on this point was scattered very widely, and he had had to go through a large amount of surgical literature, not only European and American, but even to collect cases from as far away as Japan in order to get the materials for the paper. It was not so much to bring forward new facts, as to collect together what was already known but not systematized, that was the function of his essay.

He was often asked the question, What is the subperitoneal tissue? Generally speaking, it might be defined as the structure between the peritoneum and the abdominal wall. It was a mesoblastic development starting from the neighborhood of the spine, in company with the great blood-vessels, and being carried with them and their subdivisions into various situations. Thus, where the vessels escaped from the abdominal cavity, a process of subperitoneal tissue went with them as their sheath.

The structure was highly elastic connective tissue, with more or less fat, also planes or bands of involuntary muscular fibre. It enclosed veins, arteries, lymphatic vessels and glands, spinal and sympathetic nerves. From its complex character and many connections, it followed that infection of this tissue was one of the commonest developments in surgery.

It had a special relation to the intestine. The gut for about four-fifths of its circumference was enveloped by peritoneum, but about one-fifth—the mesenteric border—is not covered by peritoneum, but was in direct contact with the superitoneal tissue. In the surgery of the intestine that must be borne in mind. The tissue might be directly infected by a leakage from the intestine at this spot. There was a similar arrangement in the broad ligaments, and a salpingitis might thus directly infect the subperitoneal tissue.

When the peritoneum became closely applied to a viscus, it ceased to be any longer demonstrable, *e.g.*, in the four-fifths of the intestine. But every viscus of the abdomen was somewhat in direct contact with it. The tissue might be affected either from the peritoneum or from the viscera. The best way of grouping its affections was as follows:

I.—Inflammation.

Etiological grouping.

1. Idiopathic.
2. Tuberculous.
3. Syphilitic.
4. Anæsthetic.
5. Traumatic.
6. Consecutive.

Regional grouping.

1. Retroperitoneal.
2. Subphrenic.
3. Perinephric.
4. Iliac.
5. Pelvic, parametric.
6. Prevesical.

II.—New Growths.

Primary.—1. Lipoma and fibro-lipoma.

2. Fibroma.
3. Myoma.
4. Sarcoma.
5. Cysts.

Secondary.—1. Sarcoma.

2. Carcinoma.

III.—Hemorrhages.

IV.—Lymph exudations.

V.—Extravasation of secretions or excretions.

VI.—Gaseous infiltration.

VII.—Atrophic and degenerative changes.

He thought that grouping according to causation was more scientific than mere regional classification. The tuberculous and syphilitic forms were rather rare. The traumatic was common, it seeming that almost no injury was too slight to set this up. In other cases the traumatism is set up surgically during operative interference. The consecutive form was the most extensive of all. The inflammation might spread from the parietes, the bones, viscera, etc., and might closely simulate that due to other causes. The following generalizations might be permitted:

Inflammation might arise in the tissue itself, or it might start from neighboring structures, or even in structures outside the abdomen. Thus, from the operation of varicocele, infection might reach the subperitoneal tissue along the process accompanying the veins—in hernia direct extension along the process of subperitoneal areolar tissue forming one of its layers; in castration along the tissue of the cord. Also it might spread from the thorax along structures passing from the thorax to the abdomen.

Then, whatever might be its origin, any or every part of the subperitoneal space might be involved. Thus, a case was recorded in which an abscess opened in the left groin, was followed by one in the right iliac fossa, then by another in the left iliac fossa, and finally an ischio-rectal abscess supervened.

The mode of implication of the tissue might be direct, it might be by perforation into it, or it might be by necrosis of its overlying peritoneum.

Its tendency, once inflammation had set in, was always toward the surface. A localized intraperitoneal abscess usually opened into a viscus. A subperitoneal abscess rarely did so.

Very little was known about its new growths. Primary lipoma in this region was very remarkable. Thirty or forty cases had been recorded, and their tendency was to become enormous in size. They often attained the weight of forty pounds, and the growth was rapid. From this rapid growth the patient might become so

cachectic as to give rise to a suspicion of malignant disease. Owing to the extent of the tumor and the great implication of important vessels, attempts to remove these had been very fatal indeed. Sometimes the lipomata, starting inside the abdomen, might follow along the subperitoneal tissue out of the cavity by one of its openings. Thus, he had published a case of a man with a subperitoneal scrotal lipoma which was of such a size that the scrotum had to be supported on another chair in front of the patient.

The fibromata had much the same peculiarities.

The myomata were usually found in the parametrium.

Sarcomata usually spread so rapidly and such extensive infiltration was set up that nothing could be done.

Fifteen or twenty cases of gaseous infiltration had been recorded; they had usually been in connection with diseased lungs and pleuræ or perforated appendix.

The atrophic form was interesting in connection with the genesis of movable kidney.

DR. MACDOUGALL spoke of the light the paper shed on those extensive cases of inflammation and suppuration of the subperitoneal tissue following appendicitis. He related a case of ovariectomy, in which after the operation the symptoms closely simulated those of severe intra-abdominal hemorrhage. On examination of the pedicle a large subperitoneal abscess was discovered, and evacuation of this was followed by recovery. He referred also to the case of a fistula on the left side of the rectum with a collection of pus high up. This was probably due to disease of the appendix, with extensive burrowing along the subperitoneal tissue.

MR. OGSTON related a case in which a girl of twenty years had such an enormous lipoma that she could not raise herself in bed. It was diagnosed as ovarian, but was larger than any ovarian tumor. On exploratory examination the real state was made out and nothing could be done. In this case there was no cachexia. He also related another case of a lipomatous condition of the omentum simulating an ovarian tumor, and in which the diagnosis was very difficult. In a third case operation was undertaken for a retroperitoneal tumor the size of an ordinary potato. It was found to be a myoma involving the ureter. He removed the tumor and had much difficulty in getting the divided ureteric ends together. They were too short to do an end-to-side union in the usual manner. Finally he successfully brought it together by tucking the upper end inside the lower one and suturing it in position.

DR. LAUENSTEIN related a case of a gentleman, the subject of old right hip-joint disease. Fluctuation could be made out from the rectum to the right iliac region. It was evidently a sinus opening into the subperitoneal space. He spoke also of the hopelessness of cases in which sarcomata growing from the peritoneum had infected the tissue in question.

Intussusception.—DR. RENTON read the notes of three cases of intussusception in which he had operated successfully.

A. B.—, aged ten months. Intussusception of the ileo-cæcal valve. The abdomen was opened, the intussusception reduced, and the child recovered uninterruptedly.

E. L.—, aged eleven months. Intussusception at the splenic flexure of the colon. Operation and recovery.

M. W.—, aged three months. Intussusception twenty-four hours in duration, easily made out per rectum. It was found at the operation that one and a half feet of bowel were intussuscepted. Result good.

These cases were all taken in hand early, and the operation was done as rapidly as possible. They encouraged him to advise operation in all cases. It must be undertaken promptly and before adhesions had been formed.

Clinical Department.

MASKED APPENDICITIS.

By J. ESTILL MILLER, M.D.,

PITTSFIELD, ILL.

I REPORT the following case for the purpose of demonstrating the obscurity of symptoms in some of the severer forms of appendicitis, upon which our textbooks are uniformly silent.

Mr. S. H., aged twenty-six, rather slender and of sickly aspect, came to my office July 9th, complaining of feeling badly; he said he had not been well for two years. He had no particular pain, but general weakness, malaise, and loss of appetite. I found his temperature under the tongue 100° F., pulse 80, bowels fairly regular, no tympanites, tongue dry and covered with a yellow coat. I told him I thought he had malarial fever and advised him to go to bed. Under treatment with laxatives and quinine he did not seem to improve, so July 17th I decided to give him a more thorough examination. I found the stomach, liver, spleen, heart, and lungs about normal; on palpating the abdomen I found in the right lumbar region just above the iliac crest an enlargement about the size and shape of a goose egg, with moderate tenderness over McBurney's point on deep pressure. There was no distention of the bowels. There was another point of tenderness above the sacro-iliac synchondrosis. Morning temperature, 99° F.; evening, 100° to 110° F.; pulse, 80 to 90. I advised him to keep quiet, take nourishing and easily digested food, and apply hot hop poultices.

The patient had a profuse sweat followed by a chill on July 18th, and the evening temperature the following day was 100.5° F.; pulse, 88. The enlargement of the abdomen was slightly more prominent and there was a little more tenderness on deep pressure. I told the family that I thought there was an accumulation of pus and advised an operation. I prepared to operate next morning, but found the patient greatly improved, temperature normal, pulse 68, no tympanites, enlargement not so marked, only slight tenderness, bowels regular; so I postponed operating, as I did not know the cause of the enlargement and thought it might be absorbed. My friend, Dr. Dunn, who was called in consultation, thought it perityphlitis, but later said it might be necrosis of the ilium or vertebral caries. He did not think an operation was indicated. On July 21st I introduced a small aspirating needle, but found no pus. The symptoms remained about the same during the following three days, viz.: morning temperature, normal; evening, 99.5° to 100° F.; pulse, 68 to 76; appetite fair. The patient slept well; at times he had slight distention of the bowels. On the morning of July 25th, as the temperature was 100° F. and the pulse 80, I decided to operate, so I took the patient to Dr. Jno. A. Prince at Springfield. After careful examination he concluded there was an accumulation of pus, although he was in doubt as to its origin. He advised an operation for its removal. With my assistance he operated the same afternoon, making the lateral incision parallel with the iliac crest. He found the peritoneum dark and congested over the enlargement; the adjacent coils of intestines were glued together by inflammatory adhesions, the appendix was indurated and adherent, the tip had sloughed off and was surrounded by a pus sack situated deeply, just above and internal to the psoas muscle, thus producing the pain and tenderness in the back. The abscess contained about four ounces of thick creamy pus. The patient is now making a good recovery. Under the circumstances it was very fortunate that we used

the lateral incision; otherwise the operation would have been rendered far more difficult, if not impossible, on account of the position of the appendix and the extensive inflammatory adhesions.

Some tell us to operate if the pulse runs above 116 or below 60 or when there is high temperature with distention and great tenderness; or, if the attack is mild, to wait and operate after the inflammation has subsided. This is good advice when applied to the proper cases. But what are we to do and what is to be our guide in cases like the above, in which symptoms are so masked and misleading? I firmly believe the patient would have died without the operation. At no time during his illness did the temperature go above 110° F. or pulse above 90.

REPORT OF A CASE OF SECONDARY HEMORRHAGE FOLLOWING TONSILLOTOMY.

By F. A. BOTTOME, M.D.,

NEW YORK.

THE subject of secondary hemorrhage following the operation of tonsillotomy is an interesting one, and increases in interest in proportion to the length of time elapsing between the operation and the appearance of the hemorrhage.

With adults we naturally expect a rather sharp hemorrhage at the time of the operation, especially if the tonsils removed are of the hard type and large in size. If, however, the bleeding stops after a few moments (which it usually does), we feel relieved; and this feeling is intensified if a day has elapsed without a recurrence.

Bosworth gives a very complete *résumé* of this subject of secondary hemorrhage. In most of the cases quoted by him from current literature the hemorrhage occurred a few hours after the operation, and in only two cases after a lapse of twenty-four hours; namely, in Nélaton's case, forty hours; and St. Yves', in which the hemorrhage came on four days after the operation.

I have a history of the case of a boy at my clinic who stated that he had a hemorrhage two days after I had removed the tonsils; but I was not able to satisfy myself that the bleeding was from the tonsils and not from the nose, in which I found a small ulcer.

The following case, however, is, without doubt, one of true secondary hemorrhage, and the length of time intervening between the operation and the appearance of the hemorrhage warrants my reporting the case.

I. D—, aged thirty-one. Parents both living; also several brothers and sisters, and all in good health. He has been a hard-working man all his life, without sickness since childhood, except two attacks of tonsillitis, several years previously. There was no specific history, and there were no bleeders in the family.

He applied for treatment because he wished to join the police force; and, although he passed the physical examination, the examiner informed him that he must have the tonsils removed to avoid the possibility of frequent attacks of tonsillitis.

Examination showed both tonsils hypertrophied and of the hard variety. From the fact that they were of the hard type, and therefore liable to bleed freely if removed by the tonsillotome, I advised the use of the hot snare. But the patient objected, and I therefore used the tonsillotome.

The left tonsil was removed on May 2d, and the only interesting feature connected with its removal was the fact that the blade of the Mathieu tonsillotome broke when it had penetrated only half of the tonsil. This might have been embarrassing but for the fact that a MacKenzie tonsillotome was ready by my side, and

with this I removed the tonsil with the broken blade buried in it.

The bleeding following the removal was unusually slight and stopped entirely in a moment. I decided, however, not to remove the right tonsil at the same sitting, and he returned for the second operation on the following Monday, May 4th, at 9 A.M. He stated that there had been no bleeding nor pain, and he had little discomfort in swallowing.

The right tonsil was removed with no difficulty, and no bleeding to speak of followed the operation.

On May 7th the patient returned with the following history: There had been no bleeding nor discomfort after the removal of the second tonsil, and he had considered himself well until 3 A.M. of Thursday, May 7th, when he awoke to find blood flowing from the mouth and the bed linen saturated with blood. He had tried to stop the hemorrhage with cold water, but, failing, sent for a physician in the neighborhood, who worked on him for an hour before he succeeded in stopping the flow. Even at this hour, 10 A.M., he was still expectorating a little blood.

Examination showed that the right tonsil was covered with a black coagulum, evidently from the application of iron; and from the anterior edge of the tonsil behind the anterior curtain there was slight oozing.

This point I cauterized and then gave him a solution of tanno-gallic acid, which stopped the bleeding effectually. There was no recurrence.

The history of this case shows clearly that it was one of secondary hemorrhage, after an interval of sixty-six hours.

42 WEST ONE HUNDRED AND TWENTY-SIXTH STREET.

A CASE OF CENTRAL LACERATION OF THE PERINEUM.

By SIDNEY L. SMALL, M.D.,

SAGINAW, MICH.

On the evening of July 8, 1891, I was called to attend Mrs. S—, aged thirty-three years, in her first labor. Reaching the patient at eight o'clock, I found she had been suffering moderate pains for several hours, and an examination showed a roomy pelvis, the os dilated, and the head well down. The labor seemed to progress very favorably, and at the end of three-fourths of an hour the pains had increased somewhat in force and frequency, but still were not especially severe. Then came one more severe than any previous one, followed quickly by another, and the second stage was over; but in a most astonishing way. The child had gone straight through the perineum, making a wound as though by a cannon ball and leaving the vulva and anterior portion of the floor intact. I had never seen a case of central laceration. I had probably read the three or four lines which some of the text-books devote to it, but I know that when I saw the condition of things I was sorely surprised. The child was of medium size, and it seemed impossible that it could have passed through so small a space with so little apparent force, for at no time were the pains very severe. After the placenta had been delivered through the same abnormal channel, I made a careful examination of the parts. The laceration extended, with irregular outline, from a point in the central line near the posterior commissure to and including the rectal sphincter, and denuding the lower end of the bowel for half its circumference and about an inch high. There was not much hemorrhage, and I decided to wait for daylight in which to make repairs. Early in the morning, with the assistance of

¹ Read before the Michigan State Medical Society, June 5, 1896.

Dr. Davis and the late Dr. White, I repaired the laceration, using catgut for the deeper sutures, and silk for the rest. The patient made an excellent recovery, and on subsequent examination the parts were found to have healed perfectly throughout. May 17, 1895, I was summoned to the same patient, in her second confinement. The labor progressed much as it had in the former case, and, having in mind my previous experience, I was on the lookout for trouble: a pain somewhat harder than usual coming on, I found the head pressing the pelvic floor and threatening a repetition of the accident. I took a blade of the forceps, passed it under the head, and, using it as a vectis, was master of the situation. I expected a laceration, but was determined it should be in the legitimate way. In this, however, I was agreeably disappointed, for the head kindly accepted the way I had provided, the parts yielded with uncommon readiness, and in a short time the child was delivered, and without any laceration. Convalescence was uneventful, and the woman has remained in good health. In regard to the cause of the liability to this accident, I only know that in the case recited there was a large pelvis, in which the coccyx, because of its shortness and slight curve, offered little resistance to the descending head.

OTITIS MEDIA PURULENTA ACUTA AND CHRONICA.

By J. H. McCASSY, A.M., M.D.,

DAYTON, O.

SUPPURATION in the temporal bone, involving some of the most important structures in the human body, should receive the best attention of the general practitioner as well as that of the aural surgeon. The importance and the danger of this very common affection have undoubtedly been underestimated, and the result is a very large number of deaf-mutes and persons with defective hearing, with perforated drums and with chronic suppuration of the middle ear with its attendant evils. The person who temporizes with a menacing discharge of pus constantly flowing from his ear, without putting forth his best endeavors to have it stopped, voluntarily slumbers on a volcano. It is like a magazine of dynamite, which is inert till percussed. The victim of this latent but dire malady, by slight exposure to cold, may precipitate a fatal mastoiditis, meningitis, or septicæmia.

A superstition of the laity is that running from the ear is beneficial to the individual, giving exit to poison which, if checked, might be followed by other maladies more disastrous in their consequences. Many persons succumb to affections which would otherwise have passed them by had it not been that they were so reduced by constant discharge from the ear. The mortality of acute and chronic otitis media is about two and one-half per cent., and is nearly as fatal a disease as typhoid fever. Of the twelve thousand deaf-mutes in the institutions of the United States and Canada, in about fifty per cent. the condition is attributable to acute inflammation of the middle ear in infancy; scarlet fever of itself being responsible for about thirty per cent. of these cases. The hearing as well as the lives of many individuals are lost annually through neglect and ignorance of the proper management of suppurating ears. Meningitis, mastoiditis, and other fatal complications originate frequently from otorrhœa, and render the patient moribund before the gravity of the situation is appreciated.

There seems to be great diversity of opinion regarding the treatment of chronic suppuration in the middle ear, some contending that any interference

with the ossicles is fraught with evil consequences, while others scarcely await the results of three weeks of conservative local treatment until they dig out the ossicles and tympanum. Sound surgical judgment is necessary at this moment in order to adopt a happy medium between the two extremes. The cause of the trouble should be sought and removed. Free drainage should be established. Caries or necrosis in the tympanum should be dealt with in the same manner as in other parts of the body. Carious ossicles, necrosed bone, and other obstructions to free drainage should be removed. It is reprehensible to continue to pack the auditory canal and middle ear full of boric acid, alum, or other powders, and thereby imprison decomposing material. The person that facilitates the flow of such fetid products into the sewer is deserving of the laurels.

I will now give the history of a few cases in practice to illustrate my method of management of the three most common types of suppurative inflammation of the middle ear, viz.:

(1) Acute otitis media purulenta.

(2) Chronic otitis media purulenta without caries or necrosis.

(3) Chronic otitis media purulenta with caries or necrosis of the ossicles or of the wall of the tympanum.

CASE I.—Acute Otitis Media Purulenta. My son, aged six years, contracted a cold and pharyngitis by riding his bicycle while bareheaded and exposed to inclement weather. He complained of fulness in his left ear, impairment of hearing, and tinnitus. The more serious involvement of his middle ear was indicated by pain in the ear and head, which radiated to the frontal and occipital regions and to the pharynx along the Eustachian tube. After he had suffered with "earache" in his left ear by spells for a few days his temperature rose to 101° to 102° F., and once or twice it reached 103° F. The temperature was taken every few hours. His pulse ranged from 110 to 130. He could hear the watch only on its being pressed against his ear. By the fourth day the pain in his ear, in the side of his head, and along the angle of his jaw on the same side was quite severe. The membrana tympani at first was quite hyperæmic, then it became lustreless and opaque. The long handle of the malleus became obscured and the sharp white point of the short process of the malleus was the only landmark that could be seen. The membrane became sodden and bulging. With the aid of a bright light reflected from the head mirror upon the drum, I made a paracentesis in the posterior and inferior segment by passing a spear-shaped knife through a speculum into the membrana tympani; whitish, creamy, inoffensive pus flowed freely. The ear was syringed out twice or thrice daily with warm soda or sublimate solution (the latter 1 to 5,000). It would be well to say at this point that the sublimate should not be used too often, or in very strong solution, because it is an irritant in a slight degree, and the drug may pass through the ear and down the Eustachian tube into the pharynx and cause mercurial poisoning. A solution of boric acid, carbolic acid, sodium chloride, permanganate of potassium, or any of the antiseptic washes may be used. In fact water, and particularly rainwater, that has been boiled is a good antiseptic and cleansing agent, even without any of the so-called antiseptic medicaments.

After the ear was cleansed each time a few drops of warm solution of boric acid, fifteen grains, and sulphate of zinc, one grain to one ounce, were dropped into the ear and the external auditory meatus was closed with a pledget of absorbent cotton. Politization was practised once daily to keep the Eustachian tube patulous. The little patient said he "could feel the water come into his throat" while his ear was being syringed. The perforation in the drum closed about

the middle of the second week, but a discharge of mucus continued a week longer, when it ceased. As soon as the perforation closed, boric acid or aristol was blown into the external auditory meatus. (Powers should not be blown into the ear when the drum is perforated, especially if the perforation is small or high up, because they are liable to form into crusts, lodge in some inaccessible crevice, and cause irritation.) Four weeks after the ear trouble began the watch could be heard at a distance of fourteen inches, and full hearing power was not restored until the end of four months.

CASE II.—Chronic Otitis Media Purulenta. A young man, aged eighteen, had for ten years suffered from a discharge of pus and muco-pus from his right ear as a result of scarlet fever. Hearing in the right ear for the tuning-fork was four inches; ordinary conversation could be heard at a distance of one foot. There was tinnitus aurium, which was not constant, and an occasional attack of vertigo and earache. The vibrating tuning-fork placed on the vertex was heard quite well in the right ear. The posterior half of the membrana tympani was gone. The ossicles were visible and intact, and granulations were numerous. Inflation yielded the "perforation whistle."

Retention of secretion in the middle ear being the most frequent local cause of the persistence of the suppurative process, the ear was cleansed twice daily with a warm soda or sublimate solution. The granulations were touched with a solution of nitrate of silver, from twenty to forty grains to the ounce, every two or three days, and in less than one month's time all that could be reached were removed. Then two or three drops of absolute alcohol were instilled daily and were retained for two or three minutes, the patient inclining his head to the opposite side, but considerable pain and vertigo followed this operation, and it was abandoned. Then a solution of boric acid, fifteen grains, and sulphate of zinc, one grain to the ounce, was instilled after each cleansing operation, but the discharge did not wholly cease. The external auditory meatus and the skin of the ear was painted with a ten-per-cent. solution of iodide of potassium, which protected the ear from discoloration by nitrate of silver; and five to ten drops of a five to ten per cent. solution of silver nitrate was dropped into the ear daily and the patient turned his head in various directions so that the solution could reach every portion of the middle ear possible. On a few occasions this drug passed through the Eustachian tube into the pharynx, which did no harm. I usually syringed the ear after using the silver, to wash away the white coating, consisting of albuminate of silver formed on the diseased mucosa. Under this treatment suppuration ceased in ten days.

Some years ago I gave peroxide of hydrogen a trial in the treatment of suppuration of the middle ear, but it decomposes on heating, which necessitates its employment at the temperature of the surrounding atmosphere. It is an unstable drug, and is often a positive irritant. I rarely use it, except as a test for the presence of pus.

In other cases a saturated solution of chromic acid or trichloroacetic acid, applied by means of cotton on a cotton carrier, successfully destroyed granulation-tissue masses. The air douche, either Valsalva's or Politzer's, at each syringing was used so as completely to evacuate the pus. This treatment carried out carefully twice daily will cure nearly all, if not all, cases of chronic suppuration of the middle ear in from one to three months, provided the suppurative process is not dependent upon caries or necrosis.

CASE III.—Chronic Otitis Media Purulenta with Caries and Necrosis of the Ossicles. M—, aged twenty years; occupation, nickel plater; the family history was good. He had had a purulent discharge from

his right ear since he was two years old, origin unknown. He had scarlet fever and measles during his sixteenth year, but the discharge from his ear was neither increased nor diminished thereby. The patient had made the rounds of a great many general practitioners and had taken a great deal of patent medicine without being benefited. The patient alleged that most of the physicians put him to work syringing his ear twice or thrice daily and packing it full of a white powder (boric acid) and cotton. On November 5, 1895, the patient came to my office. Examination revealed a discharge of offensive yellowish pus from the right ear, characteristic of caries or necrosis. The superior and posterior two-thirds of the drum membrane was gone. The handle of the malleus was shortened through necrosis. The osseous ring was roughened. There was tinnitus and occasionally earache and vertigo. His hearing power was diminished amid noises. He occasionally experienced difficulty in ascertaining the direction whence sound came. The vibrating tuning-fork placed on the vertex was heard rather better in the right ear. The watch was heard at a distance of six inches.

The treatment described in case No. 2 was employed for two months, as the patient wished to try the effects of systematic local treatment for two months before submitting to surgical operation. Local treatment failed to stop the discharge.

Under a general anæsthetic the rest of the drum membrane, the necrosed incus and malleus were removed with some cholesteatomata, and also a mass of granulations from the attic. The osseous ring was scraped with a ring curette. The operation did not last longer than three minutes, as the hemorrhage was slight. The identity of the malleus and incus was almost destroyed by necrosis.

After the operation, the ear was cleansed daily with a mild antiseptic solution, dried with cotton, and a few drops of borolyptol were instilled. The ear was closed with a pledget of absorbent cotton. All discharge had ceased in three weeks, and the patient was dismissed. His hearing was improved. He could hear the watch at a distance of two feet.

The history of the foregoing cases represents fairly well the three prevailing types of suppuration of the middle ear. The line of treatment employed in each class of cases has been successful in my hands.

The frequent earaches of children, which prevail in winter and spring, when sudden changes occur in the temperature, are often the forerunners of suppuration of the middle ear. Since 1889, owing to the prevalence of the gripe, the list of ear troubles has been enlarged. A large number of cases of suppuration of the middle ear is caused by diving or ducking the head. Even hunting-dogs that dive have otitis media and become deaf. Naso-pharyngeal catarrh, dentition, scarlet fever, measles, diphtheria, whooping-cough, phthisis, etc., are among the most frequent causes of suppuration in the middle ear.

Pott's Disease.—Dr. Lovett, in his article in the *Medical News*, advocates treatment of this disease by recumbency, rather than by ambulatory measures, during the acute stage. He considers that apparatus is intrinsically imperfect, and that it is incumbent upon the surgeon either to insist upon treatment by recumbency or to transfer the responsibility of ambulatory treatment to the parents. This is carried out by having the child lie upon its back upon a frame. The addition of traction to the head and legs he believes to be of benefit, and that it hastens recovery by quieting muscular spasm and improving the position of the spine.

Surgical Suggestions.

Chronic Leucorrhœa.—In a large proportion of cases, more distinctly beneficial results have been derived from the long-continued employment in small doses of arsenical preparations or combinations, such as Donovan's solution, than from any other class of medicine used in the constitutional treatment of chronic leucorrhœal cases generally.—MORE MADDEN.

When Shall We Trephine?—(1) In any fracture of the skull, either simple or compound, when there are symptoms of intracranial mischief. (2) If there is much localized depression, indicating the probability of either immediate or remote consequences. (3) In all cases of punctured fracture. (4) For the removal of foreign bodies. (5) In cases of compression of the brain from blood, pus, or tumor, when the offending cause can be located with a reasonable degree of certainty. (6) In cases of epilepsy, when the traces of the injury originating the disease can be recognized.—BUECHNER, *International Journal of Surgery*, May, 1896.

Objections to Whitehead's Operation.—Dr. Matthews read a paper upon this subject before the Marion County Society (Indiana) recently, and his conclusions were as follows: (1) It cannot be advised except in selected cases; (2) an anæsthetic is necessary in order to do the operation; (3) full and complete paralysis of the sphincters is necessary; (4) the operation is difficult, tedious, and bloody; (5) if union does not take place by first intention, pus accumulates and the result must be an ugly one, if not dangerous, and invites sepsis; (6) it is recommended in doing the operation to remove the whole of the hemorrhoidal plexus which is not necessary to the curing of piles; (7) it can be maintained that secondary hemorrhage is more likely to occur than after the ligature; (8) the function of the parts is greatly impaired.

To Open an Abscess.—Do not use the old-fashioned curved bistoury in opening the simplest abscess. It is unsurgical, because you proceed from within outward—from the unknown to the known. This is a false principle in philosophy, in surgery, and in everything. Cut from the surface inward and you can deal with difficulties in the order in which they occur. Always work with the aid of sight and do not pin your faith on anatomy.—*International Journal of Surgery*, May, 1891.

Purulent Ophthalmia and affections of the cornea, syphilides, etc.:

R Salicylate of cadmium gr. iss.
Aque fl. ʒ iiss.
M. S. Use as a collyrium.

Malarial Hæmaturia, so called, is antimalarial; that is to say, some substance freed or formed by the dissolution of the blood, possibly the hæmoglobin itself, is antimalarial. The facts bear out this statement clinically.—E. R. MARTIN, *Memphis Medical Monthly*, 1896.

Varicocele.—Dr. Rand gives the following as the three principal causes: First, anything that impairs the general vigor of the part, as: 1, Lack of proper support from relaxed scrotum; 2, masturbation; 3, abuse of venery, ungratified desires, etc.; 4, chronic orchitis or repeated attacks of acute orchitis. Second, anything that produces pressure; as: 1, abdominal tumors; 2, enlarged inguinal glands; 3, hernia; 4, trusses or belts worn around the waist; 5, accumulation of fat in the omentum and mesentery. Third, anything that produces prolonged muscular effort; as:

1, prolonged riding on horseback; 2, prolonged rowing; 3, prolonged exercise in running or waltzing; 4, excessive and violent muscular effort; whooping cough, sometimes.

Injection in Gonorrhœa and Vaginitis.—

R Salicylate of cadmium ʒ ss.
Aque dest ʒ vi.
M.

—CESARIS.

Tracheotomy.—The necessity for performing tracheotomy may arise when the surgeon is unprovided with tracheotomy tubes. Disinfect a fairly large hairpin, and bend both ends at a rather acute angle at about the middle of their length. The ends of the branches may then be twisted into small hooks or rings, to which tapes may be attached. The blunt end of the hairpin is inserted in the trachea, and the branches tied by tapes fastened behind the neck. This will serve until proper tubes can be procured. Failing a hairpin, take a stitch on each side of the opening in the trachea with stout silk, and tie the ends behind the neck. Any piece of iron or copper wire, of suitable size, may serve as well or better than the hairpin.—*Alabama Medical and Surgical Age*, April, 1896.

Amputations.—Beyond the saving of blood and as much of the limb as possible, I have never practised any fixed rules as to how to amputate, even in the formation of flaps. We should make the flap always with a view of saving as much as possible of the limb.—DR. WYETH.

Ulcer of Stomach.—When perforation does take place, one of three conditions obtains: (1) If adhesions are scanty, the stomach contents escape into the general peritoneal cavity, and a general peritonitis results. Such is apt to be the case in anterior perforations in which adhesions are the exception, on account of the mobility of the anterior stomach wall or of the adjacent hollow or solid viscera; (2) Adhesions may form and the abdominal contents escape slowly. In these cases there is a localized peritonitis which may advance to an abscess, or the barriers of lymph may yield, especially if on the anterior wall, and a general peritonitis follow, as often happens in appendicitis. If the perforation presents itself posteriorly, the lesser peritoneum may become involved, and a large food of abscess result—subphrenic abscess. Very rarely it has happened that an adherent perforation has produced an abscess in the liver, without other lesion. Abscesses in the spleen are more frequent. (3) Adhesion of the stomach and discharge of its contents into a hollow organ may occur. This is a very infrequent complication, which needs only to be mentioned.—DRS. WEIR and FOOTE, *Medical News*, April 25, 1896.

Fracture of Patella.—Dr. Geo. R. Fowler's method consists in exposing the fragments as an intermediate procedure, i.e., after the immediate effects of the injury have subsided and before ligamentous union has occurred, for the purpose of clearing their surfaces of intervening soft parts, and the application of fixation hooks resembling Malgaigne's, though a single and not a double pair is employed. The incision is made either vertically, transversely, or U-shaped, as indicated, and the hooks are inserted in the line of incision when possible, to avoid separate skin wounds. After carefully removing everything from between the fragments and applying hooks, the parts are stitched with subcuticular silk suture, sterile gauze and cotton are applied, and the limbs are enveloped in plaster-of-paris splints for three weeks, at which time the hooks are removed.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GLEANINGS FROM CARLISLE—THE "JOURNAL" AND LIBELS—PUBLIC HEALTH SERVICE—VACCINATION—NIGHT SHELTERS—ARMY MEDICAL SERVICE—THE VACCINATION REPORT—THE LATE SIR J. MILLAIS—THE THIRD INTERNATIONAL CONGRESS OF DERMATOLOGY, HELD AUGUST 4 TO 8, 1896.

LONDON, August 14, 1896.

A WRANGLE about the *Journal* is the new diversion with the British Medical Association, and at Carlisle was expected to be more piquant than usual in consequence of the recent action for libel against the editor. No one doubts his general astuteness and his ability as a journalist, and it must needs be that discontent will here and there be manifested. But the usual difficulties do not necessitate a perennial crop of grievances. The reference committee seems to have failed. It was said that the libel action would not have been taken had this committee been appealed to, which looks like a confession that an apology would have been tendered. But libels ought not to be uttered, and then apologies would not be required. It is a common impression, too, that no redress is obtainable for any wrong done by the *Journal* unless it is extorted by legal means. There is a number of men in London who are glad that the libel case was tried, because they have in the past been, as they think, victims of similar injustice.

Dr. Kingsbury proposed that no anonymous attack on any individual should appear in the *Journal* without the approval of the president of the branch of which he is a member. The editor said they could "pass such a resolution if they pleased, but then they might as well tear up the *Journal* and close the association." This is an amazing confession, suggesting that the words must have been misunderstood, but they have been duly printed in the *Journal's* own report of the speech. Surely the *Journal* and the association do not exist on anonymous attacks on individuals.

In the section of public medicine there was a discussion on "The Profession and the Public Health Service," by Drs. Nasmyth, McVail, Sykes, Ross, Scurfield, Paget, and others. Most of the speakers were employed in the service and it was natural we should hear of some of their grievances and also their defence about the excess of zeal which has been charged upon them. No doubt they have difficulties to contend with, which occasionally cause friction with other medical men. This has especially been caused by the presumption of a few in visiting other men's patients. It has been decided by the local-government board that they have no right to do so except with the attendant's consent. It is to be hoped, therefore, we shall have no more cases of this excessive zeal.

Dilatoriness in notifying was charged against some practitioners, but the officers of health should remember the difficulties of attendants. It is necessary to avoid mistakes, and the earlier the stage the more uncertain the diagnosis of most infectious diseases. Some speakers admitted that the notification certificate ought never to be questioned, though one or two thought exceptional cases would occur in which a consultation with the attendant should be sought.

Dr. J. A. Dick, of Sydney, gave an account of the failure of an attempt to obtain a voluntary notification of diseases by a medical society of Sydney. A circular was sent, requesting a table to be filled up with certain details which could not be objected to by any one. But the response was a complete disappointment. He hoped this might not damp the enthusiasm

of Dr. Newsholme for a national system of registration of sickness.

Dr. C. R. Drysdale read a paper advocating vaccination and revaccination with animal vaccine, as is required in Germany. He gave a large amount of information and statistics of various countries to demonstrate that vaccination in infancy followed by revaccination at twelve years of age or thereabouts would rid the country of the ravages of small-pox, and that it would hasten this desired end if calf lymph alone were to be employed.

Drs. Gaustang, McVail, and Groves supported Dr. Drysdale's views, and the section passed a resolution that calf lymph should be universally available from a department of State.

Drs. Waldo and Walsh had a joint paper on night shelters, in which the Salvation Army plan was subjected to critical examination with respect to its influence on the public health. It appears that these shelters entail a considerable expense on ratepayers. In one case the direct cost to ratepayers through shiftless paupers being attracted to the locality was stated to be over £800 and to entail the further burden of maintaining some of these paupers for the rest of their lives. A resolution was carried that all night shelters should forthwith be placed under the common lodging-houses act—a view I have previously advocated on other grounds.

Lord Wolseley has been to Netley and distributed the prizes. It was thought he might have an announcement to make about the promised new warrant. But no—he applied unlimited "soft soap" to army surgeons in general and declared of one that he knew no one he would rather have with him in a storming party. Expectation was on tiptoe for the natural corollary, but it came not. Lord Wolseley is a "combatant officer" and would keep down "non-combatants." Even one he would like with him in a storming party is after all a mere civilian, and as such must be denied military rank or position. A natural result of such stupidity is seen in a revelation in parliament the other day, that the government has been able to secure only five candidates more than the actual vacancies to compete for appointments on the medical staff. Competitive, indeed! Must the marking be lowered to fill the appointments?

The vaccination report is said to be signed. It will be issued very shortly and the air is full of contradictory rumors as to its contents. It ought to be of value after seven years' preparation.

I have just heard that Sir John Millais died yesterday afternoon. As president of the Royal Academy of Art, his illness was regarded with much sympathy by the public. His disease was epithelioma of the larynx, which remained in a chronic state for a considerable time, but lately assumed a more active form with attacks of hemorrhage. On Wednesday night the temperature rose to 104° F., which was considered due to septicæmia, and he died the next afternoon.

AUGUST 17, 1896.

This year the dermatologists swept down upon London and during the first week in August occupied the spacious examination hall of the Conjoint Colleges of Physicians and Surgeons on the Thames Embankment. As usual, the work of the meeting was split up into sections, of which the clinical demonstrations and the museum were perhaps the most important. Patients were shown every forenoon from 9 to 10:30, and every afternoon from 2 to 3, while four hours daily were set aside for papers and discussions. If we add the time taken up by oddments, such as lantern demonstrations and general meetings, it will be evident that the scientific pabulum supplied by the congress was of a plentiful and solid nature.

As one would expect, the address of the president, Mr. Jonathan Hutchinson, was broad and philosophical. He pointed out that a generation ago the pure dermatologist was a *rara avis in terris*, whereas he was now to be reckoned by the score. This result he attributed in part to the existence of cheap printing and cheap travelling. Not only were the originals and translations of scientific books within the reach of every one, but it was also easy to visit such historic shrines as the Hôpital Saint Louis or the clinics of Vienna. After all said and done, however, Mr. Hutchinson doubted whether dermatology had more than embarked upon its fuller mission. Many considerations of the utmost value to general pathology could nowhere be more readily worked out than in the skin. From the study of lupus we learned that a tuberculous process may be localized in one patient for a lifetime, progressing only at the borders and never becoming generalized. Still, in the first stage of lupus there was frequently a potency for remote infection, and in such cases the affection was multiple. Diagnosis should be based on essential nature and not upon external appearance. One of the great wants of the specialty was a natural classification of diseases of the skin. The great problem before dermatologists was undoubtedly that of etiology. With the latter proposition every one acquainted with the inwardness of this branch of study would at once cordially agree. An enormous mass of facts had been garnered, and masterly clinical descriptions abounded. But notwithstanding the great advances that had been made, a vast *terra incognita* still awaited the explorer. In England the study of dermatology had never been disassociated from that of general medicine.

The clinical demonstrations were crowded daily by members, many of whom were men of world-wide fame. Naturally a number of the cases, by reason of their rarity, had little interest except to dermatologists. On the other hand, not a few had a practical general value, both as types of disease and as illustrating the effect of various modes of treatment. Thus, Mr. Malcolm Morris showed a case of extensive lupus cured by scraping and the external application of pyrogallie acid. He applied the drug at first in ten-per-cent. ointment, changed every six hours, and rapidly reduced its strength to one per cent. This plan, however, could be carried out only with the patient under observation, as several cases of poisoning from absorption of the drug had been recorded. The indication to stop the acid was smokiness of urine. For out-patients it might be used cautiously in a two-per-cent. strength. Dr. Payne showed a woman who four years since suffered from a severe lupus erythematosus of the face. The disease had entirely disappeared, leaving some inconspicuous scars. Treatment consisted in large doses of quinine (thirty grains daily), and, what most people will regard as of more importance, the external use of a collodion containing five per cent. of salicylic acid. Dr. Radcliff Crocker exhibited a patient in whom a number of granulomatous tumors the size of small marbles had vanished under the internal use of salicylate of soda. In another case a leprosy of the face had very considerably improved under hypodermic injections of corrosive sublimate. During six months forty-five such injections had been given. Dr. Abraham showed a case of Kaposi's disease, the diagnosis of which was confirmed by the distinguished discoverer in person. In another instance Bazin bore out the demonstrator of the disease which bears his name. These incidents afford a striking evidence of the value of such international gatherings. As a matter of course, many curiosities were exhibited. Dr. Walsh showed three cases of linear and arborescent atrophoderma. In two it was associated with rheumatism, and in a third with necrosed

bone. The condition was anomalous. There were several other cases for which the united wisdom of the congress failed to find a name. Dr. Connor brought two twins, eight or nine years of age, who two years before suddenly developed a crop of black freckles round the mouth and also on the mucous lining of the lips and the hard palate. Dr. Eddowes exhibited his own legs, which had well-defined eczematous patches caused by *Primula obconica*. He applied leaves of that plant for six hours, and a rash followed after an interval of fifteen days while sweating freely in a hot room. Dr. Waldo showed a curious lichenoid form of lupus, which is figured in Mr. Hutchinson's "Smaller Clinical Atlas." Indeed, many of the cases were familiar from various published illustrations. Patients were also exhibited by Dr. Colcott Fox, Dr. Pringle, and other well-known dermatologists. These demonstrations were attended by a number of non-specialist physicians. It is interesting to note that little mention was made of thyroid gland, although it is being extensively used in the treatment of many skin diseases.

The next great educational feature of the congress was the museum, which included both general and bacteriological exhibits, under Dr. Sims Woodhead as director, and Dr. Galloway and Mr. Plimmer as secretaries. Of the collection thus brought together one can hardly speak too highly. On all sides one heard the complaint that it was impossible to mark, learn, and inwardly digest more than a limited part of its closely packed contents. There was a capital show of pictures, some of which, for execution and artistic handling, apart from subject, might have graced the line at the academy. Photographs were there in hundreds, notably a magnificent collection from Professor Fournier, of Paris. These sun pictures show what can be done by the photographer in the way of illustrating diseases of the skin. Certainly, in that direction England is far behind several continental countries. Neisser, of Buda-Pest, sent a number of lifelike photographs of morbid conditions. Viewed through a stereoscope, they stood out in bold and sometimes in startling relief, and showed what a valuable aid to teaching might be found in this simple instrument. A fine case of wax models came direct from the collection of the famous Hôpital Saint Louis, while various London medical schools contributed a number of models, specimens, and casts. The microscopes were in hundreds, and their slides were constantly changed. A living *filaria sanguinis hominis nocturna* was shown, and the same parasite was shown in the thoracic muscles and in the stomach of a mosquito. The organisms of *seborrhœa*, a disease which is now attracting universal attention, were shown by Van Hoorn, of The Hague, who has isolated three forms, two of them for the first time. There were many slides of leprosy, *madura foot*, *frambœsia*, as well as of the commoner diseases of the skin. The literature of the subject was illustrated by a large collection of pamphlets, books, and atlases of all shapes, sizes, and periods. But the pervading, prominent feature of the congress was undoubtedly ringworm. An afternoon was devoted to the discussion of that interesting fungus, to say nothing of various lantern demonstrations. Saboraud, the pioneer of the subject, sent a magnificent collection of cultivations of various kinds of *tinea*, both from the human subject and from the lower animals, such as the cat and the horse. There were also two similar Italian and two English sets. Of the last mentioned Dr. Adamson's was notable and extensive. His work has been chiefly among the large-spored varieties, which furnish only about ten per cent. of the total number of cases in man, the rest being of the small-spored kinds. At present the study of the *tinea* fungus is in its early stages, but there can

be no doubt that the rapid accumulation of facts will soon enable observers to arrive at important conclusions. The more we know about this harmful parasite the sooner shall we be able to exterminate it. The matter affects the whole civilized world, and its solution has a special bearing on the medical advisers thereof.

As to papers and discussions, they were manifold, and delivered in a polyglot that was not always confined to the three "official" languages of the congress, namely, English, French, and German. He who would learn what was said will find it written in a volume of proceedings to be issued shortly to members.

So much for the work of the congress, and, sooth to say, its play was nearly as varied and arduous. On Monday the foreign members were informally received at the Café Monico. On Wednesday there was a reception by the lord mayor at the Mansion House, on Thursday a reception at Dr. Stephen Mackenzie's. On Friday a brilliant banquet to the visitors was held at the Hotel Cecil. Among the speakers were Professor Kaposi, Besnier, Lassar, Unna, White, Schwimmer, Campana, and Tarnowski. On Saturday the president invited members to his country house at Haselmere, where they had a further invitation to the house of the late poet laureate, Lord Tennyson.

It was agreed to accept the invitation to hold the next congress at Paris in the exhibition year, 1900.

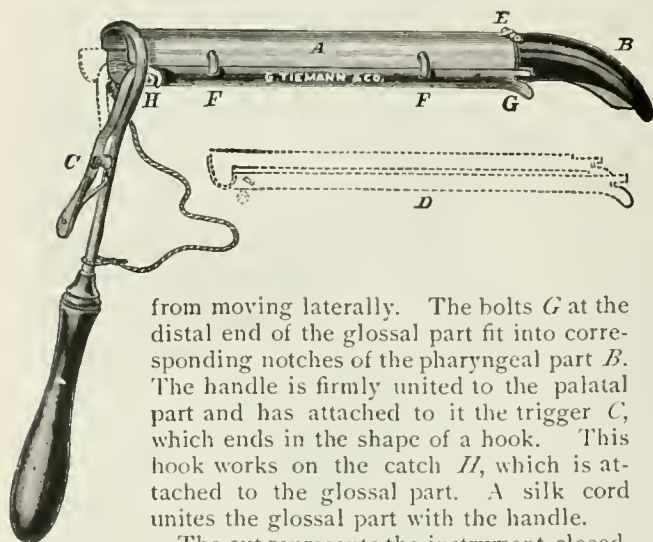
On the whole, the generally expressed opinion is that the London congress has been the most successful gathering of the kind that has yet taken place, whether regarded from a scientific or from a social point of view.

New Instruments.

A DIRECTOR FOR THE STOMACH TUBE.

By MARK I. KNAPP, M.D.,
NEW YORK.

THIS instrument is practically a metal tube curved at the distal end and cut in two horizontally, the lower part of the curved portion being absent. Thus the instrument consists of three parts: *A*, the palatal; *B*, the pharyngeal, which is united to *A* by the hinge *E*; and *D*, the glossal part. *FF* are projections soldered to *A* to prevent the glossal part



from moving laterally. The bolts *G* at the distal end of the glossal part fit into corresponding notches of the pharyngeal part *B*. The handle is firmly united to the palatal part and has attached to it the trigger *C*, which ends in the shape of a hook. This hook works on the catch *H*, which is attached to the glossal part. A silk cord unites the glossal part with the handle.

The cut represents the instrument closed. This closure is effected in the following manner. First, the pharyngeal part *B* is raised; then, the handle being held with the right hand and the thumb placed on the lower lever of the trigger, the glossal part is taken

between the left thumb and index finger, its catch *H* is brought within the hook of the trigger, and then it is opposed to the palatal part within the projections *FF*. Then the right thumb presses upon the trigger, which brings the glossal part backward, and after the pharyngeal part has been brought down with the left little finger and so held, the right thumb releases its hold from the trigger, which springs the glossal part forward, the bolts *G* entering the notches in *B* and closing the instrument. Simply touching the trigger with the thumb opens the instrument instantly.

The chief advantages of this instrument are two in number: first it may be used as a director and secondly it enables us to dispense entirely with the will of the patient. As a director it absolutely prevents the stomach tube from going anywhere else but into the cesophagus, thus excluding the possibility of its entering the larynx, an accident that every now and then occurs. All that is to be done to insure safety is to bring the director with the tube inserted well back to the posterior pharyngeal wall, and the tube, which must be previously lubricated with warm milk, is then pushed down with the left hand. The time required for arranging the director and getting the stomach tube into the stomach should hardly exceed one minute. This director, dispensing with the will of the patient, at once suggests its utility in children and in nervous patients. Its chief value is in cases of attempted suicide, in which the stronger the patient bites the better the instrument holds after the mouth had once been opened.

In ordinary cases the director could be removed as soon as the stomach tube is about one inch beyond the epiglottis: *i.e.*, as soon as the sensitive parts of the fauces, pharynx, and epiglottis are passed. (The choking and gagging of the patients, especially in nervous cases, are due only to the tube passing those parts and irritating them, which is overcome by the director.) But in cases of suicide, the director must be left in the mouth during the whole washing, when it acts at once as mouth gag, tongue depressor, and director. This director could also be used as speculum for topical applications.

This instrument is made in two sizes, one for adults and one for children.

280 BROOME STREET.

Tight Lacing.—Dr. F. Schuman Leclercq (*Virginia Medical Semi-Monthly*, May 22, 1896, p. 103) says that according to Naunyn there is found constricted liver from lacing in from 20 to 20.5 per cent., but Schroeder states this malformation to be present in 59.5 per cent. When we stop to consider that even moderate lacing impedes considerably the flow of bile without necessarily giving origin to an anatomical groove of constriction, we can claim even a higher percentage of gall-stone disease as being called forth by lacing. However, even the tying of skirts around the abdomen will in due time at least relax the abdominal muscles and interfere with the abdominal pressure, or bring forth other active etiological agents, such as tractions on the gall ducts, on the ligaments, interference with the physiological gall-bladder contractions, causing floating kidney, etc. Any corset and any tight lacing of skirts around the waist must needs in time dislocate at least the liver, or stomach, or colon to a more vertical position, and tractions between these organs will ultimately loosen the protective, complicated, ligamental apparatus of nature. We cannot, therefore, praise enough the honest and noble efforts of the reform corset movement with skirt suspension from the shoulders.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 22, 1896:

	Cases.	Deaths.
Tuberculosis.....	164	93
Typhoid fever.....	48	10
Scarlet fever.....	12	1
Cerebro-spinal meningitis.....	1	3
Measles.....	57	5
Diphtheria.....	73	12
Small-pox.....	0	0

Gastric, Intestinal, and Rectal Hemorrhage.—

Dr. Manley says that while bleeding through the anus is in a general way not to be viewed with the same alarm as that coming from the lungs or stomach, when the hemorrhage is considerable in quantity or persistent it should not be viewed with indifference. The effects upon the stomach are quite invariably emetic; upon the bowels, purgative. Pathological lesions which open the way for gastric hemorrhage are simple ulceration, tuberculosis, or cancer. It is a common clinical observation that large gastric hemorrhage is common among females at puberty and the menopause, and is rarely fatal. *Per contra*, such hemorrhage is extremely rare and also of very serious import in a male, excepting that type of hæmoptysis so general among hard drinkers. In the case of a female, preceding these large hemorrhages there is usually a period of indigestion, anæmia, and loss of strength. Recovery seems to be complete. If the cardinal lesion in these cases is tuberculous ulceration, the bleeding would seem to be a specific. Malignant disease of the stomach is rarely attended by large bleeding. In young men of good habits, sudden or repeated gastric hemorrhage is a most suggestive sign of sarcoma. In the incipient stage of this disease the most pronounced symptom is a severe anæmia with rapid wasting of flesh. It is only when the disease advances upward and reaches the peritoneum that suffering begins. Hence it is that cancer of the viscera becomes recognizable only when it has advanced so far that relief by operation is out of the question. Sarcoma of the stomach is widespread, and is unlike malignant epithelial infiltration (which primarily almost invariably attacks the pylorus); bleeding from the intestine—as in the course of typhoid—is manifest only when evidence of mortal exsanguination, or a state close to it, is apparent; deep shock, collapse, and syncope, all appear in rapid succession. Tuberculous ulceration, though common enough, rarely gives rise to hemorrhage. Malignant disease of the small intestine is rare as a primary affection. Hemorrhage, except at the rectal terminus of the large intestine, is uncommon, if we exclude dysenteric ulceration. As a symptom of surgical lesion it is found in cases of invagination in young children. Any type of ulceration may give rise to bleeding, though this part of the alimentary canal, being devoid of lacteals or peptic glands, is the least vascular.

Traumatic hemorrhage of the colon is extremely rare. When it occurs the blood is ejected in considerable amount undigested and imperfectly coagulated. The colon is so placed that it is well protected against the effect of traumatism. Rectal and anal hemorrhages usually occur from areas close to the verge. By digital examination it is possible to reach into the rectum as far as the insertion of the peritoneal coating or the

beginning of the sigmoid flexure. This marks the utmost limit of direct surgical manipulation. Among predisposing causes of anal and rectal hemorrhage are: the mechanical impediment to circulation peculiar to this situation, the almost vertical direction of the efferent vessels in the standing position, the absence of valves, and the irregular habits of life among human beings—for it does not appear that rectal disease is anything other than very rare in the lower animals. The most common cause is a hemorrhoidal or varicose state of the vessels about the anal verge. Tuberculous, next to simple, ulceration of hemorrhoidal walls is the most prolific cause of exhausting hemorrhage from the anus. Cancer ranks third in frequency. Cancer of the rectum, like the visceral type elsewhere, is not very painful in the beginning, and, with unusual exceptions, large or frequent hemorrhage is not present even when the disease is making most rapid headway and is spreading into contiguous parts. The immediate cause of hemorrhage from the anus is through straining at stool, when a thin-walled, widely distended tumor ruptures. Arterial papillomata of the rectum are not uncommon causes of most exhausting depletions. In these cases the mucous membrane of the rectum investing the external sphincter is studded with minute raspberry papillæ, which are apparently devoid of an epithelial investment and bleed on the least irritation. Operative bleeding from the rectum is a most serious complication in those whose general health is enfeebled, who have become anæmic, or who have been exsanguinated by previous vascular drains. When profuse operative hemorrhage arises on division of large, thick-walled veins, and the momentary gush for an instant floods everything, moderate compression will promptly subdue it. In operating here, as elsewhere, the divided arteries give issue to the greatest loss of blood. If operating within the lumen of the bowel, nothing less than a thorough and complete dilatation of the external sphincter will enable one to expose those arteries which ramify through an area of loose connective tissue and quickly retract far up out of sight. The best way to provide security against dangerous hemorrhage in operative manipulation is to be well prepared for it, and close every bleeding point as we proceed with each stage of the operation. Hemorrhage in all operations on the rectum for malignant disease is often quite unmanageable. In these cases the coagulation is enfeebled. In opening up through an osseo-ligamentous structure like the sacrum in posterior sacral resection, we will note that the vessels are thin-walled, and many of them ramify through tortuous canals or paths in cancellous bone tissue, or through the inter-ligamentous spaces, in places where it is very difficult if not impossible to secure the mouths of spouting vessels. Post-operative or secondary hemorrhages after operations on the rectum are comparatively rare. The rule should be always to secure bleeding arteries before returning the prolapsed bowel within the sphincter. By the adoption of such measures as will insure prompt and safe hæmostasis, there will be but little danger of a large secondary oozing, though, unless all arterial leakage is arrested by ligation, torsion, or the thermo-cautery at the time of operating, dangerous secondary hemorrhage may follow. After the sphincter has contracted and the dressings are applied, the blood, instead of making its way outward, may drain into the empty intestine. The evidence of its presence there is only made manifest by a death-like pallor of the patient, with a thready pulse and impending syncope. The surgeon must judge from constitutional symptoms as to whether hemorrhage is occurring. In many small angiomatic papillæ with sessile bases and deeply embedded vascular rootlets, the thermo-cautery is invaluable; with vessels of larger bore, secure ligation

constitutes our main reliance. The patient should always be watched for several hours after operations within the sphincter. Should hemorrhage ensue, palliative treatment may be adopted for a while, and, this failing, the patient must be put upon the table, the sphincter redilated, and the bleeding point found and secured. Symptomatic hemorrhage from the rectum in persons of full habits must not be confounded with the presence of local lesions. It is nature's way of seeking an outlet for overdistended vessels, and may be avoided by the use of purgative medicine and care in regard to diet. Hemorrhage from tuberculous ulceration is sometimes very profuse. These ulcers usually lie in the posterior wall of the gut. Cancer of the rectum, at least in the early stages, is seldom attended with bleeding. In all these cases pain is a prominent symptom during the act of defecation, but hemorrhage is seldom seen. Gummatous masses usually infiltrate the non-vascular stratum of lymphoid tissue, which near the outlet of the rectum is of unusual thickness. The hyperplasia which they cause may produce stenosis, but rarely ulceration or hemorrhage. Hemorrhage succeeding tuberculous ulceration of the rectum should be treated by local applications and attention to the general health.

The author concludes: Hemorrhage from the rectum may be symptomatic of constitutional or organic disease, as plethora or hepatic congestion. In consequence of a lesion of some part of the digestive tube, anywhere from the flexure to the cardiac end of the stomach, blood may escape, changed or unchanged, through the rectum. The local lesions, in their order of frequency as a source of hemorrhage in the ano-rectal outlet of the intestine, are: (1) hemorrhoids; (2) simple or tuberculous ulceration; (3) malignant disease. Treatment includes constitutional and local measures. Hemorrhage from simple, tuberculous, cancerous, dysenteric, or typhoidal ulceration in any part of the digestive tube above the rectum, is quite beyond relief from direct surgical methods, and hence its treatment must, for the present at least, remain within the domain of medicine. Surgical treatment of hemorrhage of the rectal pouch and anus, when non-malignant, is generally practicable, safe, and permanent in results. In order, however, to be rendered effectual and definite, thorough dilatation of the anus and eversion of the rectum are imperative, that the bleeding points or source of hemorrhage may be brought under the immediate eye for direct and effective treatment. When bleeding succeeds hemorrhoids for the first time, or when its quantity is small, moderate catharsis with simple astringents in the form of suppositories will favor its arrest without recourse to radical or severe methods.—*The Therapeutic Gazette*.

Innervation of the Intestines.—Pal states that not only the stomach, the small intestine, and the upper third of the colon are innervated by the vagus, as hitherto accepted, but also the whole of the colon and rectum. He experimented on curarized dogs, endeavoring to determine whether there were any controlling motor centres for the intestines below the splanchnic centres in the spinal cord. Simple section of the dorsal portion of the spinal cord (from the sixth to the tenth dorsal vertebrae), causes more violent movements when stimulus is applied to the vagus. If the lower dorsal or lumbar vertebrae are removed, the intestines assume a different appearance. (Animals from one-half to one and a half years are best for these experiments.) The vessels become fuller, the intestinal walls thicker, and the intestine itself begins to move with a peculiar motion resembling the pendulum swing of a rabbit's intestines. Stimulus applied then to the vagus produces a much stronger action than before, with a noticeable shortening of the time between

the stimulation and the response. If, however, the lower part of the spinal cord is removed and the nervi splanchnici are severed, the intestines also assume the above conditions. When then the vagus is irritated, violent peristalsis ensues, but this movement is controlled by applying stimulus to the stump of the splanchnicus, which proves the existence of other centres in the spinal cord below the splanchnicus, controlling the peristaltic action of the intestines.—*Centralblatt für Physiologie*.

Late Phlebotomy Best.—Lady (who has a sick husband).—Don't you think, doctor, that you ought to bleed my husband?

Doctor (absent-minded).—No, madam. Not until he gets well.

La Société d'Autopsie Mutuelle, of Paris, was organized in 1876, and has about one hundred members, all scientists of note, several of whom are women. It has for its purpose the placing of the brains of its members at the disposal of surviving members for examination and dissection. Fourteen brains, neatly catalogued, are now contained in a glass case at the end of the meeting-room, and the fifteenth, which was during life the property of M. Abel Havelacque, rector of the Anthropological Society, now rests immersed in alcohol on the table of the dissecting-room, where the man's former associates will meet to weigh, probe, cut, and discuss it.—*Medico-Surgical Bulletin*.

Dental Forceps.—There are about two hundred different styles of forceps made for dentists' use, varying in the sizes and forms of the beaks and in the shapes of the handles. They are made not only to suit every need in practice, but every personal requirement of the practitioner.

It Makes Them Tired.—Foster, the physiologist, says: "The blood of the tired animal is poisoned, and when injected into another animal causes the phenomena of fatigue."

Hasty Delivery of the fœtus is a frequent cause of post-partum hemorrhage.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Volume VIII., Diseases of the Digestive Organs. 8vo, 667 pages. Illustrated. Muslin, \$5.00; leather, \$6.00; half morocco, \$7.50. Wm. Wood & Co., New York.

THE AMERICAN ACADEMY OF RAILWAY SURGEONS. Report of the Second Annual Meeting. 12mo, 221 pages. Illustrated.

MANUAL OF MIDWIFERY FOR USE OF STUDENTS AND PRACTITIONERS. By W. E. Fothergill. 12mo, 484 pages. Illustrated. The Macmillan Company, New York. Price, \$2.25.

A MANUAL OF OBSTETRICS. By W. A. N. Dorland, M.D. 12mo, 760 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, \$2.50.

PRACTICAL POINTS IN NURSING FOR NURSES IN PRIVATE PRACTICE. By Emily A. M. Story. 12mo, 456 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, \$1.75.

A SYSTEM OF SURGERY. Edited by Dr. F. S. Dennis, assisted by Dr. John S. Billings. Volume IV. 8vo, 970 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

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Original Articles.

THE DIAGNOSIS OF TUBERCULOSIS FROM THE MORPHOLOGY OF THE BLOOD—AN ORIGINAL RESEARCH, WITH REPORT OF CASES.¹

By A. M. HOLMES, A.M., M.D.,

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It is well known that if the diagnosis of tuberculosis be delayed until it is confirmed by the discovery of tubercle bacilli in the sputum, the most important period has been neglected. When bacilli are found, the patient is already in the active state of the disease, and, in many cases, it is then too late to check it. Therefore the first step in the prevention of tuberculosis should be an early diagnosis. If this can be done before the active state begins, or at its beginning, many may avoid or at least delay the destructive results which otherwise would soon follow.

Authorities quite agree that in tuberculosis there exists a shorter or longer latent or pretuberculous state. This may be inherited or acquired. They also agree that the leucocytes of the blood are tissue-formers. During this so-called latent period the body is undergoing retrograde changes. The body tissues are being constructed of the leucocytes of the blood. Hence it occurred to me recently that, before the disintegration of the gross tissues of the body begins, the blood would show distinct and characteristic signs of a similar nature; and, if so, that a study of these appearances could be made a valuable means of diagnosis in this disease. With this in view I selected a few patients with pronounced tuberculosis, and carefully studied a specimen of blood from each. With each specimen I used absolutely the same technique with reference to taking the films, fixing, staining, and mounting.² Afterward cases with similar blood characteristics were grouped together, and to my surprise I found a remarkable similarity in the histories and clinical symptoms. Hence these studies have convinced me that in tuberculosis the condition of the individual can be interpreted from the appearances of the leucocytes of his blood.

Whether the tuberculous condition be inherited or acquired, we find in such persons a tendency to a more or less extensive tissue disintegration. In tuberculous blood I have found cell disintegration abundant, and especially so in young and middle-aged leucocytes.

Hence the fundamental principle upon which this thesis is constructed is the hypothesis that every individual has a biological prototype in the leucocytes

of his own blood. What is true of the larger organism is true of the smaller. What is true of man is true of the leucocytes of which man is constructed. And conversely, what is true of the cell is true of the individual.

The laws of life are universal. There is no break in their continuity. They vary in degree and not in quality. There are degrees of simplicity and complexity, according to the level upon which the particular organism rests, with reference to its evolutionary ascent. From the primordial, non-differentiated, homogeneous protoplasm of the protozoon, and from the protozoon to homo, vital laws present an unbroken continuity. They do not exist in the cell and cease in the individual. They do not exist in the individual and cease in humanity. But the laws of sociology are the laws of biology, and the laws of biology are the laws of the cell. Hence, upon this hypothesis I shall attempt to show a relation of diagnostic value between certain morphological appearances in the leucocytes of the blood and certain conditions in the patient. For this purpose I shall attempt to show certain

Analogies Between the Leucocyte and the Individual—Analogy in Growth and Decay.—It is the opinion held by the majority of observers, Uskow, Gullard, Ehrlich, and others, that the various forms of leucocytes are mere stages or transitional forms in the life history of the cell. As the child develops by insensible stages to maturity and then declines, so the stages in the life history of the cell pass insensibly one into another.

The characteristics which point to the growth of leucocytes, and from which their ages may be approximately ascertained, are based upon two important phenomena: first, a differentiation or division of the nucleus; second, the appearance of granules in the cell protoplasm.¹

First. As a young leucocyte develops, the nucleus attempts to divide. It first changes from the spheroidal or oval form, by extending a portion of itself in various directions. The forms seen in this stage are characterized as "transitional forms." As the cell continues to develop, many of these nuclei completely divide. The cell then contains two or more nuclei and is called a polynuclear leucocyte.

Second. A very young leucocyte possesses very little cell body, being almost all nucleus. But as it develops the cell body increases in size. The cell body in young cells is non-granular, but is either transparent or basophile. As it develops we often observe a tendency to granulation, the granules at first being transparent or faintly basophile. In health they develop in the cell protoplasm simultaneously with the characteristic transitional changes in the nucleus. As the nucleus reaches the transitional or polynuclear form, the granules become more numerous and change from transparent or basophile to oxyphile. Hence, in health oxyphile granules are never seen except in transitional or polynuclear leucocytes or in mature cells. When they are observed in lymphocytes, or young cells, it indicates a prematurely developed cell

¹ Abstract from paper read before the Colorado State Medical Society, June 16, 1896. A full report of the cases is given in the proceedings of the society.

² It would require too much space to enter into the technique in this paper. I propose to devote a paper especially to this subject at some future time.

¹ The majority of staining-methods are useless in bringing out these characteristics of leucocytes. Hence they are of very little value in the study of tuberculosis.

protoplasm, or a nucleus endowed with low vitality and unable to divide.

Again, when leucocytes reach maturity and begin to decay, the granules of the cell protoplasm become less oxyphile and often faintly basophile. Hence, when phagocytes or mature leucocytes are observed with granules which are only slightly oxyphile, or with a basophile tint, we have a cell that is undergoing disintegration—a cell that is returning to its second childhood. Its granules were first basophile, then became oxyphile, and if the cell lives long enough they again become basophile.

But all cells do not pass through each of these stages. Neither do all children live to maturity and die in old age. As a person may die at any age, so may a leucocyte. As a child with a frail organism rarely reaches maturity, so frail leucocytes often die in their infancy. Leucocytes come from preexisting leucocytes, and here, as well as with the more specialized sperm and germ, the characters of the parent are handed down to the offspring. Hence, if it is correct to claim that an individual has inherited a strong predisposition to disease, it is certainly equally true of his leucocytes. For, as are his leucocytes, so is the individual.

Analogy in Structure.—The histology of the leucocytes, studied microchemically, shows that they consist of four tissues: chromatin and achromatin, tissues of the nucleus; spongioplasm and hyaloplasm, tissues of the cell body. Professor Ehrlich discovered that each of these tissues gives a specific reaction to stains, and that they react differently in health and in disease.

The spongioplasm is a network of delicate protoplasm in the cell body, which surrounds and encloses the globules of hyaloplasm, in the same manner that the skin, mucous membrane, and layers of fascia surround and enclose the larger animal organism and its anatomical parts.

The chromatin is also a network of extremely delicate nuclear protoplasm, which encloses and protects its more delicate tissue, the achromatin, in the same manner that the external membranes of the brain and nerves surround and protect the delicate tissues within them.

Analogy in Functions.—Von Recklinghausen and Cohnheim demonstrated that the leucocytes possess distinct and independent functions. They receive food, grow, migrate, construct, generate, and eliminate. Hence we find in them functions exactly analogous to those in the larger animal.

Analogy in Disease.—If the physiological processes are analogous, why not also the pathological? In gross pathology, when the tissues are changed in their morphological appearances their functions are altered. Therefore, when the cell tissues are changed in their appearances and reactions to stains, their functions are also changed.

Analogy in Tuberculosis.—In tuberculosis of the individual we find a rupture, or evidence of commencing rupture, of the continuity of the enclosing membrane, skin or mucous membrane, according to whether it is surgical or pulmonary tuberculosis. When the membrane is ruptured we find a discharge of broken down or disintegrating tissue.

In tuberculosis of leucocytes an identical process is observed. There is a rupture of or an attempt to rupture the spongioplasm. When this is ruptured a portion of the cell is observed passing out, or it has already passed out, leaving a depression in the cell corresponding to the amount of tissue lost.

When the spongioplasm has not yet broken the cell is distorted, with irregular contour and a portion of the cell protoplasm protruding at various points. Hence, the law that brings about disintegration in the

tuberculous patient brings about the same process at an earlier date in the tuberculous leucocyte. The cells show all degrees of disintegration. The blood serum is loaded with debris from these disintegrating cells. With marked disintegration of lymphocytes, or the young cells, we can safely predict adult cells of weakened vitality. Consequently, the phagocytes or tissue formers will be feeble and inactive. Therefore, with marked disintegration in the leucocytes, it is with absolute certainty that we can predict a similar condition in the larger organism. When this condition exists bacilli find a congenial culture medium in which to lodge and develop, with very little resistance on the part of the phagocytes.

Analogy in Percentage.—Perhaps the most important analogy is between the leucocytes of an individual and the individuals of humanity. Each particular class or type in the normal state represents a definite percentage of the total number. In other words, each leucocyte, whether infant, middle-aged, or adult cell, bears such analogous relation to the totality of cell aggregation which constitutes the individual as each individual bears to the totality of individual aggregation which constitutes the more highly complex organism—humanity.

The statistics of any people will show that there is a fairly uniform percentage of the total population for childhood, for middle age, and for adult life. When these percentages are materially changed, we have reason to suspect something wrong in the vital economy. The same law holds good in the leucocytes of blood. The consensus of opinion among hematologists is quite uniform as to the

Percentages of Leucocytes in Normal Blood.—Neudorfer's classification is approximately as follows:¹ Small lymphocytes, twenty-six per cent.; large lymphocytes, eight per cent.; phagocytes, sixty-five per cent.; eosinophile leucocytes, one per cent. In nearly all pathological conditions there is more or less variation from these percentages. Hence, when we find a marked variation from the above percentages, we may be quite certain that we have a pathological condition somewhere in the organism. The following table prepared from the cases studied will show a variation from the normal percentages of considerable diagnostic significance. And, furthermore, a study of the table will also show comparatively uniform percentages for each type of the disease.

I am indebted to many of the physicians of Denver for numerous cases furnished from their private practice, and I wish here to express my gratitude for their valuable aid in this laborious study. The thirty-five presented represent, as nearly as possible, every stage in the tuberculous condition—those in various stages of the active disease, those who have inherited a strong predisposition, and those in various stages of convalescence.

Summary of Cases.—Incipient pulmonary tuberculosis, 1 to 7.

Incipient laryngeal tuberculosis, 8 and 9.

Convalescent pulmonary tuberculosis, 10 to 14.

Advanced pulmonary tuberculosis, 15 to 21.

Fatal cases of pulmonary tuberculosis, 22 and 23.

Fatal case of tuberculous meningitis, 24.

Last stage of pulmonary tuberculosis, 25.

Tuberculous periostitis, 26.

Tuberculous necrosis of spinal vertebra, 27.

Tuberculous hip-joint, 28.

Tuberculous knee-joint, 29.

Tuberculous adenitis, 30.

Pretuberculous and non-tuberculous, 31 to 35.

¹ To estimate the percentage of each variety of leucocytes, five hundred or more cells should be counted and an average taken.

² The method of distinguishing and classifying the varieties of leucocytes will be given in a later paper.

TABLE I.

No.	Name.	Age.	Percentage of Small Lymphocytes.	Percentage of Large Lymphocytes.	Percentage of Phagocytes or "Neutrophils."	Percentage of Eosinophilic Leucocytes.	Percentage of Myelocytes.	Condition Ascertained from a Study of the Patient.	Condition Ascertained from a Study of the Blood.	Attending Physician.
1	Mr. H.	18	7	17	73	2	$\frac{1}{2}$	Incipient pulmonary tuberculosis; little sputum; few bacilli.	Tuberculous condition marked. Recuperative power good.	Dr. E. R. Axtell.
2	Miss N.	23	13	14	71	2	.....	Incipient pulmonary tuberculosis; very little sputum.	Tuberculous condition marked. Fair recuperative power.	Dr. F. E. Waxham.
3	Mr. H.	26	16	9	74	1	.....	Incipient pulmonary tuberculosis; sputum and bacilli.	Marked tuberculous condition. Strong recuperative power.	Dr. E. R. Axtell.
4	Miss S.	..	11	11	77	1	.....	Incipient pulmonary tuberculosis. Beginning convalescence.	Marked tuberculous condition. Fair recuperative power.	Dr. H. W. McLauthlin.
5	Miss N.	38	13	12	74	1	.....	Strong tuberculous predisposition. Had tuberculosis and recovered. Now threatened with relapse.	Tuberculous condition marked. Strong recuperative power.	
6	Mr. B.	58	9 15	23 12	66 69	2 4	1st count. 2d count two weeks later.	Incipient pulmonary tuberculosis; severe cough; little sputum; no bacilli.	Tuberculous condition well marked. Two weeks later much improved.	
7	Mr. C.	27	12	12	74	2	.....	Incipient pulmonary tuberculosis. Beginning convalescence.	Tuberculous condition marked. Strong recuperative power.	Dr. S. G. Bonney.
8	Mr. J.	25	12	12	74	2	.....	Tuberculous laryngitis; little sputum; bacilli. Improving slightly.	Tuberculous condition marked. Slight recuperative power.	Dr. F. E. Waxham.
9	Mr. M.	56	16	13	70	1	.....	Tuberculous laryngitis and incipient pulmonary tuberculosis; very little sputum; bacilli.	Marked tuberculous condition. Moderate recuperative power.	Dr. Henry Sewell.
10	Mrs. F.	25	26	20	51	3	.....	Incipient pulmonary tuberculosis; no sputum; very little cough. Convalescent.	Tuberculous condition well marked. Strong effort to recuperate.	
11	Mr. U.	32	23	16	59	2	.....	Pulmonary tuberculosis. Convalescing. No cough, no sputum.	Tuberculous condition moderate. Fair recuperative power.	
12	Mr. M.	32	31	6	63	$\frac{1}{3}$	.....	Pulmonary tuberculosis. Convalescent. No cough; no sputum.	Tuberculous condition slightly marked. Strong recuperative power.	Dr. S. G. Bonney.
13	Mr. N.	..	37	8	53	2	.....	Pulmonary tuberculosis. Convalescent.	Tuberculous condition very slight. Strong recuperative power.	Dr. Henry Sewell.
14	Mr. D.	..	32	13	53	2	.....	Pulmonary tuberculosis. Convalescent.	Tuberculous condition marked. Fair recuperative power.	Dr. Chas. Denison.
15	Mr. E.	23	8	8	81	$3\frac{1}{2}$	.....	Advanced pulmonary tuberculosis; abundant sputum; cavity; bacilli.	Marked tuberculous condition. Little recuperative power.	do.
16	Mr. M.	32	7	5	87	1	.....	Advanced pulmonary tuberculosis; large cavity; abundant sputum; bacilli.	Marked tuberculous condition. No recuperative power. Granules with basophile tint.	Dr. W. W. Grant.
17	Mr. H.	55	7	16	74	3	.....	Advanced pulmonary and laryngeal tuberculosis of long standing. Slightly better.	Tuberculous condition marked. Slight recuperative power.	Dr. I. B. Perkins.
18	Mr. X.	38	8	10	81	1	.....	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.	Dr. H. C. Crouch.
19	Mr. C.	28	8	10	80	1	1	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.	
20	Mr. L.	24	10	8	80	2	.....	Advanced pulmonary tuberculosis; abundant sputum, bacilli.	Marked tuberculous condition. Fair recuperative power.	
21	Mr. H.	30	9	9	82	0	.....	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.	Dr. H. H. Bucknum.
22	Mr. T.	22	5	0	89	0	.....	Last stage, pulmonary tuberculosis. Died two days after taking blood films.	Marked tuberculous condition. No recuperative power. Granules with basophile tint.	Dr. S. G. Bonney.
23	Mr. E.	21	6	12	81	$\frac{1}{2}$	$\frac{1}{2}$	Advanced pulmonary tuberculosis. Died one month after taking blood films.	Marked tuberculous condition. No recuperative power.	Dr. C. B. Lyman.
24	Miss C.	16	9	17	73	0	1	Tuberculous meningitis. Died soon after taking blood films.	Marked tuberculous condition. No recuperative power. Absence of eosinophile cells; granules basophile; myelocytes.	Dr. E. P. Hershey. Dr. J. T. Eskridge.
25	Mr. B.	58	9	11	80	$\frac{1}{2}$	.....	Advanced pulmonary tuberculosis; purulent sputum; bacilli. Last stage.	Tuberculous condition well marked. Very little recuperative power. Granules slightly basophile.	
26	Mr. S.	25	35	11	52	2	.....	Tuberculous periostitis. Amputation. Recovery. Blood examination five weeks after amputation.	Slight tuberculous condition. Strong recuperative power.	Dr. L. E. Lemen.
27	Mr. R.	16	7	12	80	$\frac{1}{2}$	$\frac{1}{2}$	Tuberculous abscess of spine with necrosis of vertebra; constant suppuration.	Marked tuberculous condition. Slight recuperative power.	Dr. W. W. Grant.
28	Mr. H.	..	23	15	60	2	.....	Tuberculous hip-joint disease. Improvement slow.	Marked tuberculous condition. Slight recuperative power.	Dr. S. D. Van Meter.
29	Mr. B.	58	21	11	59	9	.....	Tuberculous knee-joint; no suppuration.	Marked tuberculous condition. Bone probably involved.	Dr. John Boice.

TABLE I.—Continued.

No.	Name.	Age.	Percentage of Small Lymphocytes.	Percentage of Large Lymphocytes.	Percentage of Phagocytes or "Neutrophils."	Percentage of Eosinophile Leucocytes.	Percentage of Myelocytes.	Condition Ascertained from a Study of the Patient.	Condition Ascertained from a Study of the Blood.	Attending Physician.
30	Miss M.	22	9	13	77	0	1	Tuberculous adenitis of cervical glands. Severe form.	Tuberculous condition well marked. Feeble recuperative power.	Dr. Chas. Denison.
31	Mr. N.	25	25	13	57	5	.....	Strong tuberculous history. Subject in perfect health.	Tuberculous condition slightly marked. Very strong recuperative power.	Dr. C. B. Lyman.
32	Mrs. N.	28	22	11	65	2½	½	Strong tuberculous history. Marked tuberculous predisposition.	Marked tuberculous condition. Strong recuperative power.	Dr. W. W. Grant.
33	Mr. S.	53	8	21	70	1	.....	Tumor in left side. Diagnosis not made.	Tuberculous condition. Strong recuperative power.	Dr. Chas. Denison.
34	Mr. H.	41	12	13	74	1½	.....	Strong tuberculous predisposition. Not yet broken down.	Tuberculous condition marked. Strong recuperative power.	Dr. Chas. Denison.
35	Miss L.	24	21	6	70	3	.....	Malarious anæmia. No tuberculous history.	Tuberculous condition not present.	Dr. E. R. Axtell.

Of these thirty-five cases six were test cases: 1, 3, 5, 32, 33, and 35. In each of these the blood was examined and diagnosis made without any knowledge of the history or physical condition. These six cases are classified as follows:

Incipient pulmonary tuberculosis, 1, 3, and 5.

Pre-tuberculous, not yet having reached the active stage of the disease, 32 and 33.

Non-tuberculous, 35.

The diagnosis made from the blood was in each of these cases confirmed by the attending physician.

It will be observed that there is no single characteristic in tuberculous blood which, if once learned, will enable us to diagnose the disease. We may have, and generally do have, except in well-advanced cases, three conditions of the cells existing at the same time and found in the same specimen: cells in (*a*) the normal condition, (*b*) beginning disintegration, and (*c*) advanced disintegration. It must be remembered also that there is no distinct dividing line between them. They blend insensibly into each other. Experience alone will enable us to educate the eye to distinguish these varieties.

In the study of tuberculous blood we should not only ascertain the percentage of each type of leucocyte, but also classify each type according to the

Degrees of Disintegration.—Beginning disintegration is characterized by a rupture in the contour of the cell, with globules of hyaloplasm passing out, leaving a depression in the cell corresponding to the amount of tissue lost—cell contour partly destroyed. Complete disintegration is characterized by a complete breaking up of the cell into small masses, and these scattering—cell contour entirely destroyed.

Many leucocytes in tuberculous blood do not show evidence of either of these forms of disintegration, but possess characteristics which a study of the foregoing cases has caused me to interpret as meaning lowered vitality, weakened functions, and

Diminished Recuperative Power.—These characteristics are: (*a*) poorly stained or transparent nuclei; (*b*) granules of phagocytes diminished in number, poorly stained, and scattering; and (*c*) a decrease in number or a marked disintegration of the eosinophile cells.

In many cases these characteristics predominate, while in others they are present in only a small percentage of the leucocytes.

Although the eosinophile cell continues to be enshrouded with much mystery, the recent researches of Kanthack and Hardy, of Cambridge, have undoubtedly given us much light upon the subject. They claim that the eosinophile cells are the advance guards of

the phagocytes. The eosinophile cells first surround the bacilli and throw off some of their granules, or secrete a substance which renders the bacilli inactive, and while they are in this state the phagocytes surround and devour them. Therefore, with this interpretation of their function, in any germ disease where there is a decrease in the number of eosinophile cells, or a marked disintegration going on in them, the recuperative power of the organism is greatly diminished. Hence a study of tuberculous blood should reveal two important points: first, the degree of the tuberculous condition; second, the degree of the recuperative power.

Although the first of these is important, yet we must grant that it is equally important both to the patient and to the physician if we can ascertain the amount of recuperative power possessed by the patient, for upon this depends the probable chances of recovery or ability to combat the disease. If our fundamental hypothesis be correct; if the individual has a true prototype in his leucocytes; if the condition of the one can be ascertained from the appearance of the other; if the leucocytes are tissue formers; if it is true that as are the leucocytes so is the individual, then the real source of the recuperative power should be sought for in the leucocytes.

After a careful study and comparison of the blood appearances in all varieties of tuberculosis I have observed that the nearer the blood characteristics approach the following, the greater is the

Contraindication of Tuberculosis.—Normal or approximately normal percentages of all varieties of leucocytes. Absence of giant lymphocytes. Absence of myelocytes. Very little cell disintegration. Very little debris from disintegrating leucocytes. Well-stained nuclei. Phagocytes with cell-body clearly defined and granules rich in number and well stained. Uniformity in size and appearance of the phagocytes.

While, on the other hand, the following are the

Characteristics of Tuberculous Blood, which vary according to the severity of the case. Marked deviation from the normal percentages of all varieties of leucocytes. Great decrease in percentage of small lymphocytes. Great increase in percentage of phagocytes. Usually, a marked increase in percentage of large lymphocytes. Many giant lymphocytes with irregular contour and protruding globules of hyaloplasm. Eosinophile cells absent or few in number only in severest cases. Myelocytes occasionally present. Marked cell disintegration. Many groups of debris from disintegrating leucocytes. Phagocytes with indistinct cell contour, and granules few in number, poorly stained, and scattering. Marked irregu-

larity in size and appearance of phagocytes, dwarf phagocytes as small as small lymphocytes, giant phagocytes double the usual size with five or more nuclei. Often a clear, narrow, and sharply defined ring separating the nucleus from the cell body in small and large lymphocytes. Phagocytes with granules taking a basophile tint, evidence of approaching dissolution. Grouping together of a large number of phagocytes observed before dissolution. Very little disintegration in red cells.

From a review of blood appearances in the foregoing cases I have made the following

Deductions.—First, that the degree of the tuberculous condition can be estimated by (a) the amount of deviation from the normal percentage of each variety of cells; and by (b) the amount of cell disintegration in each variety.

Second, that the degree of the recuperative power is estimated by (a) the staining power of the nuclei; (b) the percentage of leucocytes with no evidence of disintegration; (c) the abundance of well-stained granules of the phagocytes; and (d) the abundance of eosinophile cells rich in granules.

Differentiation.—With reference to the differentiation of the stages of tuberculosis, much could be given, but time and space will not permit it in this paper. I will give a few points which are most prominent, and probably may be the means of differentiating the pretuberculous, incipient, advanced, and convalescent stages. But in the first place sufficient blood characteristics must be observed to justify the opinion that the tuberculous condition exists. It is then time to look for those points which are characteristic of, and will enable us to designate with reasonable certainty, the class in which the patient is to be placed.

The following tables will show quite plainly the peculiar percentage variation for small lymphocytes and phagocytes in the various stages of the disease.

TABLE II.
PRETUBERCULOUS CASES.

	31.	32.	33.	34.	Normal Percentages.
Percentage of small lymphocytes	25	22	8	12	26
Percentage of phagocytes	57	65	70	65	65

In pretuberculous cases, those which have not yet developed an active lesion, the percentage of small lymphocytes is normal or subnormal; and simultaneously with the decrease in the percentage of small lymphocytes there is an increased percentage of phagocytes.

TABLE III.
CONVALESCENT CASES.

	10.	11.	12.	13.	14.	26.	28.	Normal Percentages.
Percentage of small lymphocytes	26	23	31	37	32	35	23	26
Percentage of phagocytes	51	59	63	53	53	52	60	65

In convalescent tuberculosis the percentage of small lymphocytes is approximately normal or above normal; and simultaneously with the increase there is a decreased percentage of phagocytes.

TABLE IV.
SHOWING RANGE OF PERCENTAGES FOR PRETUBERCULOUS AND CONVALESCENT STAGES.

	Percentage of Small Lymphocytes.	Percentage of Phagocytes.
Normal state.....	26	65
Pretuberculous condition	8 to 25	57 to 74
Convalescent tuberculosis.....	23 to 37	51 to 63

TABLE V.
INCIPIENT CASES.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	Normal Percentages.
Percentage of small lymphocytes	7	13	16	11	13	9	12	12	16	26
Percentage of phagocytes ..	73	71	74	77	74	66	74	74	70	65

TABLE VI.
ADVANCED CASES.

	15.	16.	17.	18.	19.	20.	21.	27.	30.	Normal Percentages.
Percentage of small lymphocytes	8	7	7	8	8	10	9	7	9	26
Percentage of phagocytes ..	81	87	74	81	80	80	82	80	77	65

TABLE VII.
CASES IN LAST STAGE.

	22.	23.	*24.	25.	Normal Percentages.
Percentage of small lymphocytes		5	6	9	26
Percentage of phagocytes ...	89	81	73	80	65

* Tuberculous meningitis an exception. Percentage of phagocytes lower.

TABLE VIII.
SHOWING RANGE OF PERCENTAGES FOR THE ACTIVE STAGES OF THE DISEASE.

	Percentage of Small Lymphocytes.	Percentage of Phagocytes.
Normal state.....	26	65
Incipient tuberculosis	7 to 16	66 to 77
Advanced tuberculosis	7 to 10	74 to 87
Last stage of tuberculosis ...	5 to 9	80 to 89

Deductions.—From the tables we make the following important deductions: first, as the tuberculous condition becomes more marked and the gravity of the case increases, the percentage of small lymphocytes decreases and the percentage of phagocytes increases.

Second, as the tuberculous condition becomes less marked and the convalescence increases, the percentage of small lymphocytes increases and the percentage of phagocytes decreases.

Many other deductions might be made from the tables with reference to the physical condition of the patients. For example, in all cases in which the blood shows the usual tuberculous characteristics together with an increase in the phagocytes to eighty per cent. or over, it is quite safe to diagnose advanced pulmonary tuberculosis with cavity, profuse expectoration, and abundant bacilli; or, if surgical tuberculosis, an abscess with more or less discharge of pus.

I do not wish to be understood as saying that all of the appearances that I have described are necessarily present in each case of tuberculosis. Neither do I wish to say that many of them are not found in other diseases. But I do claim that a peculiar combination of blood appearances is characteristic of this disease, to the extent that they will enable us to make a diagnosis at an earlier date than by any other means that we now possess. It is quite probable that the near future will justify a stronger statement: that from the blood condition we will not only be able to diagnose tuberculosis, but that in many cases it will enable us to distinguish the various stages of the disease, and hence will be a valuable means of following the course of the disease under various methods of treatment.

Summary.—In conclusion I will review this study

with the following summary: That the diagnosis of tuberculosis, from the morphological appearance of the blood, rests upon the hypothesis that each individual has a biological prototype in the leucocytes of his own blood. That leucocytes are independent organisms with functions analogous to those of the larger organism. That they pass through stages of growth and decay. That disintegration of leucocytes may occur at any age. That the leucocytes are tissue formers. That as are the leucocytes so is the individual. That tuberculosis is a disease characterized by tissue disintegration. That in tuberculous blood there is abundant cell disintegration, premature development, premature decay, and more or less deviation from the normal percentages of the various types of cells. That if there is marked disintegration in the leucocytes, it is with absolute certainty that we can predict a similar condition in the larger organism. That tuberculosis possesses a combination of blood appearances, from which a diagnosis may be made earlier than by any other means that we now possess. That these may be recognized by appropriate microchemical stains and under a high power. That they can be recognized even before the disease manifests itself in the individual. That they are sufficiently marked in tuberculous persons, or even in those with a strong tuberculous predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition. That the real source of the recuperative power is to be found in the leucocytes. That thus far no other pathological condition has been found which presents similar blood appearances. That to secure an early diagnosis would enable many to avail themselves of favorable climatic changes, and thereby delay or even prevent the destructive results which would otherwise inevitably follow. And, finally, that if future investigations confirm these deductions, we may look forward to a no distant day when, if we expect to detect tuberculosis in its incipency, we must study the leucocytes.

25, 26 BARTH BLOCK.

THE MICROSCOPICAL PROOF OF A CURATIVE PROCESS IN TUBERCULOSIS; OR THE REACTION TO TUBERCULIN EVIDENCED BY BLOOD CHANGES HITHERTO UNRECOGNIZED.¹

BY CHARLES DENISON, A.M., M.D.,

DENVER, COI.

THERE is urgent need of a gauge to go with treatments claimed to be curative in consumption, by which their relative merits may be determined. There is no lack of "cures," so-called. "The woods are full of them," but the limitation of the curative process common to most of them has never been accurately determined.

Thus far, climate, and the preferable climate is on this eastern Rocky Mountain slope, has proved to be first in the list of remedial means, however its curative power is increased by other agencies.

The latest claimant to curative fame, aseptolin, is by no means an exception to this estimate. The treatment has some merit in it. However, the profession will grant much of the credit to the Frenchman, Déclat, who many years ago put forward the hypodermatic use of phenol, and to Dr. Louis Waldstein, of New York, who in Berlin made prominent the similar use of pilocarpine, as well as to Dr. Cyrus Edson, who by combining them has lately brought the new remedy, aseptolin, into extended use. Yet the

effects have to be acknowledged as considerably limited and not so different in kind as we would wish from those produced by the Shurly and Gibbs method with chloride of gold and sodium and with iodine, or from the more recent effort to saturate the system with creosote.

Tuberculin and antiphthisin (Klebs'), which latter is considered by some (Trudeau and Baldwin) only a modification of the former, have not yet impressed the medical profession with their great worth as a means of treatment, for reasons the profession are probably responsible for, though as a means for the diagnosis of tuberculosis the position of tuberculin is well recognized by veterinarians. It is, therefore, very gratifying to have the hope revived that there may be found a trustworthy means of comparing and judging these curative methods through the microscopic examination of the blood.

It was to apply his method of staining and blood examination in order to determine the cell changes induced by the reaction to tuberculin, that I asked Dr. A. M. Holmes to study with me two of my cases some ten weeks ago. The results are new and I am gratified to present them to you in so clear a form, considering the short time the study has been in progress. Much credit is due Dr. Holmes, for I am unaware that just this method of study and comparison has been carried out by any one else. A short history will enable us to comprehend Case I., which was primarily a pulmonary and afterward a surgical tuberculous affection.

CASE I.—Male, age thirty-eight, first seen July 26, 1895; a banker, married eight years, just arrived from Vermont. His mother, whom the patient much resembled, died of consumption. This patient had la grippe followed by cough two years previously, and last winter another attack, when he had night sweats. His weight, about one hundred and fifty pounds, was not decreased, because of good living and care. He experienced only slight effect of elevation on coming here. Cough was not severe; expectoration was whitish, about one ounce in twenty-four hours, and contained tubercle bacilli, three to five in a field, streptococci, and diplococci. There was some infiltration and dulness at the left apex and very slight impairment of respiratory sound on the right side. Diagnosis, fibro-tuberculosis, first stage. Treatment, to use the inhaler because of the bronchitis and mixed infection and to go into the mountains.

September 6th he had returned from a stay at Idaho Springs and was improved somewhat. The spirometer record had increased from 205 to 225 cubic inches and the manometer record from 95 to 110 millimetres.

September 9th I commenced to give tuberculin (Koch's), with ultimately increasing intervals between the injections. The reactions were light and occurred only after a few of the smaller doses. A maximum dose of about sixty milligrams was reached. The sputum cleared up (the germs disappearing) and finally ceased altogether.

April 14, 1896.—Up to February 7th the lung condition continued most favorable, but the tuberculosis had not been wholly eliminated from his blood, for a small abscess then came underneath the scalp above the forehead, the pus from which was found to contain tubercle bacilli; also, perhaps following a strain of right arm and much pain, which kept him awake nights, an abscess formed and infiltrated the tissues below the right elbow-joint. Each of these conditions improved under drainage, the renewal of tuberculin, and the administration of hypophosphites with hydriodic acid. The scalp abscess has healed entirely, but the trouble in the arm evidently comes from tuberculous necrosis and will necessitate an operation.

April 15th Dr. C. A. Powers operated on the right

¹ Read before the Colorado State Medical Society, June 16, 1896.

elbow and we found, as we expected, necrosis of the ulna. Both front and back sides near the end were affected, the joint perhaps just escaping.

A conservative plan was decided upon—to expose the diseased bone freely and scrape it, after which the wounds were thoroughly packed with iodoform gauze.

June 13th.—The dressings were continued until the wounds had healed by granulations from the bottom. During the time of and preceding the operation on the elbow, for three or four weeks no tuberculin was given, and it was during this period, when the necrosis of the ulna was well under way, that the first blood examination, namely, that of April 11th, was made by Dr. Holmes, indicating, as he stated, a serious inflammatory state of the blood and some bone affection; *i.e.*, “an excess of bone marrow or spleen activity” (see table). The tuberculin was continued and given about every fourth day, from about the first of May to date, in gradually increasing doses (from twenty to seventy milligrams for a maximum dose) till there was finally no reaction to speak of to the larger doses. This was during the time the other four blood examinations were made, the increase of the young or new cells, the small lymphocytes, being in exact harmony with a decided improvement in the patient's condition in every way—in weight, appetite, strength, feelings, mobility of the affected joint, and ability to exercise.

RECORD OF BLOOD EXAMINATIONS.

Cases.	Small Lymphocytes.	Large Lymphocytes.	Neutrophile Leucocytes.	Eosinophile.	Myelocytes.	Remarks.
About the normal.	26	8	65	1	0	
CASE I.						
April 11th, necrosis forming.	6	21	72	$\frac{1}{2}$	1	Average of 500.
May 6th, two and one-half hours after a tuberculin injection.	9	17	72	2	0	do.
May 8th, just before an in- jection, 10:30 A.M.	11	20	66	3	0	do.
May 8th, eight and one-half hours after injection, 7:30 P.M.	18	16	64	2	0	do.
May 19th, seven days after an injection.	32	13	53	$1\frac{3}{4}$	0	Average of 500. Note increase of small lymphocytes.
CASE II.						
April 13th, 5 P.M., before treatment.	7	19	72	1	1	
April 14th, five hours after injection, 4:30 P.M.	16	10	73	$\frac{1}{2}$	1	
April 15th, thirty hours after injection, 5:30 P.M.	16	16	66	1	1	
May 16th, seven hours after injection, 5 A.M.	21	7	72	0	0	Extreme retro- grade meta- morphosis.
June 10th, third day after injection, 10 A.M.	9	13	77	0	1	Evidence of pus formation and retrograde met- amorphosis ex- treme.
CASE III.						
About June 8th, before test with tuberculin.	8	21	70	1	0	Evidencing tu- berculosis.
June 17th, next day after second reaction to tuber- culin.	17	13	70	$\frac{1}{2}$	0	Increase of small lymphocytes and tissue met- amorphosis.

It is hoped the apparent though perhaps only approximate immunity reached in this case will prove to be of a permanent nature, as has been the case with quite a number of patients treated from one to five years ago. Of course these were selected with all the care and precaution possible, as suitable for this method, for none others in my judgment should ever

be given tuberculin except for diagnostic purposes. The progress of the above case and of the one yet to be described, together with the numerical changes in the proportion of the various cells of the blood, are shown in the accompanying table, which Dr. Holmes has kindly prepared for me. To this are added the figures of the normal proportion of the different cells according to Neudorfer, of Vienna, for the purposes of comparison.

For the technique and the interpretation of the staining-proclivities of the cells and of other evidences of repair or degeneration, reference is made to Dr. Holmes' paper.

CASE II.—Miss —, age twenty-two, first examined by me February 17, 1896. Both the patient's sisters are possibly tuberculous, the mother is frail, and the mother's two brothers and one sister died of consumption. Previously to coming to Colorado from Maine, which was about seven years ago, she had neuralgia, some cough and fever, was weak and sick, and had yellow expectoration. In Colorado she greatly improved and the catamenia became regular. She ceased expectorating after one month. When eighteen years old the glands in both axilla swelled. The swelling disappeared in three years, but before that, namely, two years ago, the hard lumps came on the right side of the neck and one year ago on the left side. There must have been as many as twenty on the right side, reaching from the ear to the middle third of the clavicle, and nearly as far down on the left side. Those on the right were the largest, causing marked deformity and two of them were commencing to suppurate. There was little or no expectoration and but slight daily temperature rise. Spirometer record, 130 cubic inches; manometer record, 60 millimetres. Her weight before coming was one-hundred and five pounds, and now was one-hundred and twenty-three pounds. Expansion, 29.5 and 31 inches, a little greater deficiency on the right than on the left side. Remnants of enlarged glands were noted in both axillæ, with some depression in the right infraclavicular space. Physical examination revealed no râles or breaking down of lung tissue, but broncho-vesicular breath-sounds, some dulness, and exaggerated voice at both apices front and rear, with prolonged expiration in the right infraclavicular space. The diagnosis was strumous phthisis, so called, which was proved immediately afterward to be tuberculous by the tuberculin test. The local reaction was shown positively by the high-pitched broncho-vesicular exaggeration in the left interscapular space; this was noted after the six-milligram tuberculin dose, and afterward it was quite general over the lungs. The glands in the neck also began to get harder and there was temperature reaction, which seemed to become excessive, showing extreme susceptibility. The test was stopped to prepare for the enucleation of the glands, and thus get rid of so much tuberculous tissue. This operation was performed by Dr. C. A. Powers, assisted by Drs. O'Connor, Pedersen, and myself, April 29th, and some seventeen to twenty glands were nicely enucleated. It was before and after this operation that the blood examinations shown in the table were made, in connection with very small and infrequent doses of tuberculin.

The value of these examinations made by Dr. Holmes was manifest, showing the coincidence of an abnormal susceptibility and the excessive tissue metamorphosis which was going on. Notwithstanding other signs of improvement in this patient's condition, this discovery contraindicated the pushing of such treatment with so much tuberculous tissue to be gotten rid of, and the moderate use of antiphthisin (Klebs) was substituted, with mild inunctions or the oleate of mercury and the internal administration of syrup of hypophosphites and of hydriodic acid. This is pre-

paratory to the extirpation in the near future of the rest of the glands on the left side.¹ This obstinate diseased condition is of the more interest because of its persistence and the profound infection of the system, as well as because it shows that the glandular enlargements, which we have always thought to be scrofulous, are profoundly tuberculous, though, as in this case, no bacilli are found in the glands removed.

This verifies a statement I have previously made, based upon our inability to find the bacilli tuberculosis in tissues evidently tuberculous, as in adenoid growths in the region of the third tonsil in a patient who afterward died of tuberculosis: namely, that there is a pretuberculous state, of which some evidence besides the bacillus of tubercle must be found. Whether that evidence is to be found, as for a long time I have hoped it would be, in the proper microscopic examination of the blood, or as I believe it does exist in the tuberculin test, there is no doubt in my own mind that the two methods will go hand in hand and verify or check each other, just as surely as do the control tests of the assayers in our sampling-works.

A beautiful illustration of the value of both these tests is now given us in another of my cases (see table, Case 3), whose blood has just lately been examined by Dr. Holmes. I refer to the case he describes, in which I could find no bacilli in the sputum and had diagnosed bronchitis and hydronephrosis, and possibly latent tuberculosis. But Dr. Holmes was sure from the morphological appearance of the blood that the case was one of tuberculosis, he knowing nothing of the kidney complication. I have since tested this patient with tuberculin and obtained a distinct reaction, proving Dr. Holmes' diagnosis to be correct.²

As to tuberculin: I was much impressed by Dr. Hance's statement in his late paper on "The Treatment of Pulmonary Tuberculosis,"³ which verifies my own experience and which I will quote in closing:

"The writer recalls at least four patients who could not continue the use of tuberculin, but subsequently arrested their disease process under proper climatic treatment. After the continuous use of tuberculin, or its modifications, extending over a period of nearly five years, he is of the opinion that patients who are 'relatively cured' by the use of tuberculin and climatic treatment have stronger resisting powers against subsequent infection than those who have secured the same results by climatic treatment alone. In other words, their cure (if one may use such a term) is much more firm and lasting than in other cases."

The Blastomycetes of Sarcoma.—Roncali, of Rome, says that he has found a micro-organism in sarcoma and adenoid carcinoma of the ovary. It is found both within and without the cell. Before it acquires an enveloping membrane the protoplasm is chromatic, but later it has a thick membrane and the protoplasm becomes colorless.

¹ July 26th.—The course of the case to date has been so favorable and the evidence of shrinkage of the glands so conclusive that the patient is urging delay of any operation, with the hope that it may not be necessary.

² The morphological state of the blood indicates an enlarged spleen and tuberculous kidney. At the same time a diagnosis of tuberculous adenoma of the kidney, complicating hydro- or pyelonephrosis and perhaps calculus, seems to be warranted by the gross appearance of this tumor. It reaches from the spine around to within three inches of the navel and from below the sixth rib in front to within two inches of the crest of the ilium, and has oval borders. This conclusion is supported by the history of hemorrhages and discharge of pus in the urine, and the fact that the patient has lived as a miner in high altitudes for thirty years, excepting short sojourns in the East, during one of which, at the World's Fair, in Chicago, his principal attack occurred.

³ MEDICAL RECORD, May 2, 1896.

METHODS OF INSTRUCTION IN FIRST AID.¹

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AN ancient writer named Agatharachides, in describing the prehistoric race of Troglodytes, dwelt upon their method of displaying fondness for the sick and infirm by affectionately drawing a cord about their necks until they suffered no more—the fact that the sick might object to such drastic measures, or that the patient's life was ended as well as his illness, appeared to cut no figure with the Troglodytes. They were not unlike the gentle Scythians, who were wont to employ a sort of Fabian policy in therapeutics, relieving their dear ones of the ills that beset them by tenderly depriving them of food until Death should arrive and complete their cure, which he invariably did in the most effectual manner.

Human altruism has, however, usually manifested itself in a different way. When, in the early history of our race, the sick received any attention, it was directed in the main toward the prolongation of life as well as toward the alleviation of illness. Efforts looking to the accomplishment of either were not a feature of early days. In case of war, no provisions were made by leaders for the relief of the injured in the field or on the march. The wounded soldier was dependent for help either upon the kind offices of his friends or the tender mercies of his enemies, and in the great majority of cases he was neglected by both, only to expire in lingering agony that was incomparably greater in its suffering than sudden death amid the fury of battle. Death being almost inevitable to the injured man, it is hardly surprising that the wounded warrior of old should have fought desperately until a fatal stroke put an end at once to present pain and future agony.

Wise in their day and generation were those communal soldiers of the Middle Ages, who took their wives with them into the field, in order that they might be assured of suitable nursing in case of a wound. Indeed, the vast companies of camp-followers that were found in the wake of every great army of that and later periods, were composed to no small extent of women, from whose numbers nurses were often secured for a favored invalid. But of organized and systematic assistance to the disabled there was none. The first field hospital in history was not established until the close of the fifteenth century, when Queen Isabella, of Columbian memory, established one at Antiquera. And even this was but a sporadic case, which was hardly duplicated for a couple of centuries, until Larrey and Percy became the fathers of the military sanitary system which has attained so great a development at the present day. During that period, however, surgeons progressed from the position of personal attendants upon great commanders to a recognized official station, with duties toward soldiers as well as officers. Finally, the trained sanitary soldier was conceived and created. The instruction of a certain number of the soldiers of the line in the treatment of emergencies and the preparation of cases for the trained sanitary soldiers became a fixed fact, and now the magnificent conception of instructing the entire enlisted force in the elements of first aid has been evolved and put in operation.

The methods of rendering relief were even cruder than the plan of organization. The few surgeons who accompanied armies in the retinue of royalty and nobility were themselves in the majority of instances mere ignorant pretenders, able to give only the most

¹ Read before the Association of Military Surgeons of the United States at Philadelphia, May 14, 1896.

unintelligent and blundering kind of assistance. When the presence of surgeons in military commands became more general and of better quality, their help was still inefficient and incompetent, and this condition persisted almost up to the present day. The brancardiers of Percy were litter bearers, not emergency men. The care of the wounded even in hospitals was of a most defective character as recently as in our war of the rebellion, and the battlefield assistance was confined to the medical officers aided by the "horse sense" of the wounded man's comrades. The thousands of deaths that occurred from a lack of an acquaintance with the methods of applying temporary aid, and the thousands more that ensued from sheer neglect owing to the lack of sufficient attendants and of proper organization among the few who were present, can never be sufficiently regretted. In more recent wars progress has been made; but, as a matter of fact, no military medical organization has yet been able unassisted to grapple with the huge masses of sick and wounded incidental to a great campaign. Solferino, with its five leagues of battleground thickly strewn with wounded in every stage of agony and lingering despair, incited the different nations to establish Red Cross societies. Yet in the Franco-German war, when these societies put forth all their strength and struggled with unexampled energy, the wounded remained at Sulz on the battlefield absolutely deserted and additionally tortured by cold and hunger for three days; and at Gravelotte, where the ambulances could not arrive in time, the greatest suffering resulted among the wounded. At the beginning of the Russo-Turkish war, the Russian official medical service compelled the admiration of connoisseurs, who asserted that nothing was left for others to do; yet, during the progress of the campaign, the efforts of the official medical service, the exertions of the Red Cross societies, and the benevolence of private individuals were all strained and taxed to the utmost in the endeavor to succor the prodigious masses of sick and wounded troops.¹

The work of the sanitary corps of the Japanese army in the recent Chino-Japanese war was effective in the extreme. An observer remarked: "While the storm of lead was still hurtling thickly through the air, a company of Red Cross men, always well to the front, appeared on the field, stolidly marching out from the ravines, two and two, with stretchers and first-aid appliances for their comrades, right under the withering fire from the gunboats, with never a moment's hesitation. Unarmed but for a paltry dirk at the side, helpless in any case against attack, with foes heedless or ignorant of the sacred significance of the Red Cross badge, they did not flinch for a moment on their errand of mercy. It would have been easy to wait until the fire should cease, but they nobly went on and did their duty as if on the parade ground at home. One by one, the dead and wounded were sought out all over that wide field of blood and borne away, until within twenty minutes the place was cleared of every man, living or dead." It was a most splendid example on a small scale of what first-aid organization and instruction can accomplish.

When a nation so new in Western civilization as the Japanese can produce results which command the admiration of the world to such an extent as in this instance, who can deny the *raison d'être* of instruction in first aid? The duty of rendering first aid to the injured after an engagement is characterized by Longmore as a "vast and serious concern, not merely important in respect to preventing aggravation of existing suffering, but upon it depends the question of life itself in numerous instances, and in many others the whole future condition of the wounded, whether it

shall be one of continuous pain and of comparative uselessness, or the reverse of these conditions." With so much dependent upon a proper knowledge of the subject, the question of the best methods of popularizing such knowledge is of the gravest importance.

By common consent, the meaning of the expression "first aid" has been restricted to the temporary assistance to be rendered by persons without medical training in the interval between the accident or emergency and the arrival of a medical man. Emergency surgery and emergency medicine are subjects excellently taught in many medical colleges to embryo practitioners of medicine, but first aid is far from being taught in the same proportion to the general public. During the last score of years, however, much progress in this direction has been made, largely through the influence of the St. John Ambulance Association of England. Thousands of civilian practitioners throughout the United Kingdom, Australia, Canada, China, Germany, Gibraltar, the East and West Indies, Malta, New Zealand, Russia, South Africa, and our own country, in addition to military surgeons, have undertaken the instruction of classes in first aid. The extensive amount of experience thus accumulated, supplementary to the military observations of many countries, is now available for examination and sifting in order to evolve the best method of teaching.

It was but natural that the oral method should have been the first to be adopted in teaching first aid. It was simply a recurrence to first principles. It was the way Adam taught Cain the gentle avocation of butchery and Abel the homely craft of horticulture. It was a most effectual method where the instructor was possessed of the art of putting things and the audience endowed with the faculty of rapid perception. But in these days we have not the phenomenal memories of other days, when all teaching was oral. Aids to the recollection are necessary not only on account of degeneracy of memory, but because the enormously increased extent of the field of knowledge has rendered it impossible for one mind to retain it all in detail. Niccolo Bertruccio, the greatest anatomical teacher of his epoch, taught the whole subject of anatomy in the eleventh century at Bologna in four lectures. But who would be so preposterous as to attempt to teach the subject as it is now known in a dozen times that number?

No description can take the place of a picture. The earliest form of writing was picture writing. The picture writing of the American Indian to-day is graphic and expressive in the extreme. Never was man such a master of word painting that he could equal the sun for accuracy and suggestiveness. The pencil, the brush, and the camera are of the greatest value in making clear instruction in first aid. The thirteen cartoons of Henri de Mondeville, upon which the entire instruction in anatomy at the Paris School of Medicine in the thirteenth century was based, are famous in medical history. The anatomical drawings of Bartolommeo Eustachio were so vivid and accurate, that when they were discovered a century and a half after his death and published for the first time, they rescued his name from oblivion and emblazoned it high on the tablets of immortality. The interest displayed by a class in anything like a picture is evidence enough of the value of this element of instruction in first aid.

Early in the history of such instruction, the value of practical demonstrations was recognized, but these varied greatly according to the taste and wit of the lecturer. It is difficult for many a man to place himself in the position of treating an actually injured man in the absence of an actual patient; it is sometimes equally difficult to find a person who is willing to assume the rôle of an injured man, while it is

¹ Roberts' "Ambulance Work."

rarer still that one can be found with the ability to assume the rôle in a realistic manner. There can be no question, however, as to the value of the practical demonstration; for, if conscientiously carried out, it will not only clarify the whole proceeding in the mind of the learner, but many points will be brought out unconsciously by the demonstrator. The training of the surgeon makes many things second nature to him which are absolutely beyond the ken of the non-medical man. These little essential features of treatment come to light in the practical demonstration. The demonstration also serves to correct in the mind of the learner misapprehensions into which he may have been led by ambiguities or technicalities in the words of a speaker. However careful a medical man may be in his effort to bring his language down to the comprehension of the uninitiated, some technicality, some scientific expression, precision itself to the physician but conveying no idea whatever to the layman, is more than liable to creep in and obscure the sense of his explanation. This the demonstration will entirely correct.

And then, as with the invention of printing the old medical teachers put their prelections into type in order that their students might have copies constantly at hand as aids to memory, so the earlier first-aid instructors came to put their lectures into book form for the benefit of their classes. The "Erste Hülfe" and the "Samariterbriefe" of von Esmarch, the "Ambulance Work" of Roberts, the "Ambulance Lectures" of Martin, the "Emergency Notes" of Butler, and many others were of this class, and are very attractive reading because of the colloquial style in which they were expressed. The little first-aid handbook of the late Surgeon-Major Shepherd, of the British army, was brought out by the St. John Ambulance Association, and a host of imitators sprang up all over the world. There was a demand, however, for more thorough systematically arranged text-books upon the subject, which has been met by the publication of a number of more extensive books, which are now the recognized authorities upon the subject in this country. The crop of the smaller and more defective little manuals continues to be active, every year producing one or two. There is no especial use for them; they are rarely in any way an improvement upon the original compend of Shepherd. Their only advantage seems to be that they excite an interest in first aid among the author's friends and adherents and certainly in the author himself, thus proving to be valuable agents in the propagandism of the subject. Whether this is counterbalanced by the fact that many of their readers are likely to look upon the compend as the sum total of the subject and to look no further, is a question. If, as is the case with the first-aid instructor in a metropolitan branch of the Red Cross Society, the teacher calls attention to the incomplete character of his own book and recommends the study of a more extensive one in addition, the only objection is wiped out. The proper use of the abbreviated manual is as a pocket book for constant carriage in the pocket as a remembrancer of the facts which have been learned by the study of a larger one. The use of two books in this way is certainly an excellent practice, as will be seen in detail farther on.

The use of the text-book is best completed by the addition of recitations. A cultivated and experienced student may, perhaps, be able to absorb the contents of a book by simple perusal, but the ordinary reader cannot. Few persons have gotten beyond the stage of mental culture in which the verbal discussion of a subject which has been read is of the greatest service in fixing the facts in the mind. This is nothing more nor less than a recitation. Class recitation is preferable to solitary recitation, not only because of the ad-

vantages always to be derived from personal attrition with individuals engaged in the same pursuit, but because of the new ideas brought out in the class-room consideration of a subject. In numbers of instances in the writer's observation, suggestions of the utmost interest and advantage have been derived from the least promising members of his class during such discussions. The recitation plan is far superior to the lecture system because of the opportunity which it gives to the learner to formulate and fix the facts which he has been taught. For the same reason, it is even more to the advantage of the members of a first-aid class if they are given an opportunity to teach the subject to others. If a man possesses much personal pride, the position will put him on his mettle to learn more than his class, and prove a genuine stimulant to study.

All of these methods of instruction have their advantages and all of them have their failings. A plan, to be thoroughly successful, should combine all their good features and exclude all their objectionable points. And yet it is impracticable to devise a plan that shall be equally adapted to every grade of intelligence. There must be at least two grades of instruction, and perhaps three. In the army we have four classes of persons to instruct: 1, Hospital corps; 2, officers of the line; 3, company bearers; 4, all other enlisted men. The second and third classes may be considered in the same category in considering the amount of instruction to be given them, about the same extent of qualifications being desirable in both.

The facilities for the instruction of the hospital corps are greater than for either of the other classes, their residence in the hospital and their more or less constant contact with the sick and injured giving them a certain degree of technique to be gained in no other way, while their freedom from other duties makes it possible for them to give much more time to first-aid study than any other of the four classes.

The company bearer, according to the experience of some medical officers, has been a most unsatisfactory subject for instruction, for three reasons: (1) The fact that through carelessness in selection a poor class of men is apt to be detailed; (2) the frequent changes in details; and (3) the interference of other duties with the hours of instruction. These faults are all usually easily remedied—the first by calling the attention of the company commanders privately to the desirability of detailing good men; I have yet to find the company commander who is not amenable to reason under these circumstances. The second difficulty is also very readily overcome by calling the attention of the post and company commanders to the disadvantage of changes, and by declining to approve of new details. And as to the third objection, post commanders will almost invariably arrange for men on other duties to be present at the hour of first-aid instruction. I believe the company bearer to be an important factor in the first-aid work of the army, and it is hoped that he will remain as a permanent feature. The recent order requiring all enlisted men to be instructed in first aid has had a decidedly stimulating effect upon the company bearers. Realizing that they have the advantage of their comrades in their previous instruction, they are the more willing to push on and keep ahead.

The methods of instruction for the four classes may with advantage be very much the same, differing only in degree. The hospital corps, by daily instruction until qualification is attained, should be pushed forward to an entire acquaintance with the subject. The officers and the company bearers are, as a rule, taught better in weekly meetings, but at separate hours, and at such a rate of progress as each may be capable of.

The method of instruction giving the best results is a combination of the *viva voce*, the text-book, and the

practical demonstration. The subject of each lesson should be gone over orally by the teacher before any recitation is held upon it. The talk upon the subject should be illustrative and demonstrative, and points should be clearly brought out. The lecture, if it may be dignified with that title, should exactly cover the ground of the lesson assigned in the text-book for the next session. To obtain the best results, it will not be sufficient for the teacher simply to read the account of the subject from the book, as is not infrequently done; he must speak in his own language and endeavor to infuse the magnetism of his own personality into his class. Many of the learners will prefer to read the text-book version before the lecture, thus placing themselves in a position to more fully appreciate the comments of the instructor. The next hour of instruction should then be opened with a recitation upon the lesson previously given out. This recitation should not be conducted in a pedagogical style, but with a view not only to ascertain the familiarity of the student with the lesson, but to fix it in the minds of the learners by every available accessory. Charts, drawings, photographs, specially constructed apparatus, and practical demonstrations should all be used whenever they can be applied. The stereopticon is a valuable assistant, but there is a temptation in its use to overdo the matter; it should not be used more than once in four or five hours of instruction.

The great tendency of the instructor in first aid is to fire over the heads of his audience. "There is a fatal facility in the use of technical terms," says Butler, which it is difficult to repress. To present his facts in simple language and to avoid technicalities is the earliest lesson the first-aid instructor has to learn. It is astonishing what ignorance of matters pertaining to the human body and the ills to which it is subject may be found in the most intelligent laymen. It was only the other day that I overheard a discussion upon the reliability of the Scriptures, the argument being finally closed by a man of the highest intelligence, an author and of commanding influence in the community, who triumphantly cried: "How is it, then, that a man has one rib less on one side than on the other?" No technical expression should ever be used until it has been fully and distinctly explained; and, in general, simple Anglo-Saxon nomenclature is better than the Latinized verbosity of the scientific treatise. "Bleeding" is better than "hemorrhage;" a bone had better be "broken" than "fractured;" "breathing" is as good as "respiration;" "bloodless" is clearer than "exsanguinated." Simplicity of diction cannot be sought for too assiduously.

It goes without saying that the elements of anatomy and physiology are an indispensable preliminary to first-aid work. The amount of instruction in this introduction to the subject will vary with the four classes to be instructed. The hospital corps, officers, and company bearers should learn the skeleton to the extent of becoming acquainted with the names, shapes, and locations of all the principal bones and such conspicuous features of them as may be useful in first aid. It will not be necessary for them to learn the structure of the temporal or ethmoid bones, nor to know the tarsus or carpus in detail. But the peculiar arrangement of the bones at the elbow or shoulder or hip should be learned—they should know what the olecranon, the trochanters, and the acromion are, because of their relation to many accidents; and a similar acquaintance with other parts of the osseous structure is essential for a satisfactory comprehension of the emergencies connected with them.

The study of muscles and joints in detail is not needed in a student of first aid. The emergency man will not attempt to reduce any but the simplest dislocations, and individual muscles will play but a very

unimportant rôle in any assistance he may be called upon to render. He should, however, know the general characteristics, purposes, and functions of them both. The nervous system is of comparatively little importance to the first-aid man, and he need study only the first principles of its structure and distribution. He must, however, know the topography of the trunk with reference to the principal viscera, because of the important bearing these facts have on the application of first-aid treatment.

The vascular system is, of course, by far the most important division of the body with respect to first aid study, since treatment of its lesions forms the most important part of emergency work. The physiology of the circulation explains the philosophy of hæmostasis, and the topography, particularly of the arteries, is an essential for the application of proper treatment for hemorrhage. The names of the principal arterial vessels should be learned and their location and some facts with regard to their size and relation to dangerous bleeding. I shall not attempt, however, to give a complete synopsis here of the anatomical and physiological facts essential as an introduction to first-aid study. I have done this in full elsewhere.¹ It is desired to suggest simply the merest outline preliminary to a brief consideration of the best method of teaching the facts.

The bony framework itself is the foundation of all first-aid study, and nothing can be substituted for the human skeleton for this purpose. The best results are to be obtained from a combination of an articulated and a disarticulated skeleton. In the former the mutual relations of the component parts can be shown and demonstrated, while by means of the latter the peculiarities of the individual bones can be shown. The course of the circulation and the location of its component parts, other than the heart, can best be shown by charts, as, except in the rarest cases, it will be impracticable to demonstrate them upon the cadaver, which is the ideal method. Moreover, except with the hospital corps, who become accustomed to death through their ordinary duties, there are peremptory though sentimental objections to the use of any part of the cadaver, except the skeleton. But, while the topography must be obtained from charts, many of the most interesting general facts and much of the morphology can be displayed in the anatomy of the lower animals. The common domestic cat² is a treasure-house of information for the first-aid class. A dog may be even better, if he is larger. It is well to anæsthetize the animal in the presence of the class and to demonstrate the action of the heart and lungs in active movement before life is extinct. If care has been taken that the act of digestion shall be active at the time of the demonstration, a display of the mesenteric lacteals is always received with great enthusiasm by a class. A few remarks upon the similarity and the differences in structure between the cat and the human being are always interesting and clarifying in their effect upon a class. The differences between the various kinds of hemorrhage can be shown by practical illustration, and by opening a vein and an artery at the same time the venous and the arterial bleeding can be actually compared. A muscle or two can be dissected out to show what muscle actually is, together with its general morphology, and the tendons and aponeuroses can be displayed. If the long muscles be taken for demonstration, an excellent showing of muscular action can be given. The biceps, for ex-

¹ "First Aid in Illness and Injury," by James E. Pilcher. 8vo. Second edition, 1894, pp. 322. Charles Scribner's Sons, New York.

² The subject may be studied up with advantage in Gorham and Tower's "Laboratory Guide for the Dissection of the Cat," published by Scribner, or the excellent work on "The Dissection of the Dog," published by Howell, Holt & Co.

ample, may be isolated and the forearm moved by traction upon it, so as to show both flexion and supination. The sciatic nerve can be uncovered and used as an illustration of the elements of the nervous system. The skull can be opened and the undeveloped brain of the cat can be used to demonstrate the membranes and substance of the brain and its relation to the spinal cord. The brain itself can be made to give interest to the comparatively uninteresting topics of brain compression: for this purpose it is well to use two beef brains, one hardened in alcohol to show the form of the brain and its parts; and the other fresh, to show the texture and friability of its substance—an important feature in the demonstration. A glance at ophthalmic anatomy upon a beef's eye may always be used with great advantage to lend interest to a lesson, while the study of the circulation can never be considered complete without a demonstration of the heart's action upon the cardiac organ of a bullock, using, to show the valvular action, either air through the blow-pipe or water through a rubber tube. The interested student of first aid should be advised always to read over in his manual on the subject the topic of the demonstration, both before and afterward, in order to prepare his mind to understand the demonstration and to impress upon his mind what he has been shown.

The elements of bandaging and surgical dressing should always be taught practically. For the ordinary first-aid class the triangular bandage will be ample, but the hospital corps must be taught the application of the roller bandage as well. It is my plan in teaching the triangular bandage, after carefully explaining the theory and practice of the dressing and showing its practical application upon all parts of the body, to divide the class into equal parts, calling them the front and rear ranks respectively. Each member of the class, then, at the word of command, applies each bandage upon the man with whom he is paired; first, each front-rank man applies the head bandage upon his rear-rank man, who then at the word of command reciprocates the act; the rear-rank man then applies the next bandage, and the front-rank man reciprocates—and so on alternately until the entire subject has been thoroughly gone over. This plan is an excellent one to follow in studying the treatment of bleeding, of broken bones, and of wounds. It not only gives each member of the class actual experience in applying treatment, but enables him to see its application in his own person, fully as instructive an experience as the other. What one of us has not learned far more about some malady by observation in his own case than he could have been taught by a thousand lectures and a hundred cases in other individuals?

The treatment of drowning and the use of artificial respiration for other purposes may with great advantage be taught in the same practical manner.

Exercises in the extemporization of dressings are of the greatest importance and contribute greatly to the interest of a class. Each member should be given the opportunity to exercise his own inventive faculty in the origination of such appliances. The amount of ingenuity developed by these practical exercises is sometimes remarkable in the extreme. The suggestions as to materials for dressings, splints, padding, bandages, and the like are often original and valuable enough to instruct the instructor.

Medical emergencies do not usually admit of practical demonstration. The "dummy chucker" does not, as a rule, practise his arts for the delectation of first-aid students, although it might be possible for an instructor whose work brought him in contact with the criminal elements in a large city to find one for the benefit of his class. I considered myself very fortunate when, upon one of my drill hours, a company bearer had an epileptic convulsion in the presence of the de-

tachment. This has occurred but once in my experience, however, and I do not expect it again; and this class of emergencies, including the treatment of poisoning, particularly demands the use of a text-book. It is impossible for a lecturer, however graphic and impressive his delivery may be, to impress these subjects clearly, definitely, and sufficiently by verbal effort alone. They must be learned by careful study and repeated re-reading.

One of the most efficient elements of success in maintaining interest is variety. A pursual of the method already rehearsed would give variety to a lesson upon most of the emergencies considered. But a plan that is of advantage in all cases is to divide the time for instruction into three parts, devoting one part to a brief lecture and demonstration, a second to a quiz and recitation, and a third to litter drill. When either one of the three seems to demand more than a third of the time, any one or any two of them may be dispensed with. Variety may also be obtained by detailing a member of the class to conduct any part of the work, giving him sufficient time previously to enable him to prepare himself for the duty.

The foregoing remarks apply more particularly to the instruction of the first three classes—the hospital corps, the officers, and the company bearers—given by medical officers. The instruction of the fourth class—the enlisted men in general—must necessarily be much less complete, both on account of the lack of knowledge and experience upon the part of the line officers who are to conduct the instruction, and the lack of capacity upon the part of the men who are to receive it. The amount of instruction actually given to the companies will necessarily vary according to the personality of the instructing officer. But enough for the purpose may be presented in five lectures upon the following subjects, each occupying a full hour:

1. The Human Body (the skeleton and the circulation in particular).
2. Bandages and Dressings (the triangular bandage in particular).
3. Wounds and Bleeding.
4. Broken Bones.
5. Insensibility (drowning in particular).

These subjects need not be presented in a consecutive series, but the lecture hour for several occasions succeeding each lecture could with much advantage be devoted to going over the matter of the lecture with the men and fixing the points in their minds. Wounds, for instance, should not be ventured upon until the bandages and dressings have been mastered.

The question of impressing the facts retentively upon the remembrance of the men is a most difficult problem. Demonstrations of practical anatomy are, of course, out of the question, and it is usually impracticable for the skeleton to be used in teaching the bones. Here pictures must come in. Charts may be issued to the companies for general demonstration. It is impracticable to expect them to study first aid from a comprehensive text-book, for many of them have not the intelligence to comprehend the subject upon reading, and a still greater number have not the patience to try it. In this case it seems to me that we should go back to the method of the untutored savage, which should be within the comprehension of the least intelligent soldier, and teach by picture writing. Something of this kind has been attempted in the German triangular bandage of Esmarch, which has been almost ruined in the peculiarly wretched American imitation. The St. Andrew's Ambulance Association of Scotland produces a triangular bandage which is a great improvement upon all others, and in it has been attained the climax of pictorially treated bandages. But these are unsatisfactory as means of instruction, both because of paucity of information and their de-

iciency in permanence. It is impossible upon a triangular bandage to illustrate, even with very small representations, a tithe of the points needed to impress the mind of the soldier, and the crumpling and soiling of the bandage in the hands of its possessor will easily render it too illegible for consultation—an objection which will grow with the enthusiasm of the frequently perusing soldier.

Admitting the value of the handkerchief within its limitations, *i.e.*, the illustration of only a few of the principal procedures in which it is applicable, we should go much further. The need can be supplied by a little book containing pictorial representations of all the important facts of first aid, with as little reading-matter as possible. After this idea had been quite fully developed in the writer's mind, his attention was called to the "Album für Krankenträger" of Dr. Ruhlemann, a surgeon in the army of Saxony, which had been used with very great success in the German army. Dr. Ruhlemann's book is directly in the line suggested, but with the pages a trifle too large and the illustrations very poorly executed. A little book upon this plan is now in active preparation for the American press, and in it an effort has been made to do away with the objectionable features of the German work, and to present a little manual clearly American in its characteristics as well as in its language, and arranged in the order suggested as the most desirable one for the instruction of the enlisted force.

Officers of the line may with much advantage, in transmitting first-aid instruction to their commands, utilize as far as practicable the features for interesting and stimulating the attention that have been presented by their own medical instructors, and add to them such other features as their own ingenuity and enthusiasm may suggest. Competition is always an important stimulus to work among men. The enthusiasm which is awakened by competitions of any kind, from baseball to rifle practice, may well give us pause in our consideration of methods of instruction in first aid. The writer saw a Canadian judge and an officer of one of the Massachusetts courts, on the high seas and near the coast of France, where it was impossible for either to learn anything of the merits of the case, warm up to the point of personal collision over the respective merits of *Valkyrie III.* and the *Defender*. The quality which will, at the close of the nineteenth century, bring to the point of the duello two gentlemen of the practical Anglo-Saxon race, because of the rivalry of a couple of racing sloops, would certainly seem to be an advantageous addition to first-aid instruction. Competition may be introduced into first-aid military work by the institution of inter-company, inter-regimental, inter-department or brigade first-aid competitions, and the establishment of a grand periodical competition for the championship of the entire army. Each company being divided into little squads of four men, graded by a competitive examination, the winning squad should be entitled to compete for the championship of the post or regiment. The champions in this competition should then be assembled at some central point in the department, considering the army, or the brigade, considering the national guard, to compete for first place in the department or brigade. And, finally, at such intervals as may be desirable—annually, biennially, triennially, or even quadrennially—the department or brigade champions should be given an opportunity to compete at some central point for the championship of the army or State. A trophy, consisting, perhaps, of a bronze figure in armor protecting a wounded comrade with a shield bearing the red cross, might with advantage be the chief trophy, the custody of which would be awarded to the company furnishing the victorious squad. Similar smaller designs could be awarded to the companies furnishing

the department or brigade champion, and still smaller ones for the champion squads of the regiment or post. The writer has often observed the advantage of competition in drilling his own detachment. When the day is depressing and the men seem a little sluggish, the dummy wounded are often instructed to seek their own location, and then, after informing the detachment that the design is to see which squad will bring in its man the most expeditiously, carefully, and safely, the command is given, "Search for wounded." At the first suggestion of an approaching competition an alert expression supplants the sluggish one, the eyes brighten, and eagerness characterizes every attitude. The response to command is instant and their execution of the order characterized by a degree of efficiency obtainable in no other way. It is believed that the extension of the feature of competition to the entire army in the manner suggested will be of incalculable benefit in promoting the efficiency of the service.

First aid in illness and injury is an active, living issue of a concrete kind, that can be appreciated by every one, whether in the military service or in civil life. It is, then, of the highest importance to determine the methods of instruction from which the greatest efficiency of first-aid service can be derived. From our study, we have determined that in military practice there are two principal grades of instruction:

1. Instruction of the officers of the line, the hospital corps, and the company bearers, given by medical officers.

2. Instruction of the enlisted soldiers in general, given by officers of the line.

The best method of instruction is a combination of the lecture, the demonstration, and recitation from a text-book, neither of the three being sufficient without the accompaniment of the other two.

The best instruction is characterized by extreme simplicity of diction and the avoidance of all technicality in language.

The best instruction is progressive in character, beginning with anatomy and physiology, and advancing to bandages and dressings, and then to emergencies proper.

The class-room work of the first grade is advantageously supplemented by home study of a first-aid text-book, and, when desired, it may be complemented by the use of a pictorial remembrancer.

The class-room work of the second grade may best be confirmed and fixed by the use of a pictorial remembrancer, a copy of which should form a part of the equipment of every soldier.

Interest in the work of both grades should be stimulated in every possible way, especial attention being devoted to the development of interest in the second grade, a series of public competitions being suggested, the champions to be rewarded by the custody of suitable trophies.

By the methods and with the stimulus thus provided, it is believed that every member of the military forces of the country, including the army, the militia, and the national guard, may become qualified to cope temporarily with any relievable injury that may occur on the march, in camp, or on the field of battle. War can never become benevolent, nor can bullets be transformed into white-winged messengers of peace; but the horrors of war can be enormously mitigated, the sufferings of unnumbered victims assuaged, thousands of useful lives saved. It has been stated that after an engagement more deaths occur from delay in applying proper treatment and from exposure on the field than from the fire of the enemy. It is the function of first-aid instruction to avert all these, and by the magnificent organization now established to diminish the

mortality of future campaigns, to achieve victory at a smaller cost, and to dull the teeth of the dogs of war.

And in time of piping peace, no less than in days of raging war, will the good effects of the system be felt. The thousands of men that every year go out from the army and the national guard into the daily life of our country will carry with them the ability to succor the suffering and rescue the perishing, and, by the aid which they will afford here and there throughout the entire nation, will accomplish an amount of good, by the side of which even the splendid philanthropy of first aid upon the battlefield will seem to be insignificant in comparison.

REPORT OF CASES IN ABDOMINAL AND PELVIC SURGERY.

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Gastro-Jejunostomy with the Murphy Button.—A man, aged sixty-six, some eight years ago had an attack of hepatic colic lasting several hours, followed a few days later by a jaundice persisting three or four weeks. He soon regained his former good health and remained so up to two years ago, when he had another colic attack not so severe and not followed by jaundice. One year ago he began to have more or less pain in the region of the stomach, or rather, as he termed it, an uneasiness after eating. After two or three months of this uneasiness, he began losing flesh and had occasional vomiting spells. No blood was vomited at any time. At the time I first saw him, March 1, 1895, he had not been able to digest or retain much solid food for several months, and was greatly emaciated from his former weight, two hundred and forty pounds. He now weighs only one hundred and thirty pounds. His appetite was fairly good, and liquid nourishment was taken with relish and fairly assimilated. Solid food caused pain and nausea until relieved by vomiting. On examining him I found that he was greatly emaciated, had a "swarthy" look not exactly that of a malignant cachexia. Pulse and temperature were normal. Examination of the abdomen revealed a greatly dilated stomach, and its peristaltic action could be plainly seen through the parietes. It was painful on pressure only in the region of the pylorus; here an unnatural sense of resistance could be distinctly made out, covering an area about as large as the palm of the hand or smaller.

A test meal examined revealed an absence of hydrochloric acid. A diagnosis of a malignant stenosis of the pylorus was the most acceptable theory to me, yet a non-malignant stricture had been made out by a good diagnostician before I saw the case.

A tonic of strychnine and iron was given, and nutrient enemata were ordered four times in twenty-four hours. Under this regimen he gained eight pounds in a month.

A median incision four inches long was made, extending downward from one inch below the xyphoid cartilage. A loop of jejunum was pulled into the incision. After pushing the omentum to the left, a "puckering-string" stitch was put in the convex surface, the gut was incised, and one-half of the Murphy button—the larger piece (one inch in diameter)—inserted. The stomach was pulled into the incision and a similar opening was made in its anterior wall about four inches from the pylorus, and the other half of the button placed in position and securely fastened by pushing the two halves together. The approximation was perfect. A running Lembert stitch was put in on one side to give additional security against any accident that might occur from vomiting; besides, the

walls of the stomach were thickened from long and constant peristalsis. The patient left the table with a pulse of 90. He vomited for the first time ten hours after the operation, a large quantity of bile being thrown up. Two days later he had a similar attack of vomiting. The bowels moved on the second day. There was no distention at any time.

On the twelfth day I could feel the button distinctly, near the tenth rib. It was freely movable and had evidently completed its work and left its moorings at that time. Eggs, milk, ice cream, soft toast, rare beef-steak (chewed and the juice swallowed) formed his dietary at the end of two weeks.

On March 1, 1896, the man had not found the button, but wrote me that he thought it had passed some time during his three weeks' stay at the hospital. He has continued to gain in weight and strength, is free from pain, vomiting, or other symptoms pointing to malignancy, and I trust that my probable diagnosis of malignancy may prove to be wrong.

Sterile Echinococcus Cyst.—A woman, aged forty-six, the mother of several children, was first seen by me on September 10, 1895. Some seven years ago she noticed an enlargement in the region of the gall bladder. She at that time had several paroxysms of pain in that locality. During the interval from that time up to the present attack she had had no severe pains, but more or less uneasiness in the enlargement.

Some three weeks ago, after a long, tiresome ride in an uncomfortable vehicle over rough roads, she was taken with pain in the right hypochondriac region. A fever, continuous in character, of moderate intensity (100° to 102° F.), began about this time; the pulse was 90 to 100. The appetite was lost and in its stead was a loathing of all nourishment.

Examination revealed a growth the size of a fetal head, smooth, globular, painless, semi-fluctuating, occupying the right hypochondriac, renal, and umbilical regions. The abdominal walls moved freely over the growth. There was dulness all over the growth and continuous with normal liver dulness. At the lower border of the growth and in the median line two inches below the umbilicus, the globular or pear-shaped gall-bladder enlargement could be made out, movable on a stalk or stem, seemingly about the arc of a circle six inches in diameter.

On September 13, 1895, an incision was made in the right semilunar, from a point an inch below the free border of the ribs, extending downward three inches. The liver was cut directly down upon. Evidences of localized peritonitis existed over the surface of the organ in a few places. The gland was smooth and enlarged. Exploratory punctures were made, but no pus or other fluid save blood was found. The gall bladder could be easily made out, as the enlargement in the median line spoken of above. This incision was closed and another made directly over the gall bladder, two inches below the umbilicus. This opening was only one inch in length, and in it the gall bladder was stitched with one suture at its fundus, the wound in the parietes was packed with gauze, and the patient was put to bed.

There was absolutely no reaction following the operation. On the third day I incised the gall bladder. A large quantity (four ounces) of thick, clear, albuminous fluid escaped. Not wanting to remove the stones (which had been diagnosed at the operation) at that time, lest the adhesions be disturbed, I decided to wait a day longer. At this time (four days after the operation) I removed one hundred and twenty-five stones, the largest weighing thirty grains (a large stone, as gall stones are very light in proportion to their bulk). No bile escaped from the gall-bladder fistula, showing that the cystic duct was yet occluded. At this time I made another exploratory puncture in

the enlargement, recognizing that there existed adhesions over its surface and that no loop of intestine was in front of the liver, thus making the punctures safe. No fluid but blood was obtained by this tapping.

The patient died three weeks after the operation from exhaustion, the stomach refusing to take or retain any nourishment.

There are several features in this case worthy of comment. The large number of gall stones, with an entire absence of hepatic colic and absence of jaundice, can be explained only by the supposition that none of the stones ever passed into the common duct, or, if they did, they passed without much constriction or pain. The absence of bile in the gall bladder is easily understood, with the cystic duct occluded as it was by the stones in this case. The late attack, with pain, tenderness, and fever, was due to infection in the gall bladder. The large, smooth, liver mass was due to the bulging of a cyst from its under surface or deeper structure. The rapid development was deceptive, and the mass was made rapidly prominent at the expense of the absorption of the adipose in the abdominal parietes. The cyst, being in an old person (ecchinococcus developing usually in the young), had evidently developed earlier in life, and the ecchinococci, dying, left the cyst sterile; its contents, instead of having a specific gravity of 1.015 with no albumin and abounding in sodium chloride, was so changed by this sterility that its specific gravity was 1.032 and albumin was present (possibly due to presence of blood). The absence of hooklets can also be readily understood as being due to the sterility of the cyst's contents.

Pyonephrosis; Nephrotomy.—A lady, aged forty-six, the mother of three children, was taken down some eight weeks ago, having had "bad health" for several months before. She had been having what was called cystitis—frequent desire to urinate and much dysuria. Her bladder had been washed frequently and treated locally by instilling various solutions recommended for bladder inflammations, but all to no avail, as she continued to get worse, passing large quantities of pus (pyuria).

At the time I first saw her, with Dr. Porter, she was thoroughly septic; temperature varying from 100° to 105° F.; pulse, 120 to 140; anorexia, night sweats, passing large amount of pus in urine that was very irritating and offensive. The urine was ammoniacal or strongly alkaline. On the side to the right of the umbilicus and extending from the last rib to the crest of the ilium and into the loin was a well-marked enlargement, globular in shape, smooth to the touch, fixed, and very painful on manipulation.

This tumor had been gradually increasing for several weeks, and had not at any time diminished perceptibly. The patient presented no evidence of jaundice or other conditions pointing to gall-bladder or liver involvement. This tumor was the size of a good-sized cocoon. Taking the history of bladder trouble, rebellious and protracted, and with pus constantly in all urine, and the history of sepsis and a gradual enlargement in the region of the right kidney, a diagnosis of pyonephrosis was made, and an early operation was advised.

Operation was performed October 4, 1895. A hurried nephrotomy was performed, making the opening well posteriorly to promote drainage; the kidney was incised, a drainage tube was inserted, and gauze packing was introduced. A more extensive operation was not advisable, owing to the extreme septic condition of my patient. These cases stand operation and anaesthetics badly. The kidney abscess drained fairly well for a few days, the pulse, temperature, and appetite improving very much. The discharge then began to diminish, and with this the old symptoms of sepsis

returned. I then decided to do either a nephrectomy or a more extensive nephrotomy. At the operation the latter was decided upon, owing to the feeble condition of the patient and the extreme difficulty likely to be experienced in delivering the kidney and ligating the pedicle. The old incision was carried downward and forward to near the anterior spine of the ilium, and the whole length of the enormously enlarged organ was exposed on its convex aspect. The kidney was incised its whole length and each compartment of pus was broken into with the finger, during which process a most terrific hemorrhage took place, filling the wound faster than my assistant could sponge it out. This part of the operation was quickly completed, and the opening in the kidney was snugly packed with gauze to control the bleeding. The wound was left open in the overlying structures.

The patient suffered very much from shock and loss of blood, and was put to bed in a very weak state. One-tenth of a grain of strychnine was given during the operation, which lasted only fifteen minutes; the foot of the bed was raised, hot applications were made about the body, and hot milk and whiskey enemas were given. During the night she lost considerable blood, and at my visit next day I found her calling for more air and giving evidence of acute anæmia and profound shock. Pulse, 144; temperature, 96° F.

Twelve ounces of a sterilized normal saline solution were injected into the cellular tissue of the posterior surface of the thighs. Within an hour this resulted in reducing the pulse to 116 beats. The gauze packing was removed at the end of forty-eight hours, and the cavity was irrigated with an iodine solution and repacked. Nutrient enemas were continued each four hours until her stomach was able to retain nourishment, the wound being treated as above daily. Nourishing food, iron, strychnine, were given right along day and night.

January 15, 1896.—She improved for a few weeks following the last nephrotomy, but again lapsed into her old septic condition, with a pulse daily running up to 120 to 140, temperature 101° to 103° F., the drainage diminishing all the time. At this date I decided to make an effort to remove the kidney. The overlying tissues were infiltrated and indurated. The kidney was as large as a cocoon and extended below McBurney's point upward beneath the liver. An incision was made along the line of the last operation, but extended farther forward from the lower end of the old scar. Another cut was made near the upper end of the horizontal incision, the direction of which was parallel with the last rib. This increased the working-limit considerably. The kidney was separated from its firmly adherent surroundings, down to the ureter and vessels. The pedicle was so deeply situated and the kidney so large that it was impossible to get a ligature down to it. I thought I would have this difficulty to encounter, and had my Koeberle serre-nœud and wire ready. The wire was tightened about the pedicle and the kidney cut away with scissors, leaving a good pedicle button; no loss of blood. The instrument was permitted to remain for three days and was then removed, without bleeding. Her convalescence was uneventful.

Vaginal Hysterectomy for Cancer in the Pregnant Uterus.—The patient, aged thirty-two, eleven months ago gave birth to a full-term child. Nothing unusual occurred during her confinement or convalescence. Three months ago she had quite a profuse hemorrhage, with a continuance of the flow from that time up to the present. I saw her three months after the first bleeding. She had been losing flesh and strength very rapidly. An examination revealed a bilateral cervical tear, and on both lips of the cervix was a large cauliflower-appearing surface that bled

easily to the touch. The uterus was the size of a small coconut and very much the shape of a pregnant uterus; but as the woman presented not one of the subjective symptoms of pregnancy and had not menstruated since her last confinement, eleven months ago, the idea of pregnancy was quickly dismissed, as the all-important point in the diagnosis related to the question of malignancy. A piece was cut from the growth and examined by myself and by two other pathologists, all agreeing that it was malignant.

On October 29, 1895, I performed a vaginal hysterectomy, using, as I always use, the Price hysterectomy forceps. It was somewhat difficult to pull the uterus through the vaginal-vault opening, but, owing to the elongation taking place from the traction on the cervix at the expense of the width of the organ, it was delivered and the operation was completed in twenty minutes. At the end of thirty-six hours the forceps were unlocked and a few hours later removed. The patient's temperature never reached the hundred point, the pulse remaining under 80 during her entire convalescence. She left the hospital on the nineteenth day.

This is a very rare condition, occurring about once in two thousand cases of pregnancy. In twenty-seven cases tabulated by Vanderveer,¹ five women died during labor undelivered and nine died during the puerperal period; in three cases the results are not mentioned; ten patients recovered—a mortality to mothers of sixty per cent.

Another author reports three hundred cases of cancer of the uterus complicating pregnancy, with a mortality of fifty-two per cent. Abortion occurs in thirty-five per cent. of cancerous pregnant uteri. The mortality to the mother in abortion is very high. In twenty-five per cent. of cases dying undelivered the fatal result was due to a retained putrid fetus, shock, or exhaustion. Post-partum sepsis comes in for a big percentage in the mortality. Rupture of the uterus occurs frequently. Rapid spread of the growth, owing to increased circulation during pregnancy, takes place. Most of the few mothers surviving delivery die within three months. Only thirty-three per cent. of children are born alive, and twenty per cent. of these die within a few weeks. A large percentage of the few living children is left motherless.

Tetanus.—Dr. E. F. Trevelyan reports a single case of cephalic tetanus treated by injections of antitoxic (antitetanic, Roux) serum. This was without result, although two successful cases have been reported by Caretti and by Einstein and Buonati. This disease is also known as tetanus hydrophobicus, owing to the pharyngeal spasm induced by attempts at swallowing; tetanus paralyticus, as proposed by Klemm, to emphasize the importance of the facial paralysis; and bulbar tetanus, to accentuate the fact that bulbar symptoms are so frequently present. There is, however, no real difference between cephalic and ordinary tetanus, as is shown by the fact that the muscular spasm tends to become general in both; in fact, it is only a difference of mode of ingesta, the former resembling more closely experimental tetanus. Failure in this case may have been due to an insufficient quantity used or to the use of the warm water in dissolving the desiccated serum. This is the third instance in which the author has observed the use of the remedy—in one the Tizzoni-Cattani serum was employed—and in all it did not appear to have the slightest effect upon the disease.—*British Medical Journal*, 1896, No. 1832, p. 321.

¹ See *Journal American Medical Association*, vol. xx., pp. 14-17, 1892.

Progress of Medical Science.

The Blood in Tuberculosis of the Bones.—Dr. John Dane, of Boston, has studied the condition of the blood in cases of articular and osseous tuberculosis. The results of his observations are published in the *Boston Medical and Surgical Journal*, and are summarized as follows: (1) Most cases of tuberculosis of the bones and joints do not decrease the number of the red corpuscles in the blood. (2) They do, however, affect the percentage of hemoglobin, giving rise, in fact, to a mild degree of chlorosis. (3) The leucocyte count seems to bear no direct relation to the temperature. (4) High counts, especially in hip disease, point to the probability that there is or shortly will be an abscess formation; but low counts do not preclude the presence of abscess, especially in cases of long standing. (5) When, in connection with a low leucocyte count an abscess is found to exist, the pus from it is sterile, and the case is generally one of long standing. (6) In the presence of an abscess, a low leucocyte count generally indicates the absence, and a high count the presence, of a secondary infection with pyogenic organisms. (7) Cases in which, at the primary operation, the pus has proved sterile, show an increase in the leucocyte count when the wound becomes infected with pyogenic organisms. (8) High leucocyte counts do not always affect the differential count. (9) Cases with a traumatic origin are generally accompanied by a high leucocyte count and run a more severe course. This is especially shown in cases of hip disease. That more of the cases which entered with a developed abscess did not give a definite history of trauma is due no doubt to the fact that the length of time the disease had been progressing had caused a lack of accurate detail at the beginning being remembered.

Management of Pregnancy with Nephritis.—Dr. Mynlieff (*Der Frauenarzt*, January 1, 1896) says that when a woman with chronic nephritis becomes pregnant the induction of abortion is indicated on account of the immediate peril of the patient, which increases as pregnancy advances, the certain continuance of the morbid process in the kidneys, the great tendency to flooding and abortion, and the small prospect of the development of the fetus up to term. When the physician is called in when pregnancy is advanced, the induction of premature labor may be undertaken at the time which seems most favorable for saving the life of the fetus. The history of previous pregnancies must be duly considered, and if it is found that the fetus tends to die at a certain date in pregnancy, that date must be anticipated. In any case the life of the mother must be considered first; hence immediate interference is usually the safest course. The same principle is often best for the fetus when viable, as it may die suddenly earlier than in previous pregnancies.

Incompatibility of New Remedies.—Moerck points out that trichloride of iodine is decomposed by alcohol and partially by water; the aqueous solution liberates iodine from iodides; ammonia added to it forms the explosive iodide of nitrogen; reducing agents liberate the iodine; and many organic bodies, among others the fatty oils and alcohol, decompose it. Hydroxylamin hydrochlorate is very unstable and readily forms explosive mixtures; it is a powerful reducing agent. Alkalies liberate the base, which is unstable and explosive.—*American Druggist and Pharmaceutical Record*.

The Doctors in France number 17,500. Four hundred and fifty die each year and 650 new ones are turned out by the universities.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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"A PLEA FOR A SIMPLER LIFE."

SUCH is the title of a small volume by Dr. George S. Keith, of Edinburgh, in which he seeks to point out some of the evils which, he holds, have arisen from the two opposite lines of medical practice during the past century. A complete revolution has taken place in the practice of medicine within the last sixty years. Formerly all the common diseases were ascribed to overaction, and the remedies were bleeding, vomiting, purging, sweating—in fact, depletion in its most violent forms. A fashionable London physician began teaching that disease was due to a weakened action of the functions and the body needed "setting up," *i.e.*, stimulating and tonic medicines and plenty of good food and drink. This system grew to maturity in a short time and was carried to as great extremes as the other.

Dr. Keith's observation of different methods of treating disease in the various parts of Europe as well as in the East caused him to lose faith in the "depletory system" then practised in England. Dr. Keith relates his personal experience with calomel and aperients, which influenced him further to doubt the efficacy of drugs. Patients wish immediate relief, and something must be given, though one often gets more credit for bread pills than for anything stronger. The aphorism of Hippocrates, "*Melius remedium dubium quam nullum*"—"Better a doubtful remedy than none"—has done much harm. "Better no medicine than a doubtful one." The doubtful medicine may obstruct nature instead of aiding her, and the physician may never know what the natural course of the disease might be. For instance, it is the almost universal custom to administer an aperient when called to a case of scarlet fever. The doctor is usually called in the second stage of the disease, when the poison which has been previously absorbed is being thrown off by the skin and mucous surfaces of the throat and pharynx. It seems natural that an aperient, by setting up intestinal irritation, will interfere with the action of the skin and throat and make the case much more severe than it would be otherwise. Dr. Keith recommends the giving of nothing stronger than milk for three weeks after the disease has made its appearance. When disease attacks the body, the appetite usually fails. Nature usually indicates in this way the course to be followed. There is a reserve fund of nourishment

laid up in the body in the shape of fat and tissue which can be drawn upon during disease, when the digestive organs require a rest. The propriety of giving or withholding food depends entirely upon the condition of the digestive organs. "The physician should always have a dread of giving too much as well as too little." "The doubtful remedies which, according to the new axiom, are to be avoided in states of disease are medicines, alcoholic stimulants, and food; and nature's methods which we advise to be substituted for them, or rather to be allowed full play without them, are rest—not forgetting rest to the stomach—warmth, or, in rare cases, cold; a free supply usually of water and always of fresh air, and sufficient time for the organs to recover their ordinary working-powers, and especially for the nervous system to make up its waste. In short, we must fall back on the old and much forgotten *vis medicatrix nature*."

The author says that the means commonly employed at the present time for the cure of many diseases are precisely those which are, when used improperly, the causes of the same diseases, *i.e.*, food and stimulants. "If a healthy person takes too much carbonaceous food the excess is for a time set aside in the form of fat, or the secretion in the liver of bile is unduly increased, the blood gets carbonized, languor and discomfort come on, appetite fails, and a chill followed by irritation of the stomach ends in a bilious attack. This with enforced starvation clears off the superabundant carbon and leaves the sufferer in a healthy condition. When the excess is animal food, this may go on for years, and if the individual is of sound constitution he may dispose of twice or thrice the quantity of flesh food that is required by his system. The kidneys usually give out first, or the blood becomes loaded with animal matters and these are deposited in various organs in the form of fibrin, which hardens and destroys more or less of their substance and their functions."

Dr. Haig has proved by recent investigation that uric acid in the blood destroys its red globules and induces anæmia, for which good "red meat" has been considered the fittest cure. In experimenting on himself he took a certain quantity of beef tea as an equivalent for a certain number of grains of uric acid. He shows that iron is useless, so long as it is given with red meat. The most white-faced family, Dr. Keith said, that he ever saw was a family of six who had at least two full meals a day of beef and mutton. The evils of food excess are much aggravated if at the same time alcohol is taken.

The author writes: "In my younger days, in the twenties and thirties, the food of the working man and also of the upper classes was simple and good. It consisted mostly of milk, eggs, fish, oatmeal, potatoes, and a few other vegetables. There was no baker and no butcher in the parish, and there was no doctor within five miles. The sanitary state of the houses was worse than now. But with the good food there was not much general sickness. By and by times changed; white bread and flesh came into the market, and along with these luxuries came the doctor. The improved sanitary condition should have led to a

healthier state." As to flesh the author says: "The animal makes a perfect body from vegetable matter pure and simple, but the phosphates go to form the skeleton and in the muscle which we eat they are conspicuous by their absence." Simple and restricted diet is more necessary in advanced life than earlier, and stimulants do more harm then than formerly.

"If when in good health we took only the food necessary for our comfort and work instead of working the stomach to the utmost and helping it when it flags with dainties, drugs, and stimulants, we would have much more pleasure from our meals and a longer continuance of strength and health. If we could eliminate from the old system of cure a large amount of depletion, and from the new a larger amount of the feeding and physicking, we would come nearer to nature's mode of preventing and curing disease and we would find that prevention would be the larger element; the need for the other would be well-nigh extinguished."

OUR SELF-PRESCRIBING PATIENTS.

To such as have studied the causes of the present decline in professional work it becomes a serious question whether there are not other elements than those attributable to stringent business relations that explain the condition. While the science of medicine has made great progress in the methods of diagnosis and treatment, the physician finds that his vocation, although more honorable and useful, is really less remunerative, and his legitimate practice is proportionately curtailed. There is no less sickness in the world, but the number of patients has markedly decreased. In fact, the sick ones are inclined to get the better of the doctor and to act more or less independently of his direct ministrations. It is not difficult to understand why this is so, when we consider the vast number of persons who willingly yield to the growing habit of prescribing for themselves. This tendency is fostered by the belief, in the majority of cases, that such prescribing is tacitly sanctioned by the profession itself by the use of many of the legitimate remedies so frequently ordered for the relief of the more common ailments. There is a very reasonable foundation for this conviction, and its responsibility rests more or less on the prescriber himself. At the bottom of the whole business is the prevailing practice of delivering private clinical lectures to the patient on the nature, extent, progress, and outlook of his malady, and the indications for the use of special drugs in the treatment of certain conditions. While this may give evidence of remarkable learning on the part of the medical adviser and may help for the time being to establish his methods in the confidence of his client, it too often educates the recipient into the presumption of thinking and acting for himself. The most superficial knowledge is all that is necessary to this end, and, easily persuading himself that he has a repetition of the malady of which he has had such an authoritative opinion, he either repeats the prescription at will or purchases his former remedy in open

market at the counter of the obliging pharmacist. Quinine, phenacetin, salol, morphine, pepsin, the mineral laxatives, and a host of other much-used medicines are given the currency of indispensable household articles. To such persons a diagnosis is a useless refinement, it being sufficient for their special purpose that their physician has given explicit directions how to use the supposed harmless remedies under what the patient believes to be similar circumstances. Not only this, but the remedy is freely prescribed to all his friends who are willing to trust to the blind chances of having a like ailment.

With shame be it said that very many of the pharmacists, far from discouraging such practices, not only willingly abet them but offer special inducements to purchasers by peddling the favorite prescriptions of well-known physicians. These drug sellers, for they deserve no more dignified title, do not prescribe themselves, but are willing to recommend the prescription of another, charging a round price for the trouble of dispensing it. When it is understood that the physician knows of this, it is not difficult to explain why so few prescriptions are written and why so many prescribers deal out their own medicines.

Aside from the purely business aspects of the question, this inconsiderate self-prescribing is in the highest degree detrimental to the community at large in stimulating an unnecessary consumption of drugs, in the formation of habits which eventually undermine health, and in directly jeopardizing life by the loss of valuable time in the prompt recognition and scientific treatment of many of the dangerous and insidious maladies of which the ordinary patient has no possible knowledge. The profession should always be ready with any information tending toward the prevention of disease, but any attempt directly or indirectly to teach therapeutics is fraught with untold evil to the giver and the receiver. The more the patient is kept in ignorance of the remedies prescribed, the better for him, and certainly, under the circumstances already named, the better for the prescriber. The physician is never called in consultation with his patient, as the very nature of the case precludes the necessity of more than one opinion. The moment any argument is allowed on this point all proper respect for purely professional opinion is lost. This is one of the results of selling the birthright for a mess of pottage. The lesson is one which many of the too-obliging practitioners can take to heart.

The Health Department of Greater New York.—

According to the proposed charter of Greater New York, there will be but one health commissioner, who may be appointed or removed at pleasure by the mayor. The main office of the department will be on Manhattan Island, but there will be a branch office with a deputy commissioner, a register of records, and a sanitary superintendent in Brooklyn and possibly in other boroughs. The bureaus of the register of records and of the sanitary superintendent will remain as at present constituted.

THE PATHOGENICITY OF THE DIPLOCOCCUS LANCEOLATUS.

THAT the presence of a micro-organism is not necessarily an indication of the existence of disease cannot be better illustrated than by the varying behavior of the diplococcus lanceolatus, or the pneumococcus. This organism, as is well known, is often to be found in the mouths of apparently healthy individuals, presumably giving rise to diseased conditions when the usual relation between its virulence and the bodily resistance is changed—either the former increased or the latter diminished, or both of these conditions are operative. Other organisms, it is true, may also give rise to pneumonia, but the capsulated diplococcus is the most common exciting factor.

It is generally recognized that the pneumococcus is responsible for many of the complications of pneumonia, as well as of a number of independent disorders. This organism is possessed of pyogenic properties, as some of the conditions referred to are further attended with suppuration, the pus being characterized by its viscosity, plasticity, and greenish color.

Simple uncomplicated pneumonia must be viewed as a purely local process in the majority of cases, although a number of observers have succeeded in finding pneumococci in the blood. That generalized infection does not take place more commonly is to be attributed to a relative immunity on the part of human beings. In order for such infection to result—that is, for the pneumococcus to undergo multiplication in the blood and to exercise pathogenic activity—either the micro-organism must possess increased virulence or the patient must manifest congenital or acquired predisposition, or contra-immunity. Cases in which the conditions just named prevail are so uncommon that an observation recently recorded by Schabad (*Centralblatt für Bakteriologie*, No. 25, 1896) seems for this and other reasons to be of unusual interest.

A man, forty-five years old, was suddenly seized with chill, fever, cough, and expectoration, together with pain in the right side of the chest. On the second day he complained of pain in the right hip-joint and on the fourth day also of pain in the left knee-joint. Physical examination made on the sixth day showed the area of cardiac percussion dulness to be increased toward the left, while the heart sounds were obscure, the pulse was frequent, and the vessels were atheromatous. Dyspnea was pronounced and the percussion resonance over the upper lobe of the right lung was impaired, while the breathing was bronchial and subcrepitant râles could be heard. At the base of the left half of the chest in the axillary region pleural friction sounds were audible. The temperature was moderately elevated. Inoculation of agar tubes with blood obtained under suitable precautions resulted in the development of pneumococci, which in turn yielded typical cultural and pathogenic reactions. The case terminated fatally and post-mortem examination disclosed the following conditions: Acute fibrino-purulent pericarditis; beginning parenchyma-

tous and fatty degeneration of the heart; atheroma of the aorta; chronic pleurisy on the left and acute pleurisy on the right; croupous pneumonia involving the upper lobe of the right lung in the stage of gray hepatization with suppuration; acute purulent peritonitis; cirrhosis of the liver; chronic hyperplasia of the spleen; fatty degeneration of the kidneys; purulent coxitis on the right and purulent gonitis on the left. The pus from the joints from the abdominal cavity and from the pericardial sac was thick and yellowish, with a tinge of green. Smear preparations and agar inoculations from the pneumonic lung, from blood from the heart, from the splenic pulp, from the pericardial and the peritoneal exudates, and from the pus from the joints all disclosed the presence of pneumococci. In some of the cultures the bacterium coli commune also developed.

News of the Week.

Drs. L. D. Bulkley and G. H. Fox, of New York, were among the visitors registered at the Carlisle meeting of the British Medical Association.

The Medical Service at the Paris Exposition.—Dr. Gilles de la Tourette has been appointed physician-in-chief for the world's fair of 1900 in Paris.

The Brewing of Ale is on the increase in Great Britain, a tax having been paid on over one million barrels more this year than last.

"Appendicitis as it Affects Life-Insurance Risks."—The author of the paper with this title, which appeared in a recent issue, was Dr. Albert Wood, not Woods, as written.

The Fourth International Congress of Hydrology, Climatology, and Geology will be held at Clermont-Ferrand, Puy de Dôme, France, September 28th to October 4th. The general secretary of the congress is Dr. E. Fredet.

Dr. Besnier will be the president of the next International Congress of Dermatology, which will be held in Paris in 1900 during the exhibition year.

Typhoid Fever in New Haven.—A small epidemic of typhoid fever prevails at New Haven, sixty-nine cases having been reported during the last few days of August. Most of the cases have been traced in their origin to milk supplied by one dealer.

The State Commission in Lunacy.—According to a telegram from Albany, Dr. Carlos F. MacDonald, president of the State Commission in Lunacy, has resigned, the resignation to take effect the last of this month. Dr. Peter M. Wise has been appointed by Governor Morton to succeed him.

A Limited "Kur."—The park commissioners have given permission to the members of the Kneipp-Verein to walk barefooted upon the grass of certain portions of Central Park, between six and eight o'clock in the morning. This privilege is granted for one week only.

The Semi-Centennial of Anæsthesia.—It is proposed in France to celebrate during the coming autumn the fiftieth anniversary of the discovery of anæsthetics. The details of the celebration are not yet fixed, but it will probably take place during the session of the French Surgical Congress in October.

Closure of a Hospital.—The Mount Vernon Hospital was closed the last day of August, owing to lack of funds, and the managers have concluded not to open again unless the city will appropriate an amount sufficient for the needs of the institution.

Tuberculosis and Telephones.—It is said that Vienna physicians have traced cases of tuberculosis and other contagious diseases to the use of public telephones, and the suggestion is made that a sponge with a solution of carbolic acid be kept in every station for a daily cleaning of the apparatus.

The Hospital Sunday Collection in London this year has fallen far below expectations. It is said that Guy's Hospital has taken most of the money charitable persons had to give to hospitals.

Professor Gusserow has been appointed dean of the medical faculty in the University of Berlin for the year 1896-97.

Dr. Jacob Rosenthal died at Chicago, on August 24th, at the age of thirty-three years. He was graduated at the Jefferson Medical College in 1888, and after a period of post-graduate study abroad engaged in the practice of his profession at Chicago, devoting himself especially to gynecology.

Vital Statistics of Philadelphia.—For the week ending August 22d there occurred in the city of Philadelphia 382 deaths, of which 187 were in children under five years of age. The largest number of deaths from a single cause—66—was due to cholera infantum, and the next largest number—39—to sunstroke. There were reported during the week 55 cases of typhoid fever, 23 of diphtheria, and 14 of scarlet fever.

The Estimated Cost of a Medical Education in Berlin is 2,300 marks, about \$575. The fee for matriculation is 18 marks; for examination for the medical faculty, 242 marks; diploma fee, 440 marks; fees for all necessary lectures, etc., 800 to 1,200 marks; cost of printing the dissertation, about 150 marks; and the necessary books and instruments, 500 marks. Then for board, lodging, and clothes, at least 7,600 to 8,000 marks must be added, and much more if one would live in ordinary comfort.

The Ownership of the Prescription.—The *Medical Press*, speaking of a proposal to prohibit the redispensing of prescriptions, on the ground that it would check the sale of poisons and other dangerous drugs, remarks: "We rather think that the purpose is to secure for the general practitioner an additional fee whenever a repetition of medicine is needed. Such a suggestion may, perhaps, be grateful to a certain class of practitioners, but in our opinion it is consistent rather with the commercial morality of America, whence it emanated, than with that of the 'Old Country,' and is en-

tirely beneath that which ought to govern our profession. A patient who pays his money for a prescription seems to us to be quite as much entitled to the unrestricted use of that document as he would be to the use of any other purchased article."

Black Diphtheria in New Jersey.—An epidemic of black diphtheria has been prevailing in Stockton, N. J.

Unethical or Too Popular.—A strong opposition was made this year to the re-election of Mr. Christopher Heath to the presidency of the Royal College of Surgeons, the main objection urged against him being apparently that he had degraded his office by accepting an invitation to give in America a course of lectures to which an honorarium was attached. It surely cannot be regarded as unethical or beneath the dignity of a surgeon in England to receive a fee for strictly professional work, and he could hardly be expected to be so generous as to pay his own travelling expenses besides giving his time in order to deliver a course of lectures to an American audience. Possibly Mr. Heath's opponents thought he ought to confine his remarks to his own countrymen, or possibly they were simply animated by vulgar jealousy.

The Moscow Congress.—The following are the titles of the subjects set for discussion in the surgical section of the International Medical Congress, August 19-26, 1897: 1. "The Treatment of Infected Wounds." 2. "The Non-operative Treatment of Malignant Growths and the Results of Serum-Therapy." 3. "Results of the Operative Treatment of Cerebral Tumors and of Jacksonian Epilepsy." 4. "Surgery of the Lungs, with Special Reference to the Treatment of Tuberculous Cavities and of Pulmonary Gangrene." 5. "Treatment of Cancerous Stricture of the Œsophagus, Pylorus, and Rectum, with the Results Obtained." 6. "Gonorrhœal and Syphilitic Affections of Joints." 7. "The Principles of Construction of Different Forms of Prosthetic Apparatus for Deformities following Diseases of Joints, Paralytic Affections, Congenital Dislocations of the Hip, and after Amputations."

Yellow Fever in Cuba is increasing steadily and is reported to be of a most virulent type. Its victims are found almost exclusively in the Spanish army, the ill-fed and ill-housed youths composing that army succumbing almost with the first touch of the disease. The official report of the Spanish army sanitary corps for the second ten days of July shows that there were in the military hospitals of Cuba at the end of that period 8,838 cases, 5,538 of which were new, and that 346 deaths occurred, 250 being due to yellow fever. Since that date the number of cases is said to have largely increased, but the exact figures cannot be ascertained, as the Spanish authorities are always tardy in publishing their reports. The building of the University of Havana is to be converted into a hospital, as it is now of little use, owing to the lack of students. The epidemic of small-pox in the island is gradually subsiding, through want of fresh material for the disease to feed upon.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 11, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

DR. EUGENE HODENPYL presented a series of specimens illustrative of

The Association of Malignant Disease and Tuberculosis.—For the first specimen he was indebted to Dr. Thacher. It had been removed from a man, fifty-three years of age, who ten months ago had developed a small tumor on the right side of the neck, opposite the thyroid cartilage. One month later the growth had been removed at the German Hospital. It had soon reappeared. When next seen it extended up from behind the angle of the jaw to the median line, was nodular, very hard, and adherent to the skin, jaw, and deep structures. There was some superficial ulceration. One week ago the breathing became very difficult and painful. The urine was normal. The temperature varied from 99.5° to 101.5° F. At the autopsy the upper lobes of the lungs were found to be the seat of a recent tuberculosis, and the tongue contained an epithelioma. On the right side, opposite the thyroid cartilage, was an infiltrating growth, which had ruptured into the œsophagus. Several sections had been examined, but no evidence of tubercles found in the epitheliomatous mass.

The second specimen showed not only the two lesions occurring in the same individual, but the combination of the two diseases in the same lymph nodes. The patient, a man of forty-four years, gave no tuberculous or syphilitic history. He had had a small gland in the neck since childhood, but it had not undergone any appreciable change during all this time. Last March a small ulcer was noticed on the right side of the tongue, which soon healed. During the summer a small painless lump appeared under the jaw. Last November an ulcer appeared on the tongue and soon began to increase rapidly. On admission, in February, he was moderately emaciated and was expectorating profusely. On the right side of the tongue and floor of the mouth was a small growth, which was somewhat ulcerated. There was a lymph node underneath the angle of the jaw. Dr. McBurney removed the tongue by Kocher's operation, together with the lymph node. In the lymph node (shown under the microscope) was a combination of the lesions of tuberculosis and epithelioma. He had stained a number of sections for tubercle bacilli, but with negative result. The miliary tubercles were slightly cheesy in their centres, and contained a considerable number of giant cells.

The speaker said that George Clement, in Virchow's *Archiv* for 1895, had presented an excellent *résumé* of the literature of the subject. The combination of tuberculosis and epithelioma or carcinoma in the same organ had been described by a number of observers, but in all less than fifty typical cases of this kind were on record. The combination of tuberculosis and epithelioma in the same individual was much more frequent. Lubosch's conclusions, from his study of this subject, are: (1) That carcinoma may be engrafted on an old tuberculosis, and that half of all the cases reported belong to this class; (2) that an old case of tuberculosis may become carcinomatous, and the carcinomatous cachexia facilitate a fresh tuberculous eruption—a rare occurrence; (3) that a carcinomatous person may become tuberculous, although only three instances of this kind were found on record; (4) that a chronic, progressive tuberculosis may act as a

predisposing cause to carcinoma, in the same manner that a local traumatism predisposes to malignant disease. Dr. Hodenpyl said that in the case reported it seemed to him that the two lesions were probably nearly simultaneous in their occurrence. There was no tuberculosis found in the primary tumor.

DR. GEORGE P. BIGGS said that this specimen was interesting to him in connection with the case of giant cells which he had presented some time ago. The two conditions might easily be confounded. The rarity of the association of malignant disease and tuberculosis seemed to him to be partly explained by the different periods of life in which these diseases usually appeared. One susceptible to tuberculosis generally succumbed to this disease before arriving at the age at which carcinoma or epithelioma or dinarily developed.

DR. J. S. THACHER recalled a case seen clinically about one year ago, occurring in a nurse, about forty-five years of age. This woman had presented only certain vague abdominal symptoms, and several physicians had failed to make a positive diagnosis. At the autopsy there was some difference of opinion as to whether the case was one of tuberculosis or carcinoma. The peritoneum seemed to show typical miliary tubercles, but in the pancreas were nodules looking more like carcinoma. Dr. Coleman found, on making sections, that both conditions were present, the tuberculosis involving principally the peritoneum.

THE PRESIDENT said he thought he had discovered in the specimen under the microscope areas of cheesy degeneration in the newly-formed epitheliomatous tissue, suggesting that at least in those places the tuberculosis was of more recent development than the epithelioma. He could not see any reason why tuberculosis and carcinoma should not be associated; it was a pure assumption to suppose that they were in any way antagonistic. He recalled a case of extensive secondary carcinoma and diffuse pulmonary phthisis in the same lung. He thought such cases were not so very rare; probably they had been overlooked or not thought worth reporting.

DR. HODENPYL then presented microscopical specimens of

Multiple Miliary Aneurisms of the Left Anterior Cerebral Artery.—These had been taken from a rather elderly lady, who, while apparently in fair health, had suddenly fallen forward from her chair and become unconscious. She died soon after admission to the hospital. At the autopsy the thoracic and abdominal organs were found comparatively normal. There was no atheroma of the larger vessels of the thorax and abdomen. There was, however, a well-marked atheroma of all the vessels at the base of the brain, and the left anterior cerebral artery presented what looked to be multiple miliary aneurism. The vessel was studded with from ten to fifteen small nodules, varying in size from that of a pin's head to three or four times that size. There was a considerable extravasation of blood at the base of the brain; evidently the hemorrhage had occurred from rupture of one of these small nodules. Microscopical examination showed very extensive disease of the vessels. In at least one place rupture had taken place into a blood-vessel, so that it was really an aneurism; in the other places the more accurate designation would be "atheromatous cysts."

Acute Exudative Meningitis.—Dr. Hodenpyl showed some microscopical specimens from a case of this kind, in which there had been scarcely any gross lesions. He thought the diagnosis could not have been made except by the aid of the microscope. The patient, a colored man, twenty-three years of age, was admitted to the hospital on January 19, 1896. He was very intemperate in his habits, and had had syphilis two years before. About the middle of last November he had begun to suffer from dizziness and

headache, but these had temporarily improved under antisyphilitic treatment. The headache had then returned and become more severe. On admission he was well nourished, the breath was foul, there was considerable prostration, the urine was normal: the temperature was 100° F., pulse 66, and respirations 22. The physical examination was negative. On the day after admission he was found to be stupid and he passed no urine. Fourteen ounces of urine were drawn by catheter. On January 22d, two days later, there were convulsions and coma. The next day he could hardly be aroused from his stupor. On January 25th there were convulsions again. On January 28th he died. While in the hospital the temperature had been between 99° and 100.8° F., the pulse between 64 and 128, and the respirations between 16 and 24. At the autopsy the pia mater was congested and somewhat dry, and although its lustre was slightly diminished its appearance was not at all characteristic. A very small amount of clotted blood was found at the base of the brain, and a little slightly blood-tinged fluid in the lateral ventricles. All over the convexity of the brain on either side the microscope showed a moderate exudation in the meshes of the pia, and little on the surface. The exudate consisted of serum, fibrin, and leucocytes, with a few blood cells and cells from the pia itself.

The speaker said that three kinds of meningitis normally showed no gross lesions, viz.: (1) Acute cellular meningitis, which was comparatively rare; (2) tuberculous meningitis, either with or without exudative meningitis; and (3) acute exudative meningitis. It seemed to him quite remarkable that such a small lesion should prove fatal, as it undoubtedly did.

DR. GEORGE P. BIGGS referred to a similar case, that of a girl who had frequently been in the Hudson Street Hospital for hysteria. One day, just as she was about to be discharged from the hospital, she fell dead. The autopsy showed no very clear cause of death, except that the pia mater seemed to be a little dry and dull. Microscopical examination was made of the medulla, cerebellum, and cerebrum, and in all these parts an exudate was found. This consisted of an extremely thin layer, but containing many cells. The rapidity with which death might occur in these cases was interesting. He remembered a case in which a boy had died within twenty-four hours of the onset of the first symptoms. Microscopical examination in this case disclosed the cause of death.

The next specimen, presented by DR. HODENPYL, was from a case of

Primary Carcinoma of the Liver and Head of the Pancreas.—It had been taken from a woman, twenty-seven years of age, who had been comparatively well up to one year before her death. At that time she had begun to have some jaundice and offensive diarrhoea, with abdominal pain. For three weeks prior to admission she had had pretty constant pain to the right of the epigastrium. On admission she was moderately emaciated, intensely jaundiced, and suffering considerable pain in the epigastrium. The abdomen was moderately distended with fluid. The area of liver dulness was very decidedly increased, and also the splenic dulness. There was an irregular fever, the temperature sometimes rising as high as 103° F. About two days before death an exploratory operation was performed. An enormously distended gall bladder was found, and also a new growth in the region of the pancreas. An anastomosis was made between the gall bladder and the intestine by means of a Murphy button. Death occurred from peritonitis and shock. At the autopsy the abdomen was found to contain about two quarts of bloody fluid, and the intestines were distended with tarry blood. The intestinal suture was tested and found to be complete. The gall blad-

der contained two ounces of dark bile. The stomach was dilated and the mucous membrane bile-stained. The left half of the pancreas was soft. The organ was greatly enlarged, and behind and firmly adherent to the duodenum and under surface of the liver was a new growth. In the duodenum were two circular openings with rounded edges, communicating directly with the necrotic new growth. A probe passed only a short distance into the common duct. The gall bladder at the cystic duct opened by a solution of continuity directly into the cancerous mass. The liver was enlarged and intensely bile-stained. The gall ducts were greatly congested. The kidneys showed acute degeneration.

THE PRESIDENT remarked that some time ago he had presented similar cases to the society. In two of them the patient had died so early that all that was found was a nodule restricted to the head of the pancreas. The particular interest in the case was the demonstration of the fact that carcinoma did occasionally begin in the head of the pancreas.

Carcinoma of the Liver and Stomach.—The next specimen presented by DR. HODENPYL was from a man, fifty-two years of age, admitted to the hospital in November. Three months before, he had been successfully operated upon for hydrocele. At the time of his last admission the abdomen was distended, but no fluid was withdrawn from it. Physical examination showed the liver considerably enlarged. Emaciation and enlargement of the liver were the only evidences of disease, and these were steadily progressive up to the time of his death. At the autopsy there were three quarts of bloody fluid in the abdominal cavity. The liver weighed twelve pounds, and was almost completely replaced by carcinomatous new growth. At the pylorus was a carcinomatous mass, just beginning to ulcerate. There was also a small carcinomatous mass at the head of the pancreas.

Primary Carcinoma of the Stomach with Perforation through the Duodenum into the Lung.—The patient from whom Dr. Hodenpyl took these specimens was a man, fifty-one years of age, who gave a history of vomiting after meals for a year before death. Shortly before the last he developed some fever and cough, with very fetid expectoration. In the lesser curvature of the stomach the autopsy revealed a large carcinomatous mass and an opening admitting two fingers. This opening passed into the lower lobe of the lung, in which was an abscess about the size of an orange. The next specimen was one of

Carcinoma of the Pylorus, removed from a man, fifty-six years of age, who had had vomiting and slight pain in the stomach for two years previously. He had emaciated gradually, but there had been no vomiting of blood. Microscopical examination showed the carcinoma to be of the colloid variety. The next specimen was from a case of

Carcinoma of the Stomach without Symptoms.—It was removed from an old man who had been found in the street, bleeding from the mouth. He died at the hospital before any history could be obtained. At the autopsy the man looked to be strong and well nourished. The stomach and intestine were filled with large blood clot, the stomach contained a large coagulum, and at the cardiac orifice was an encircling and constricting carcinomatous mass with a number of blood-vessels traversing this ulcerated growth. The next specimen was one of

Carcinoma of the Stomach with Marked Constriction of the Pylorus.—This was not accompanied by a clinical history. The last specimen by Dr. Hodenpyl was one of

Syphilitic Perforation of the Large Intestine, occurring in a man, sixty-one years of age. He had had a well-marked attack of syphilis, for which he had

been treated. There was a syphilitic necrosis of the sternum. He came into the hospital complaining of obstinate constipation. Enemata and powerful purgatives were given, without causing a movement of the bowel. At the autopsy several syphilitic gummata were found in the spleen, and in the abdominal cavity was a beginning peritonitis. There was also a large quantity of faecal matter in the abdominal cavity.

A Peyer's Patch in a Meckel's Diverticulum.—DR. THOMAS S. SOUTHWORTH presented the intestine of a child of seven months, who had died of chronic catarrhal enterocolitis. The solitary follicles were enlarged and Peyer's patches swollen. About one foot above the ileo-caecal valve was found a small Meckel's diverticulum, in which was a Peyer's patch.

Ileo-Colic Intussusception.—The second specimen was from a child of two months, evidently syphilitic. There had been high fever and some pulmonary consolidation just before death. At the autopsy the posterior portions of the two lower lobes showed patches of broncho-pneumonia. The spleen was enlarged, apparently from syphilis, and the organ weighed thirty grams. In the lower portion of the ileum were six intussusceptions, and one of them of the typical ileocolic variety. These intussusceptions, the speaker said, occurring just prior to death, are usually in the jejunum.

The society then went into executive session.

Stated Meeting, March 25, 1896.

Resume of the Uses of Formalin.—DR. GEORGE C. FREEBORN read a paper with this title.

DR. HENRY POWER said that in his experience formalin had appeared to be very irregular in its action. He had noticed this especially in studying the minute anatomy of the cells.

THE PRESIDENT asked if it had been found that the freshness of the tissues was an essential point in the successful use of this agent.

DR. FREEBORN said that when formalin had been first brought into use he had directed the specimens to be placed in a two-per-cent. solution in the operating-room, and this plan had yielded excellent results. Subsequently he had found the specimens very poorly preserved, and he had then increased the strength of the solution to five per cent., with rather better results for a while, but again there had been trouble. Finally he had adopted the plan of substituting a two-per-cent. solution of formalin for the water ordinarily employed in Müller's fluid. Since then he had used this "formalin-Müller's fluid" and there had been no trouble.

THE PRESIDENT said that recently in preparing a specimen for the museum his attention had been directed to this matter. A heart had been mislaid, and had become quite foul before he had seen it. It was placed in a two-per-cent. solution of formalin, and notwithstanding the very bad condition of the specimen when placed in this fluid it had been restored to nearly as good condition as if it had been immersed in alcohol or in formalin when quite fresh. He would like to ask whether Dr. Freeborn had noticed any effect on the diffuseness of the staining with the hæmatoxylin as a result of delay in putting the tissues in the formalin.

DR. FREEBORN replied that he had noticed this diffuse staining in the amnion of some pigs when there had been a delay of three or four hours before immersion in the formalin solution. Kohn had experimented on a putrefying solution of peas, using various strengths of formalin, and he had found that anything above a five-per-cent. solution would sterilize and deodorize this "pea soup." Many other similar investigations had been made with like results.

DR. F. M. JEFFRIES referred to two mishaps with formalin in preserving the intestine. After the specimens had been placed in a two-per-cent. solution of formalin for about three days they had turned black. He had been at a loss to account for this. Possibly it might have been due to some medication that had been used, but it had ruined the specimens.

DR. THOMAS S. SOUTHWORTH said that he had placed a number of children's lungs in a two-per-cent. formalin solution for a considerable time, and had obtained a blackish-gray discoloration, which had not been entirely removed by alcohol. It was probably due to the length of time the specimen had been in formalin before being transferred.

DR. FREEBORN said that a foetal pig that had been put in a ten-per-cent. solution of formalin about eighteen months ago still retained its white color beautifully. As formalin is an oxidizing agent, it was quite possible that something in the intestine had formed a dark chemical compound with the formalin.

DR. POWER said that he had preserved fourteen specimens of intestine in formalin without observing this discoloration. They had not remained for any length of time.

DR. EDWARD LEAMING said that formalin was used frequently in photography for the hardening of gelatin plates. The action of formic acid should be to reduce the silver salts, and he had found that this had occurred in unexposed plates. A similar reduction might occur with salts of other metals.

DR. FREEBORN said that sometimes there was an overoxidation of the methylic alcohol in the manufacture of formalin, by which formic acid was produced. He had also found that this oxidation would sometimes continue in open vessels, resulting in the formation of a considerable quantity of formic acid.

Improved Stage for Use in Photomicrography.—DR. EDWARD LEAMING exhibited a new form of apparatus intended for use with the microscope in photomicrography. It was found in certain cases that in attempting to photograph a slightly uneven specimen, or a nerve cell with a long process, it was impossible to get it all in the same plane with the slide held in the usual way. To surmount this obstacle, the apparatus exhibited had been devised by the assistant to Mr. Kraft, of this city. It consisted of a light framework and a light stage on which the specimen was clamped. By means of an ingenious screw adjustment the slide could be tipped in various directions and across the axis of the lens.

Reproduction of Photomicrographs.—DR. LEAMING made some remarks on this subject, illustrating them with some beautiful examples of such work in colors. He said that he had attempted to utilize in reproducing photomicrographs the three-color photography by the gelatin process. The image was first focussed through a violet screen, and then negatives were taken successively through red, violet, and green screens. These are the complementary colors to the three colors in which the photograph is finally printed. The negative taken through the red screen is printed in blue, that through the green screen is printed in red, and that through the violet screen is printed in yellow. The color screens are made of glass and tough collodion properly colored. From these negatives three bichromate gelatin printing-plates are obtained and the printing is done by superposition. Unfortunately, the manner of printing alters the results somewhat, and, although this is of no importance in ordinary artistic work, it is a serious drawback to the use of this process for purely scientific purposes.

DR. FREEBORN exhibited under the microscope the original slides from which the colored photographs had been made.

DR. POWER said that he had taken a great deal of interest in this subject in connection with general photography. The lack of registration is a difficulty with the printer, but probably there would be difficulty in the registration even aside from the fault of the printer, owing to the imperfections in our lenses and the slight differences in the size of the images for the different colors. He thought it possible that changing the camera length might obviate this. A moderate amount of change in the length of the camera would produce only a very small change in the image.

DR. LEAMING said that he thought Dr. Power was in error on this point, for focussing, to be of service, must be done chiefly through the objective and not by changing the length of the camera. It was more difficult to focus through a violet screen, but if this were done the images would be more nearly perfect.

Instrument for Cutting Off the Spinal Cord.—

DR. PEARCE BAILEY said that in order to avoid the mutilation of the spinal cord which occurred when it was taken out in the usual way, he had devised an instrument, consisting of a small, slightly curved blade at right angles to the stem. This knife should be inserted some distance into the spinal canal and the cord cut off at right angles. This also gave a much better specimen for making sections.

DR. JAMES EWING thought the instrument should prove very useful. In removing the cord anteriorly it was usually very difficult to extract the last two or three inches, but with this new instrument this could be done from above.

Preservation of Specimens of the Intestines.—

DR. HENRY POWER said that about one year ago he had presented to this society a preliminary report on the preservation of the intestine. He had continued this line of experimentation since that time, using children as the subjects. At first, the best method had seemed to be the injection through a cannula of a two-per-cent. solution of formalin very slowly into the rectum. For the past year most of his experiments had been done with only eight or ten inches of pressure, and with a two-per-cent. solution of formalin, both peritoneum and bowel being injected in the majority of cases. He had learned that one of the most important points in the preservation of the intestine was not to handle it. The formalin appeared to penetrate rapidly from the peritoneum to the mucous membrane: hence it was better to inject into the peritoneum. He had selected formalin because of its gaseous and penetrating nature. From three to five specimens had been taken from the various parts of the bowel, and they had been uniformly preserved, much better than in the usual way. In these experiments he had been assisted materially by Dr. Southworth. In one case the injection had been made shortly after death, and the autopsy performed forty-three hours afterward. In another case the injection had been made twenty-four hours after death, and the autopsy performed shortly after this, the intestine being found in a state of excellent preservation. He had found that the anatomical relations of the cells were excellently preserved, although the minute anatomy of the cells was not so good.

DR. EWING said that in looking over these specimens he had been impressed with the marvellous preservation of the endothelial cells. The nuclei, the cell bodies, and the outlines between the cells could be easily distinguished. He had never seen this with any other method of preparation.

DR. SOUTHWORTH said that Holt, in his article in Keating's Encyclopedia, stated that he rarely found the epithelium present if the autopsy were made more than six hours after death, and he expressed the belief that the desquamative catarrh was the most frequent form of acute intestinal disorder in children. This,

the speaker said, he was inclined to doubt, for even when their autopsies had been made twenty-four hours after death the epithelium had been preserved.

Photomicrographs by the Carbon Process.—DR. POWER then presented several photomicrographs by the carbon process. He said that the great advantage of the carbon process was that the prints were entirely permanent. As the pigment was either a finely ground earth or finely pulverized carbon, and the background apparently some form of lime suspended in gelatin, even the yellowing of the paper was avoided. He presented photographs of tissues done with an amplification of from ten to a thousand diameters, and of bacteria with an amplification of from seven hundred and fifty to one thousand diameters. He used monochromatic light with "critical illumination" from the sun, and the plate was backed with some substance which would not spread through the film, so that there would be no spreading of the image from the whites into the blacks.

A New Form of Degeneration of the Ovary.—

DR. MARY A. DIXON-JONES presented four microscopical specimens illustrating what she considered to be a new form of degeneration of the ovary, by which most of the organ was changed to myxomatous tissue. Out of eighty diseased ovaries examined she had found four specimens showing this degeneration. This condition was associated clinically with marked deterioration of the general health.

The society then went into executive session.

Stated Meeting, April 22, 1896.

Tumor of the Cerebellum.—DR. FREDERICK PETERSON presented a tumor of the middle lobe of the cerebellum, removed from a boy of twelve years, who had been sent to him for examination in July, 1895. About Christmas of 1894, up to which time the patient had been perfectly well, he had an attack of grippe with meningeal symptoms. After recovery from this he suffered from periodical headaches, which grew worse. These headaches were frontal, occurred once a week, and lasted a few hours. Sometimes he was delirious during these attacks. Six months previous to coming under the observation of Dr. Peterson, he was said to have had optic neuritis. The examination revealed the following: Optic atrophy with feeble perception of light, knee-jerks absent, no nystagmus, no ocular palsies, no paralysis nor alteration of sensibility; pulse and respiration normal. He had attacks of headache with vomiting weekly. A very peculiar symptom was constant choreiform movements of the head, mouth and face muscles, and all four extremities, precisely like an ordinary chorea. There was a staggering gait. The diagnosis of a glioma or gliosarcoma of the middle lobe of the cerebellum was made, the symptoms being typical. The boy, while on a visit at Syracuse some time ago, fell down stairs, fractured his skull, and died. Dr. Van Duyn, who made the autopsy, had kindly sent him the brain. On microscopic examination by Dr. Bailey the tumor proved to be a glioma, and its situation in the vermis was verified. The tumor was encapsulated, was five centimetres broad and 2.5 centimetres deep, and lay directly in the vermis, encroaching equally on each side into the lateral lobe of the cerebellum. The fourth ventricle was widely dilated, and the whole bulk of the pons seemed to have been subjected to considerable compression. Dr. Peterson said he had seen many cases of tumor of the cerebellum, but never before one with the choreiform movements which distinguished this case.

Primary Pernicious Anæmia.—DR. JAMES EWING, in discussing this subject, reported the following illus-

trative case: The patient, a man of forty-five years, of American parentage, had been admitted on April 9, 1896, to the Roosevelt Hospital. His family history was negative. There was a moderate alcoholic habit, and some years before he had had symptoms of secondary syphilis. For five weeks prior to his admission it was stated that he had been very pale, and had suffered considerably from dyspnoea on exertion. There had been no disturbance of vision, no headache or dizziness, but for four weeks there had been œdema of the extremities, and he had lost a good deal of strength. The urine was of dark color and scanty. On admission he was markedly pale, but not jaundiced; the pulse was regular and small, the arteries were apparently normal, there was considerable œdema of the feet and legs. The splenic area was slightly increased. He was given arsenic and iron, but without benefit. On April 10th the hæmoglobin was twenty-five per cent., and the blood count showed one million one hundred and twenty-eight thousand red blood cells. A dried preparation showed that the condition was one of primary progressive pernicious anæmia. The size and form of the blood cells were very characteristic. There were very fine microcytes, very large megalocytes, and giantoblasts in abundance, and great variations in the intensity of the hæmoglobin stain. There was a considerable increase in the white blood cells, chiefly in the polynuclear leucocytes, and some large myelocytes were found. On April 11th he was given five minims of Magendie's solution of morphine to produce sleep. After this dose he went into profound collapse, and was with difficulty resuscitated. On April 13th he suddenly began to have difficulty in breathing, and he died four hours later, with symptoms of asphyxia.

The autopsy was made two hours after death. The lungs were emphysematous and extremely anæmic, except for some small areas of consolidation. The bronchial glands were slightly enlarged. The pericardial sac contained a few ounces of reddish fluid. The right heart was distended by a peculiar soft blood clot. No other clots were found elsewhere, and it was evident that the coagulability of the blood was greatly diminished. The total quantity of blood also appeared to be diminished. The heart was nearly normal. The liver was enlarged and very firm. The outlines of the lobules were very distinct, and the peculiar rust color of the organ was very striking. The spleen was markedly enlarged, weighing thirteen ounces. The kidneys were somewhat smaller than usual. The surface was granular, the cortex was thin, the markings were indistinct, and the whole organ was somewhat congested. In the intestine there was an abnormal adhesion binding the transverse duodenum down to the lumbar vertebrae, and producing a slight narrowing of the lumen. There was evidence of catarrhal enteritis, but there were no parasites present. The bowel contents consisted almost entirely of mucus, giving a remarkably strong odor of hydrogen sulphide. The sternum, ribs, vertebrae, clavicle, humerus, and hyoid bone had been examined, and in all these situations there was very extensive increase in the marrow cavities, and these cavities were filled with red marrow.

Microscopical examination showed in the spleen no increase of connective tissue, a marked diminution of cellular elements, both of the Malpighian bodies and of the spleen pulp. In many of the Malpighian bodies the small round cells were entirely wanting. A slight reaction for iron, hæmosiderin, was developed by potassium ferrocyanide and acidified glycerin, but it was much less marked than in the liver. There was no granular pigment observed as a result of the extensive destruction of the red blood cells in the spleen. The thyroid showed a very marked general thickening

of the trabeculae, with partial atrophy of many alveoli. In the liver there was slight general increase of fibrous tissue between the lobules and between the liver cells. The liver cells showed marked fatty degeneration. The nuclei and numbers of the liver cells were distinctly increased in number, and some of these new cells and nuclei were of very large size. Throughout the liver there was an abundant deposit of yellowish pigment granules, giving a very distinct reaction for iron. In the stomach there was a moderate grade of chronic catarrhal inflammation, with increase of connective tissue and atrophy or dilatation of glands. In the lower dorsal and lumbar regions in the spinal cord, the only parts examined, there was slight sclerosis of the columns of Goll, but without pronounced atrophy of fibres in this region. Nissl's stain showed ganglion cells to present in moderate degree an absence of chromophilic granules about the nuclei, in many cells, while other cells showed extensive deposits of greenish pigment commonly seen after middle life. The red marrow was found in all the bones examined—the ribs, sternum, vertebrae, clavicle, humerus, and hyoid. In all of these bones the cancellous spaces were very much widened and filled with light red semifluid marrow. The shafts or outer plates of these bones were distinctly thinner than normal. The head of the humerus could be easily crushed in by pressing on the cut surface of the cancellous tissue. No fatty marrow was seen in any of these bones. Cover-glass preparations were made from the various organs concerned in blood formation and stained in Ehrlich's triacid mixture. So far as could be judged by this method, while the red marrow in all the bones contained a large number of megaloblasts, the total number of nucleated red cells was considerably less than is to be found in normal adult red marrow. In the preparation from the ribs, the nucleated red cells did not compose more than one-fiftieth part of the cells present. All the red cells, both nucleated and non-nucleated, seemed to number about one-eighth of all the cells in the marrow of the ribs and other bones. While, therefore, the locality of the formation was very much widened, it did not seem that the number of the red cells in active proliferation was correspondingly increased. The majority of the new cells in the red marrow consisted of small and large mononuclear cells, myelocytes, polynuclear neutrophile leucocytes, and eosinophile leucocytes. While the manufacture of red cells was here very widely distributed, it seemed that the total productive capacity was probably diminished rather than increased.

Dr. Ewing here illustrated his remarks by exhibiting charts and slides. The first showed the blood from a case of pernicious anæmia, with the characteristic megalocytes and the small basophilic granules in the megaloblasts. A chart of the blood from a case of chlorosis was also exhibited. This showed that the blood cells were moderately diminished in number, and there was a general diminution in the hæmoglobin. In this case one did not see in any quantity the large megalocytes of pernicious anæmia. A common form of degeneration, the speaker said, was the extrusion from the body of the red cell of a mass of protoplasm, which stains with methyl blue and which gives all the characteristics of the blood plate. A chart showing the characteristics of the blood of secondary pernicious anæmia was also shown, and the relations of this condition to primary pernicious anæmia were discussed.

The examination of such a typical example of pernicious anæmia, in which all the essential features of the disease were so strikingly developed, naturally suggested, Dr. Ewing said, some considerations regarding the etiology and pathogenesis of the disease. It was now generally admitted that pernicious anæmia

is primarily a condition of excessive hæmatolysis rather than one of defective hæmatogenesis. While very acute cases of pernicious anæmia had been recorded, in which the characteristic changes in the bone marrow, leading to defective hæmatogenesis, were absent, the disease seemed not to exist without excessive hæmatolysis. He had recently had an opportunity, through the kindness of Dr. Northrup, of examining an acute case, lasting only four weeks. In this patient the red cells numbered less than five hundred thousand per cubic centimetre. There was an almost entire absence of nucleated red cells of all varieties and of abnormally large red cells, although degenerative changes in these red cells were extensive. While no autopsy was made, the observations of Ehrlich had shown that such cases were unattended by the usual changes in the bone marrow. As evidence of the excessive destruction of red blood cells in pernicious anæmia, one might refer to: (1) the abundance of degenerative changes in the red cells; (2) the coloration of the plasma as seen in dry preparations; (3) the deposit of large quantities of iron in the liver and spleen; (4) the appearance of excessive and pathological blood pigments and of an excessive amount of iron in the urine; and (5) in the acute cases the very rapid diminution in the number of red cells present in the blood.

But these facts were not conclusive proofs that excessive hæmatolysis was the sole factor in the production of the disease. Degenerative changes in the red cells are abundant in chlorosis and in secondary anæmia, when the number of red cells is not markedly reduced and when iron is not always present in excessive amount in the liver or in the urine. Neither is the presence of an excess of iron in the liver a positive indication that pernicious anæmia has existed. In a series of examinations of forty-four livers, taken as the cases came to autopsy, Russell found in seven quite as much iron as Hunter found in the liver of pernicious anæmia. These were cases of marked secondary anæmia from cancer, tuberculosis, and other diseases, and the patients had not suffered from pernicious anæmia. In those cases of pernicious anæmia which follow pregnancy, it was difficult to see what could be the toxic agent which could alone initiate and continue a fatal destruction of red cells. Even more difficult was it to explain those cases which follow large hemorrhages by the assumption that there is present in the blood a toxic agent which continues the destruction of red cells. An examination of the clinical aspect of the disease seemed to show that, according to their etiology, there were cases of pernicious anæmia which were very probably caused by a toxic agent circulating in the blood and destroying red cells, and that there were other cases which could be most reasonably referred principally to defective hæmatogenesis. In the first class might be placed those examples of the disease which were associated with the presence of intestinal parasites or blood parasites, such as the *cercomonas globus* or the malarial organism; also the cases following infectious diseases. Of the idiopathic forms, while the very acute cases, unattended by marked changes in the bone marrow, were most naturally referred to excessive hæmatolysis, it was difficult to see how a toxic agent destroying red blood cells could, in a few weeks, have produced changes in the bone marrow of such enormous extent as were found in the case just reported. It was much more probable that an abnormal process of cellular proliferation, leading to defective hæmatogenesis, was the chief factor in the production of the blood changes in this case. It would appear, therefore, that both excessive hæmatolysis and defective hæmatogenesis were essential features of the disease process in pernicious anæmia, and that sometimes one and sometimes the

other was the more prominent. The speaker said that a large number of studies had been undertaken with a view of determining the nature of the toxic material which destroys the red cells in pernicious anæmia. The studies of Hunter in this direction were important. In an article in the *British Medical Journal*, February 8, 1896, he reported some recent experiments, and supported his previous conclusions that pernicious anæmia is a specific form of blood destruction, occurring chiefly in the portal circulation and caused by the absorption of the products of intestinal bacteria. Cadaverin and putrescin he regarded as the probable agents concerned. Jurgenson had reported a case of pernicious anæmia cured by the removal from the intestine of enormous numbers of the bacterium *termo*, and Liebman had produced a condition of chronic blood poisoning resembling pernicious anæmia by the intravenous injection of hæmoglobin, of glycerin, and of pyrogallie acid. He believed the disease to be due to hæmoglobinæmia. The followers of the Dorpat school believe that the poisonous agent in the blood of pernicious anæmia comes from the destruction of both red and white blood cells. The nervous origin of pernicious anæmia had received some little support. Some of the cases reported, like the present one, showed changes in the central nervous system, but in no instance did these changes appear to be of more than secondary importance. The theory most widely accepted was that the disease represented a rapid form of blood destruction, associated with a reversion of the blood-forming function to the embryonal type: in other words, it represented a tumor formation in a fluid tissue. This analogy to a tumor formation, however, appeared to be more applicable to leukæmia than to pernicious anæmia. A comparison of the blood of foetal vertebrates with that seen in cases of pernicious anæmia certainly did show many points of resemblance, but the likeness did not seem to him to be especially striking.

DR. THOMAS S. SOUTHWORTH said that in examining cases of pernicious anæmia he had met with difficulty in diagnosis owing to the intermediary class of cases. Many cases were diagnosticated clinically as acute primary pernicious anæmias. He had come to rely upon two things, viz.: the existence of megalocytes—the large non-nucleated red cells—and the presence of the megaloblasts—the oval, large, nucleated red cells. Unless these were present in considerable numbers, however, the diagnosis could not be positively made.

Dr. Southworth then exhibited microscope slides illustrating these points, and presented microscopical specimens from a case of

Rachitic Anæmia.—He said that in January of the present year a baby of eighteen months, with marked evidence of rachitis, had been admitted to the Babies' Hospital. The spleen had extended to the left anterior superior spine, and measured three by two inches below the ribs. The liver had been enlarged, coming down one and one-half inches below the ribs. There had been also some enlargement of the superficial glands. The number of red cells had been five million one hundred and forty-four thousand to the cubic millimetre, the ratio of the white to the red cells being 1 to 168. The most interesting point in this case was the extremely large number of megaloblasts.

Dr. Ewing asked Dr. Southworth as to the relative frequency of the severe forms of pernicious anæmia in connection with rachitis. He said that while he had found a great variety of severe forms of anæmia in connection with rickets, he had not observed progressive pernicious anæmia.

Dr. Southworth said that he had seen many cases of profound anæmia, and the condition had yielded to the usual antirachitic remedies and tonics. In the

case just reported the anæmia was not particularly marked, as there were over five million red cells.

Pernicious Anæmia.—DR. CHARLES FISCHER also presented a microscopical specimen from a case of pernicious anæmia. There was no clinical history. The patient had been in the hospital only three weeks. At the autopsy no other lesions had been found. The specimen showed all the varieties of degeneration that had been described by Dr. Ewing.

The society then went into executive session.

Clinical Department.

A CASE OF SUPPLEMENTARY AMNIOTIC SAC WITH FIBROID TUMOR OF THE UTERUS.

BY DANIEL S. ROBINSON, M.D.,

NEW HAVEN, CONN.

IN the early evening of December 7, 1895, I was hurriedly called to attend Mrs. L—, aged forty-four years, in labor with her third child. On arriving at her home I found her suffering from strong, regular pains, having been in labor since 11 P.M. of the previous day. On examination I found the tense membranes protruding nearly two inches beyond the vulvar orifice, and, as during the interval a normal vertex presentation was made out, at the next pain I ruptured them. The rupture was followed by a profuse discharge of the liquor amnii, but on making an examination at the next pain I was surprised to find that, while the head was low and apparently completely filled the parturient canal, the "bag of waters" still seemed intact.

As all the circumstances of the case seemed to point strongly to some anomaly of the placenta or membranes, I ruptured this second sac and a very few pains sufficed to deliver the patient of a seven-pound girl. More difficulty was encountered, however, in the delivery of the afterbirth. Attempting to deliver by Credé's method, only to fail, I inserted two fingers into the vagina, and found that while the placenta and a portion of the membranes were lying free in the vaginal canal, another portion of the membranes was still *in utero*.

Following this up, I found that it seemed to lead to the left and to be attached in some way to the uterine wall. Gentle manipulation after some few minutes caused detachment and gradually the entire mass was drawn into the vagina and delivered. The uterus did not retract as it should, there being a distinct tumor of the left side about as large as an orange. The patient denied the existence of any tumor, but said "that lump" was always there and gave a history of menorrhagia, which made the probable diagnosis very simple. An examination of the afterbirth showed, about three inches from the placental insertion of the funis, a large sac formed by development of the outer (amniotic) sheath of the cord, and this, having prolapsed in front of the descending head, had given the impression of the membranes being still intact after rupture of the first sac. The capacity of this supplemental sac was about two litres. Whether or not there was any connection between this sac and the fibroid probably existent I don't know, but it is my belief that in some way it was an attempt of nature to save the fœtus from injury during development.

A point in the case of interest to the maternal impressionist is the fact that the second and third digits on each hand are united, caused, the mother believes, by frequent visits during her pregnancy to a friend whose infant child has the same deformity.

DYSTOCIA, DUE TO DISPARITY BETWEEN THE SIZE OF THE HEAD OF THE FŒTUS AND THE CIRCUMFERENCE OF ITS SHOULDERS.¹

BY A. ERNEST GALLANT, M.D.,

FORMERLY INTERNE, SLOAN MATERNITY HOSPITAL, ETC.

THE failure of recent text-books or works on the complications of the above-named condition to mention it as a cause of difficult labor, has determined the writer to place this case on record.

The dystocia and the death of the child can be accounted for as follows: Circumference of the shoulders, 44 centimetres ($17\frac{1}{4}$ inches); occipito-frontal circumference, 33.5 centimetres ($13\frac{1}{8}$ inches—or a difference of 10.5 centimetres ($4\frac{1}{8}$ inches); and secondly, the unusually fat condition of the mother, who weighed two hundred and twenty pounds, the pelvis being so filled with adipose tissue as to seriously interfere with the distention of the vagina. This, with the disproportion between the head and shoulders, compressed the body to such a degree as to stop the umbilical circulation and resulted in the death of the child while in the vagina.

The mother first came under the writer's care at the Roosevelt Hospital, Out-Patient Department, in March, 1894. Native of Ireland, twenty-eight years of age, housewife, married two and a half years. She had borne one child one and a half years ago, and had had a miscarriage in July, 1893. She menstruated regularly every four weeks, for two days. There was pain one day before and during the first day, with some leucorrhœa. She complained of a dragging pain in the lumbar region. The perineum was lacerated nearly to the sphincter ani and the cervix was lacerated bilaterally. The uterus was forward, three and a half inches deep, roomy, and tender on pressure. Diagnosis: Fungous endometritis.

April 14th, dilatation of the cervix, curettage, irrigation with tincture-of-iodine solution (sherry color), resulting in a firm contraction of the uterus. Internal hemorrhoids removed by scissors and the edges brought together with catgut sutures, after the method described in Mathew's *Medical Quarterly*, vol. i., page 518, 1894.

May 2d the patient had an attack of appendicitis and the next day the writer removed the appendix, six inches long, through a five-inch skin incision, made necessary by the fact that the abdomen was covered by fat four inches deep. The appendix was bound down by strong fibrous bands to the colon and lateral abdominal wall. In spite of the thickness of the abdominal wall, the wound was closed by a single line of silkworm-gut sutures passed through all the layers.

November 5th the vulva, cervix, and vagina were of a bluish hue and congested. The last menstruation, July 5th and 6th, was scanty. Pregnancy was normal. The abdominal cicatrix did not stretch.

Labor pains began in the early morning of April 16, 1895, and by 9 P.M. the cervix was drawn up and was very soft; the membranes were bulging, and, owing to their density, were punctured. A small quantity of liquor amnii escaped. The head was in R. O. P., movable above the brim. Pains recurred at intervals of from five to fifteen minutes, but at no time were they strong. The forehead showing a tendency to come down first, counterpressure on the forehead through the vagina was kept up in order to produce flexion and cause rotation of the occiput on the pelvic floor. The advance was very slow; the patient became exhausted and the pains weak, and after two hours the forceps were applied and traction was made during

¹ Read before the section on obstetrics and gynecology, New York Academy of Medicine, March 20, 1896.

the pains. No anæsthetic was used. The head was brought down so as to bulge the vulva and stretch the perineum, and the forceps were removed, but the head retreated well into the pelvis after the subsidence of each pain. The cord was not around the neck. As no advance was made the forceps were reapplied, and strong traction delivered the occiput over the perineum and the face from behind the symphysis pubis. The mouth and nose were cleared of mucus. The child was cyanotic and made no effort at inspiration. Traction on the neck and efforts to produce rotation were of no avail. The cyanosis was increasing. Two fingers were introduced and the left arm was brought down, then the right arm, and by pulling and twisting the body was with difficulty delivered. Pulsation in the cord had ceased, and the heart could not be felt nor heard. Various means at resuscitation were resorted to, but not the slightest sign of life could be elicited.

Dr. E. A. Tucker informs me that the largest child out of four thousand delivered at the Sloane Maternity Hospital measured forty-three centimetres around the shoulders, or one centimetre less than the subject of this report.

The writer presents the mother for examination of the scar of the appendiceal wound, which has withstood so severe a strain as the weight of a child fifty centimetres long, in so stout a woman, and now at the end of two years shows no sign of hernia. This result speaks well for the single line of sutures in closing abdominal wounds.

10 WEST THIRTY-SIXTH STREET.

ACUTE UTERINE INVERSION.¹

BY WALTER LINDLEY, M.D.,

LOS ANGELES, CAL.,

PROFESSOR OF GYNECOLOGY IN THE MEDICAL COLLEGE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA; PRESIDENT OF THE CALIFORNIA STATE MEDICAL SOCIETY, 1890, ETC.

THIS accident occurs only in about one case of confinement out of two hundred thousand, but as it is liable nevertheless to occur in the work of any general practitioner, I have felt justified in calling attention to my own recent experiences:

CASE: Mrs. C—; aged twenty-eight; primipara. The labor was normal but somewhat tedious. Position: L. O. A. Child, vigorous boy. I waited until pulsation ceased before tying the cord. The patient was in good condition and I waited ten minutes before taking any steps toward encouraging the progress of the third stage.

I then grasped the fundus through the abdominal wall and began using very moderate friction. The womb contracted for three or four minutes and suddenly, to my astonishment, disappeared. At the same moment the placenta popped out and there was alarming hemorrhage. Calling for a hypodermic of ergot and for hot-water douche I attempted to thrust my left hand into the vagina, but was met by a large tumor at the introitus. Like an electric shock the realization came to me that I had here to deal with an inverted uterus.

The hemorrhage being profuse, without loss of time I coned my left hand and dimpled the centre of the fundus with the coapted thumb and tips of the fingers, while making counterpressure through the abdominal wall with my right hand. By the steady pushing of the left hand, dropping the thumb out of the cone after a slight advance toward the cervix, the uterus was quickly returned to its normal relations.

While my ideas in regard to the length of time taken in this little operation are somewhat hazy, yet

it was probably from three to five minutes. The bleeding continued alarming and there was complete inertia of the uterine walls. The patient had already taken ergot hypodermically and by the mouth, and as quickly as the uterus assumed its normal position the hot water was turned into the cavity from a fountain syringe through a uterine irrigator; meanwhile I used friction through the abdominal wall with my right hand. It was all without avail. The patient's condition was critical. I then had six ounces of acetic acid added to three quarts of hot water, and almost synchronously with the first contact of the acetic acid I felt the uterine walls begin to contract. The contest was soon over, the uterine fibres again performed their functions, and the hemorrhage ceased. There was no laceration of the cervix. In a few minutes I repaired the lacerated perineum with silver wire.

The patient's recovery was rapid and uneventful, the only untoward symptoms being that on the third afternoon her temperature rose to 100° F. for two hours, and that her milk was so scanty she could not supply nourishment for the child. The restoration of the perineum was perfect.

If there had been any difficulty whatever in dimpling the fundus and pushing it quickly back, it would have been better to adopt the plan usually advised, of grasping the fundus in the hand and pressing upward on the sides with the fingers and thumb, thus, as the "American Text-Book of Obstetrics" says, "endeavoring to restore first that portion of the uterus which came out last." There are modifications of these two methods and the physician can doubtless readily see which plan is the best for the case in hand. When there is complete uterine inertia immediately following labor, the method adopted by me is simple, rapid, and easily executed.

In the *MEDICAL RECORD*, of October 26, 1895, is an interesting account of an operation by Drs. Davis and Packard for inversion of the uterus, which had existed for five days. The method adopted was this: The first step consisted of pressing the index and middle fingers firmly and steadily against the presenting fundus, at the same time making gentle counterpressure through the abdominal wall. "Gradually the uterine wall yielded, so that at the end of fifteen minutes the two fingers were buried in the tumor as far as the distal joint. The whole hand was now passed into the vagina and four fingers were pressed firmly against the mass, thus pushing it toward the cervix by continuous pressure, the elbow meanwhile resting on the bed as a point of support. With the help of the thumb, some degree of massage to the uterine walls was accomplished, with a view to rendering them more pliable and thus more tractable to further manipulations. Very soon the uterine walls began to soften, whether from the relaxing effect of the anæsthetic, or from the manipulations, or from both combined, and the cervix as felt behind the pubis grew appreciably softer. At the end of half an hour it was possible to carry the fundus before the four fingers fairly into the mouth of the constricting cervix, where they were steadily held as a wedge." This case differs from mine on account of the length of time after labor and the contraction of the uterus.

Gould's *Year Book* for 1895, quoting Jewett, says: "In a recent study of 100 cases of inversion Beckman found 54 occurred spontaneously, 21 after interference, and in 25 the cause was unknown. He believed the accident to be most frequent in primiparæ and in young women. In this series of cases there were 14 deaths. In two of the cases the uterus was irreducible, in 4 the reduction was spontaneous, in 61 there was artificial reduction, and in 119 hysterectomy was performed."

¹ Read before the California State Medical Society, April 24, 1896.

SPIRIT OF TURPENTINE IN THE TREATMENT OF BURNS.

DR. H. L. McINNIS, of Edmonton, Canada, writes: "Spirits of turpentine applied to a burn of either the first, second, or third degree will almost at once relieve the pain. The burn will heal very rapidly, much more so than by any other treatment that has come under my notice. I apply the turpentine as follows: After wrapping a thin layer of absorbent cotton over the burn, I saturate it with the turpentine and then bandage. The common commercial article is the one I use, as it is generally found in every house. Being volatile, it evaporates, and it is therefore necessary to keep the cotton moistened with it. When there are large blebs I open them on the second or third day. It is best to keep the spirit off of the healthy skin if possible, as sometimes pain is produced by its action. As I can find no mention of this treatment in the books I have, I take the liberty of sending this note, so that others who have greater opportunities may test the value of this treatment."

ACUTE MULTIPLE NEURITIS (BILATERAL) RESULTING FROM AN ATTACK OF DIPHTHERIA.

By MAJOR L. M. MAUS,

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PRIVATE B. N—, Battery "F," Third Artillery, American, aged twenty, was admitted to hospital February 24, 1896, suffering from sensory and motor disturbances of both upper and lower extremities. He had been under treatment in the post hospital from the 3d to the 28th December, previous year, for a serious attack of diphtheria, contracted in San Antonio, the disease being quite prevalent there at that time. His condition on admittance was as follows: Numbness and delayed sensation of both feet and legs as high as the knees, and both hands and arms as high as the elbows; the paræsthesia almost amounted to complete anæsthesia. With the eyes diverted, he was uncertain as to whether a pin was introduced into his skin or not. Complete loss of tactile sensation. There was also paræsthesia of the chest surfaces, paresis of the flexors and extensors of both upper and lower extremities, with complete loss of the cutaneous and tendinous reflexes. The gait was shuffling and very uncertain; he could move slowly, dragging his feet along, exhibiting marked paresis of the extensors. The skin was cold and moist over the affected areas. The line of demarcation between the parts affected and the non-invaded areas was well marked by the sensory symptoms and the surface coldness just referred to. He was suffering from no special pain or increase of temperature. The thermometer recorded 99° F. under the tongue and the heart beat was slightly under 100, the latter probably resulting from exercise in reaching the hospital. Diminished electro-contraction was also noted, with marked pain upon the application of the faradic current. The patient's statement was as follows: That he first experienced a sense of weight and heaviness of feet and hands, which was quickly followed by numbness and tingling of the same parts about three weeks before entrance into hospital. The numbness began in the toes, extending to the ankles and finally to the knees within a few days. About one week after the numbness started in the toes, it began in the fingers and rapidly extended to the elbows. There was more or less pain, though not severe, from which he concluded that he was suffering from rheumatism. It appears that the attack was not preceded by fever. Motor disturbance began when the numbness ascended as high as the ankles, and he

was hardly able to walk when it had reached the knees. He states that during drill he could scarcely grasp the corporal's hand (he being No. 3) when the order, "Prepare to mount," was given, and was unable to grasp the trail of the piece at the order, "Prepare to limber or unlimber." Private N— is quite young, had during the past year been in the hospital several times, and, being sensitive for that reason, failed to present himself for treatment until he could go no longer. The similarity of symptoms between multiple neuritis (polyneuritis) and ascending paralysis (Landry's disease) frequently render a diagnosis between these two diseases difficult, and indeed it is said by certain authorities to be quite impossible at times. I would infer from the literature on the subject that there are those who regard these diseases as identical. Both diseases are certainly quite uncommon in general practice, and extremely so among soldiers. I do not recall a single case of either before in my army experience. Upon the patient's admittance into the hospital, therefore, the question as to the true nature of the disease naturally presented itself, whether we had a Landry paralysis or a case of multiple neuritis to deal with. It will be observed from a comparison of the following two paragraphs that a marked similarity in the symptoms of the two diseases exists, sufficiently distinct, however, when the two diseases are typical cases, for a diagnosis.

Acute Multiple Neuritis.—The disease usually begins suddenly with fever and symptoms of an acute infectious disease, is accompanied by sharp burning or tearing pains. This is soon followed by sensory symptoms, such as formication, tingling of the toes and fingers, and numbness which advances into paræsthesia or complete anæsthesia of the affected parts. Paresis of the flexors and extensors of the arms and legs soon merges into complete paralysis. There is loss of or diminished faradic contractility. The paralysis as a rule extends from legs to arms before the trunk is invaded. Coldness of the surfaces of the affected parts is a prominent symptom in multiple neuritis. The later symptoms are trophic changes in muscles affected, skin, nails, and hair; œdema of the hands and feet; albuminuria and enlarged spleen. The patient may die in a week from paralysis of the respiratory muscles, or the disease may terminate in recovery after weeks or months.

Acute Ascending Paralysis (Landry).—Slight fever the first few days; pain in toes, fingers, and back first few days, accompanied by weariness and general discomfort. Sensory symptoms are usually absent, though slight tingling, numbness, and hyperæsthesia have been observed in toes and fingers. Actual paralysis soon supervenes, involving feet, legs, thighs, arms, and trunk. The muscles of articulation, deglutition, and respiration are generally affected. The paralysis may begin in upper extremities. The patellar reflexes are sometimes obliterated. Electrical reaction remains normal. No trophic changes occur in muscles, skin, nails, or hair. Death may occur within a few days, or the disease may continue for months and the patient finally recover.

As a rule there is a marked difference in the sensory symptoms; numbness, tingling, formication, paræsthesia and anæsthesia are always present in multiple neuritis and rarely so in ascending paralysis. The disease usually begins with fever and simulates the attack of an acute infectious disease in the former, which is not the case with the latter. This was not the case with Private N—. The electrical reactions are different in the two diseases and trophic changes do not occur in ascending paralysis. The paralysis in multiple neuritis usually begins in the feet and legs, then advances to hands and arms. In ascending paralysis the paralysis extends from the legs to the

trunk before the arms are involved; this symptom is variable. However, there are many exceptions to be noted, both in the march of the paralysis and as well in the sensory symptoms. Both diseases may terminate fatally within a few days from paralysis of the respiratory muscles, or both may go on to a tedious recovery.

When sensory symptoms are present in ascending paralysis, the diagnosis between that disease and multiple neuritis then becomes very difficult.

Pathology.—In acute multiple neuritis we find degeneration of the medullary sheath and axis cylinders of the nerve fibres. At first we find them swollen, divided into segments of a semifluid consistency. In more severe cases, the medullary sheath is broken up into fine granules of fat or molecular debris, which are absorbed. The axis cylinders may be not only swollen but also changed into a granular mass, which may be completely absorbed, so that an empty sheath of Schwann alone remains as a trace of a former nerve fibre. As recovery occurs, regeneration of the nerve fibres takes place. Dr. Starr is authority for the above pathological statements.

In acute ascending paralysis we find myelitis of the motor tracts of the cord of the anterior gray matter and of part of the medulla oblongata. The myelitis may be chiefly of the antero-lateral columns in the cervical and dorsal regions (Zenner). Hun states that Landry's disease without sensory or bulbar symptoms must be regarded as a clinical entity for which no corresponding lesion has yet been discovered.

The following history of this very interesting case has been taken from the hospital records:

The general condition of the patient remained excellent. His mind was clear, he was free from pain when undisturbed, his appetite was excellent, and he slept well. The paralysis of arms and legs became complete within several days after admittance. Numbness and anæsthesia of the affected parts remained unchanged until March 3d, when slight symptoms of returning sensations were observed. About this time he suffered considerable pain in the knee-joints. The temperature, taken morning and evening, was normal, and the pulse rate ranged from 60 to 84. March 4th, hyperæsthesia over arms and legs was complained of; the patient stated that he experienced a sensation similar to that of striking the ulnar nerve over the elbow-joint whenever anything touched his skin. He suffered from extremely cold hands and feet during the first three weeks after admittance into the hospital, so much so that the application of hot-water bottles became necessary for weeks. He was allowed to sit up March 23d, and was rolled about in an invalid chair. There were no marked changes in motor or sensory disturbances until March 27th when the sensation of numbness and hyperæsthesia suddenly disappeared.

April 5th the patient began to walk with a shuffling gait and at this time had slight control over the extensors and flexors; there was still complete loss of the skin and patellar reflexes and more or less diminished loss of faradic contractility. His anal and vesical sphincters remained unimpaired throughout the entire sickness. The treatment consisted of good nutritious diet, applications of heat, and iodine painted over affected parts. Later iodide of potassium and electricity were used.

April 16th walking was improved; he still experienced delayed sensation over both feet, legs, hands, and arms. More or less paresis of the flexors and extensors existed. He stated that his sense of touch was keener in the right arm and left leg than in the left arm and right leg at this date.

April 24th improvement in walking continued; he had better control over flexion and extension of both upper and lower extremities. He stated that there

was less delayed sensation in the left arm and right leg than in opposite arm and leg.

April 28th the patient was able to walk naturally, but still experienced slight delay in sensation over the affected parts. He said he was able to perform his duty. I regard him as virtually recovered, and but for the removal of a congenitally elongated prepuce, which was done April 25th, would return him to duty.

CONGENITAL OCCLUSION OF THE URETHRA.

BY THEO. G. DAVIS, M.D.,

BRIDGETON, N. J.

THE report of a case by Dr. Allen in the *MEDICAL RECORD* of June 6, 1896, recalls the case of a female child born in September, 1885, who did not pass urine for three days, when my attention was called to it. On examination no urethral orifice or urethra could be found, but by inserting my little finger into the vagina, about an inch and a quarter, there could be found a fluctuating body, evidently the distended posterior urethra. With a finger in the vagina as a guide, a small trocar was thrust through the tissues where the urethra should have been and a small catheter was passed through the cannula into the bladder, where it was retained for four days, the urine being passed through it until it was removed and then through the wound made. The girl is now eleven years old and has always had perfect control over urination.

ARREST OF SMALL-POX IN ITS VESICULAR STAGE.

BY F. S. FURMAN, M.D.,

SHREVEPORT, LA.

IN the *MEDICAL RECORD* of July 18th there was an article by Dr. Alonzo Bryan, of Detroit, Mich., entitled "Arrest of Small-pox in its Vesicular Stage." In this article the doctor alludes to a paper read by him at a meeting of the Detroit Medical and Library Association, in which he maintained that the eruption of true small-pox extends to and includes only the vesicular stage, and that the vesicles are simply infection atria through which pus germs and saprophytes are intromitted to the structure of the true skin and to the general system.

The paper claimed that the germs of suppuration and of putrefaction are lying in wait, embedded in the epidermis, ready to commence their ravages upon the true skin and system at large as soon as their liberation is effected through the instrumentality of the maceration of the epidermal layers by the fluid of the vesicles.

Furthermore, he declared it as his opinion that the aforesaid pathological germs might be forestalled in their pernicious action by means of germicidal fluids applied to the general surface of the body, whereby a complete maceration of the epidermis could be effected.

To accomplish this object, he proposed baths of long duration in antiseptic fluids. In a word, he suggested the cautious and gradual evolution of a system of disinfection to be applied to the entire epidermal covering; and when the epidermis was disinfected it was to be kept aseptic by means of suitable antiseptic dressings applied to the cutaneous surface until the complete desiccation of the vesicles.

By means of such a course he proposed to arrest the small-pox in its vesicular stage, and completely prevent suppuration of the skin and suppurative fever with its various dangerous complications.

This paper was never published, and the first reference I saw to it was in Dr. Bryan's article in the *MEDICAL RECORD* of July 18th. The doctor goes on

to report a case of discrete small-pox treated by him in the small-pox hospital at Detroit, in which the treatment was entirely local and was successful in arresting the small-pox in its vesicular stage.

I shall report two cases of small-pox treated by me last spring, in which the treatment, though differing slightly in some particulars from that adopted by Dr. Bryan, was yet the same in essentials, in that it was directed to the local treatment of the vesicles and had for its object the prevention of the transformation of the vesicles into pustules.

The first case was one of varioloid. The patient had been recently vaccinated, and though the temperature reached 104° F., not over one hundred papules appeared over the entire surface of the body.

As soon as the papules developed into vesicles I scrubbed the surface first with soap and water, followed by peroxide of hydrogen; I then opened the vesicles, allowing the contained fluid to escape, and taking a soft-wood splinter sharpened to a point, I first dipped it into liquid carbolic acid and then introduced it into the cavity of the vesicle. The surface of the skin was again washed with peroxide of hydrogen and oiled, to relieve the smarting caused by the application of the carbolic acid; after this the surface was covered, wherever practicable, with cloths wrung out in carbolyzed water.

The patient's temperature was taken frequently, and was never found to be above normal after the stage of invasion.

In this case only two pustules were developed—one in the hair before the treatment was begun, and one on the tip of the nose, which owing to its location was not properly protected.

My second case was one of discrete small-pox, which came under my treatment during the vesicular stage. In this case too much surface was involved for me to use the carbolic acid as freely as I did in the first case, so I treated it on a plan more in accordance with that adopted by Dr. Bryan.

After thoroughly washing with soap and water and peroxide of hydrogen, I opened the vesicles, and then washed the surface with a ten-per-cent. solution of carbolic acid. I should say, however, that there were about ten or twelve pustules which I opened and after removing the pus treated with carbolic acid, as I did the vesicles in my first case. When I began my treatment the temperature was 102° F., and six hours later it was normal and continued so until the patient was discharged. The disease immediately went to the stage of desiccation.

In neither of these cases was there any pitting, except from the pustule on the tip of the nose in the first case.

My first case was such a mild one that there is a question whether or not there would have been any secondary fever had the patient received no treatment at all; but in the second case there is no doubt in my mind that the secondary fever was prevented by the treatment.

I have reported these two cases, as I believe they are further proof of the truth of Dr. Bryan's theory quoted in the paper mentioned above. I am sorry it was impossible for me to use this treatment in a case of more virulent type of small-pox, but in view of its success in my second case and in the case treated by Dr. Bryan, both of which were discrete, I should not hesitate to use it where more surface was involved; modifying the strength of the antiseptic fluid used according to the extent of surface involved.

As to the kind of antiseptic used, that would, of course, be merely a matter of preference on the part of the physician, as we would not hope for specific action of mercuric bichloride, carbolic acid, or other antiseptic beyond their germicidal action.

PNEUMONIA COMPLICATED WITH FATTY TUMOR IN THE RIGHT AURICLE.

By JOS. L. SPRUILL, M.D.,

BALTIMORE, MD.,

ASSISTANT RESIDENT PHYSICIAN, ST. AGNES HOSPITAL.

C. G.—, German, aged twenty-three, came to St. Agnes Hospital Dispensary (Baltimore), suffering from well-marked acute lobar pneumonia in its first stage, having had the initial chill about twenty-four hours previously. He was at once taken into the hospital.

The patient was a strong, robust man, giving a history of good health all his life, but said he was an habitual drinker. The temperature was 101° F., pulse 120, general condition good. The patient seemed to do well for three days, the case not being one of unusual severity, with the exception of high fever, which at one time reached 105° F., falling about three degrees, however, when cool sponging was resorted to. His pulse, respiration, and general condition remained good, and he took quite an amount of liquid food.

At the beginning of the second stage of the disease, the patient was put on stimulating treatment, his case seeming favorable until the fourth night after admission. At 9 P.M. he expressed himself as feeling very well and soon dropped into a quiet sleep. Three hours later his condition was still good, temperature being 102.5° F. and pulse fair. At 2 A.M. he began to show marked signs of heart failure. The extremities became cold, the face and lips pale, the pulse rapid and feeble, failing to respond to repeated hypodermic injections of brandy, strychnine, and digitalis. Patient died one hour later.

Post-mortem examination showed the lung extensively involved, and upon opening the heart a peculiar fatty growth about the size of a large walnut was found in the right auricle, firmly attached to its walls and requiring dissection to remove it. Microscopical examination showed the growth to be of fatty structure.

SNAKE BILE FOR SNAKE BITE.

By L. S. ALEXANDER, M.D.,

ST. AUGUSTINE, FLA.

SOME months ago I saw an article in one of the New York journals concerning the treatment of snake bite with the bile and flesh of the reptile. Having seen the failure of other remedies, I determined to make use of this suggestion at the earliest opportunity. Consequently I directed a taxidermist of this city who had on hand a number of rattlesnakes to prepare a gall bladder for use in an emergency. On or about the 12th of June the same taxidermist, an aged man, was struck on the inside of the left knee by one of his large rattlers. Immediately disposing of the snake, he proceeded to examine the wound, which was bleeding freely. Suction by the mouth, a milking or strapping process with the fingers, with a hunt for and application of some household ammonia, must have taken several minutes before the bottle of bile was thought of. This was applied freely to the wound, and an incision was also made into which the bile was poured. It was probably half an hour before he reached my office, apparently all right but a little anxious. I continued the application of the bile and covered the wound with a piece of the wall of the gall bladder. No other treatment was pursued beyond a few doses of carbonate of ammonium. There was not one particle of swelling, nor did the man suffer from inconvenience of any kind.

Therapeutic Hints.

Rheumatic or Muscular Pains.—

R Chloroformis puræ..... ʒ v.
Tr. opii,
Acidi salicylici āā ʒ iv.
Spts. vini rect. ʒ iv.
Olei dulcis q.s. ad ʒ xij.

This should be rubbed into the parts thoroughly or applied by means of flannel cloths.—MANLEY.

Follicular Tonsillitis.—

R Olei creosoti..... gtt. viij.
Tinct. myrrhæ,
Glycerini āā ʒ ij.
Aq. ad ʒ viij.
S. Use as a gargle every two hours.

—DR. LEVY, *Medical and Surgical Reporter*.

Pain of Gastric Ulceration.—

R Exalgin gr. xlv.
Extract of belladonna,
Codeine phosphate.....āā gr. v.
Sugar of milk..... gr. lxxv.

Mix and divide into ten cachets. Dose, one to be taken with the onset of pain.

—DR. BOAS, *Semaine Médicale*.

Cough Mixture.—This prescription, given in the pharmacopœia of the Edinburgh Royal Infirmary, contains no opiate:

R Acid. hydrocyan. dil ʒ ss.
Acid. nitric. dil ʒ iij.
Glycerini ʒ i.
Inf. quassie ad ʒ vi.

Ft. mist. S. A tablespoonful in a wineglass of water three times a day.

It is both a sedative and tonic in cases of phthisis.—DR. WARBURTON BEGGIE.

Whooping-Cough.—

R Infusion of belladonna leaves (gr. viij.) in
distilled water..... ʒ v.
Antipyrin gr. xv.
Syrup of gooseberry ʒ i.

M. S. A teaspoonful every two hours for a child of five years.

As a rule there may be given, for each year of the child's age, gr. viij. of belladonna leaves in infusion and the double dose of antipyrin.—DR. ESCHLER, *La Médecine Moderne*.

Gonorrhœa.—

R Perchloride of mercury 1
Antipyrin 100
Distilled water..... 10,000

The injection should be used four times a day and retained as long as possible. The addition of antipyrin prevents smarting.—DR. VATIER.

To Prevent Iodism.—It is claimed that the following may be given indefinitely without causing iodism:

R Potassii iodidi..... ʒ iss.
Ferri et ammonii citratis..... ʒ ij
Tinct. nucis vomicæ ʒ ij.
Aque ʒ iss.
Tinct. cinchonæ comp..... ʒ ij.

S. Teaspoonful three times daily, in water, after meals.

—SANDERSON, *Medical Weekly*.

Pulmonary Tuberculosis.—Dr. Otis (*Boston Medical and Surgical Journal*, May 29th, p. 527) says: "In every well-arranged plan of treatment of pulmonary tuberculosis, when any exercise at all is allowable, pulmonary gymnastics, carefully arranged and adapted to the strength and condition of the individual, should, I believe, be embraced. In the famous sanitariums

abroad, where such excellent results are obtained, they play an important part in the treatment. We may in the future obtain a serum product which will accomplish all that was hoped for from tuberculin; but one must not forget that large numbers of consumptives are now being cured and restored to usefulness by means of the persistent application of nature's remedies, sunlight, abundant alimentation, continuous outdoor life, hydrotherapy, and good breathing. The vis medicatrix naturæ may not always give brilliant and rapid results, but when intelligently employed it is a method which rarely disappoints either the confiding physician or trusting patient."

Malarial Hæmaturia.—Keep the bowels open with calomel followed by salts, use hot mustard baths, and administer the following combinations in alternation every three hours:

R Spirit. turpent..... ʒ ij.
Acidi carbol..... gr. x.
Pot. chlorat..... ʒ iij.
Spirit lav. comp..... ʒ ij.
Acacia gum..... ʒ ij.
Aqua. menth. pip.....q.s. ad ʒ iv.

—DR. J. E. LONG, *Louisville Medical Monthly*.

Diarrhœa.—A serviceable prescription in cases of watery diarrhœa due to exposure, or exhaustion, or an irritant food, etc., is as follows:

R Acid. sulph. aromat..... ʒ ss.
Olei cajuputi..... gtt. xl.
Fl. ext. hæmatoxylin ʒ ij.
Spt. chloroformi ʒ i.
Syr. zingiberis.....q.s. ad ʒ iij.
M. S. Teaspoonful in water every two or three hours.

—*College and Clinical Record*.

Adherent Pericardium.—Dr. Broadbent (*Boston Medical and Surgical Journal*) publishes the notes of four cases, in each of which there was visible retraction, synchronous with the cardiac systole, of the left back in the region of the eleventh and twelfth ribs, and in three of which there was also systolic retraction of less degree in the same region of the right back. In all the cases there was a definite history of pericarditis, and in three of them there were other conditions strongly suggesting an adherent pericardium. The only means of causing this retraction on both sides seems to be the diaphragm, which, if pulled upon, would have more effect upon the floating eleventh and twelfth ribs than upon the more fixed ones. In cases of large heart with adherent pericardium there is a considerable area of the ventricle closely adherent to the central tendon of the diaphragm, and the powerful contraction of an hypertrophied heart must give a decided tug to this structure. That it should affect the ribs more often on the left side ought to be expected, since the adhesions are mainly to the left of the median line, while the liver, which is often large in these cases, may restrain the movement on the right. Apart from the adherent pericardium one was a case of aortic disease of rheumatic origin, the others of mitral disease.

Cold Bathing during Menstruation.—Cold bathing during menstruation is a beneficial measure, provided women become accustomed to it by bathing every day for eight days before. Henzel holds that cold salt-water baths facilitate the menstrual flow, increase the duration of genital life, and increase fecundity.—DR. DEPASSE, *Lancet-Clinic*.

Japanese Physicians do not look with favor on the bicycle, and regard its use as injurious to both men and women.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ELECTIONS TO THE MEDICAL COUNCIL—THE REPORT OF THE ROYAL VACCINATION COMMISSION—THE REPORT OF THE ADULTERATION COMMITTEE—WATER FAMINE—GLOUCESTER—GRANT BEY'S DEATH.

LONDON, August 21, 1896.

THE plot thickens as to the elections to the medical council. For the three vacancies there are more than double that number of candidates, all of whom may be said to have some points in their favor. Dr. Glover seems to have completely amalgamated with Drs. Woodcock and Drage, who are supported by the British Medical Association. Thus we have once more *The Lancet* and the *British Medical Journal* rowing in the same boat. Perhaps this partly accounts for the compliments these journals have recently exchanged, which not so long ago would have been deemed impossible. At the last meeting of the Association of Fellows of the Royal College of Surgeons it was resolved that Mr. Walter Rivington be invited to become a candidate and that the society of members should be asked to join in this invitation. Mr. Rivington is one of the liberal councillors of the college and has a long record as an able medical reformer. He is also on the senate of the London University, of which he is a graduate in arts as well as in medicine. He has taken an active part in the movement to redress the wrongs of Dr. Anderson, of whose case I have written more than once. This and the question of representing members in the council of the college are the chief reasons for the Association of Fellows proposing him, but his other qualifications are of the highest. Those who feel unwilling for the British Medical Association to permanently "nobble" the direct representatives and so to resent Dr. Glover's conduct in facilitating such a result, will be able to plump for Mr. Rivington and thus express their sentiments while voting for a sound and sincere reformer.

Distant as the election still is, the signs of a coming contest increase. Candidates have rivalled each other in condemning the council for its shortcomings, and of course implying that their election would tend to inaugurate a new era. At last one of the councillors has entered a defence. Mr. Brudenel Carter, who represents the Apothecaries' Society and whose journalistic position gives him great influence and unusual scope for his literary ability, has written a letter in which he examines somewhat cynically the claims of the candidates, and puts questions as to how they could improve matters as naively as if he really thought the council quite a model body. But he is not content with this method of defence, and, perhaps with a view to draw his opponents, casts scorn on agitators and dangerous persons, sneers at the literary quality of some addresses, and pronounces others "balderdash." Candidates and their champions have no hesitation in picking up the gauntlet thus thrown down. Mr. Victor Horsley is to the front, and exposes without mercy some errors of Mr. Carter's, and assures him he "cannot be credited with a ten-years' useful service, on which he is inclined to plume himself." Mr. Horsley had a paper at Carlisle, in which he impugned the regulations of the council and the acts of its president. This he intimates will shortly be published in full, and he challenges Dr. Carter to refute any of his statements. So further developments may be anticipated.

Dr. R. Rentoul, who is one of the candidates, has found out that the registered practitioners in the Isle

of Man are not considered entitled to vote at the election. He wants to know if the Isle of Wight is also disfranchised. The act provides for the election of three representatives by practitioners resident in England, one by those in Ireland, and one by those in Scotland. It is strange if the adjacent islands of the three kingdoms are not to be included. Perhaps the Isle of Man, having a certain local government of its own, is considered by the council as a separate State. The matter will probably be submitted to the privy council, and we shall then learn whether islands are not in legal phraseology embraced in the name of the country to which they belong. Assuredly the islanders are required to obey the laws of the kingdom.

At last the report of the commission on vaccination has appeared. Whether it is worth the seven years' incubation is a question with many. Perhaps the answer must be left until we see what legislation may be carried. The recommendations are in effect to make vaccination more attractive to the people and to render compulsion less stringent. The report recommends that the age during which the operation is obligatory should be extended from three to six months, which is the Scotch limit. The commissioners do not advise the substitution of other forms of punishment for pecuniary penalty. They do not consider it feasible to hand over the duty of enforcing the law to county councils, nor to vest in the local-government board the duty of proceeding against defaulters. They consider it would be advisable to devise a scheme permitting parents who are honestly opposed to vaccination to escape, but not those who are merely indifferent or negligent. They suggest that the parent might be required to attend before the local authority and satisfy them of his honest objection, or a statutory declaration to that effect might be demanded. Any plan of the kind, it is admitted, should be such as would not be adopted merely to save trouble connected with the operation. It seems to me that such proposals to give the parent a little trouble can operate no more effectually than the fine at present imposed. If adopted only after the first fine had been paid, the plan would be an excuse for not inflicting more than one fine in one case. The commissioners think it would promote the practice of vaccination if the fee payable to the public vaccinator were to be paid to every qualified practitioner who performed the operation, and they advise a system of inspection to secure that the prescribed rules should be observed in such cases. They think persons committed to prison for non-compliance with the vaccination laws should not be treated as criminals.

Sir Guyer Hunter and Mr. Hutchinson, while agreeing in the main with their fellow-commissioners, append the following memorandum to the report: "We are not able to recommend such a large relaxation of the compulsory law as is implied in the paragraphs dealing with compulsion. We think that no further change should be made than to allow a magistrate, before whom any one refusing vaccination has been summoned, to abstain from inflicting fine if satisfied on the evidence given on oath that the objection was one of conscience. We also think that notwithstanding the difficulties set forth in the paragraph dealing with revaccination, that operation at the age of twelve should be made compulsory."

From the foregoing it will be seen that the commissioners admit the protection afforded by vaccination, and the agitators will obtain little comfort from the report. The commissioners state that it not only diminishes the liability to attacks of small-pox, but that it renders the disease less fatal and less severe. They also state that the protection diminishes with time, and therefore revaccination is desirable. They admit some dangers, although in relation to the extent of the

work they pronounce them insignificant. As a security against dangers they would give parents the right to demand calf lymph.

From these brief notes culled from its pages it will be seen that this heavy blue book, which has taken seven years to produce, confirms most of the opinions of the profession, putting them only in as mild a way as possible. Lukewarm advocates will be satisfied and agitators discouraged, while the few honest faddists are to be allowed to hold their foolish prejudice and keep in a protected community a family which, being unprotected, is by so much a public danger.

The report of the committee on the adulteration acts is rather encouraging, but will not quite satisfy sanitarians. Still, if all the recommendations could at once become law, adulteration of food and physic would be more risky and therefore less profitable. The report acknowledges that the undue leniency of magistrates has made it worth while for the dishonest to go on adulterating and paying the fines when caught. Heavier penalties are recommended and the offenders are to be made to publish their convictions in the local newspapers. It is also recommended to define the word food so as to include flavoring or other ingredients. This would prevent adulterated baking-powder longer escaping on the plea that it is not a food. On the other hand, it is not proposed to enforce a statement on labels of mixtures as to the proportion of ingredients, so that a "mixture of chicory and coffee" may contain ninety or more per cent. of the "cheap and nasty." The most important recommendation of the committee is that a court of reference should be formed which shall settle the limits and standards of the quality and purity of articles of food. It is further advised that the local authorities should take for examination a larger number of samples yearly, and that these samples should not be taken by officers well known to the tradesmen.

The water famine in the east of London is still a public danger. The breakdown of the East London Water Company will probably greatly increase the demand to terminate the monopolies of the companies.

The Gloucester epidemic of small-pox is considered at an end, after a record of more than two thousand cases.

The death of Dr. Grant, better known as Grant Bey, who did distinguished service in Egypt, is regretted by all who take an interest in that country and especially in its sanitary progress. He was a scholar of wide learning and had received many distinctions.

DISCRIMINATING TREATMENT OF APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The appendicitis question will not down so long as the extremist, in a presumably laudable effort to show the general practitioner the error of his ways and to save him from the wrath to come, continues to insist that every case of appendicitis must be operated upon immediately, and the general practitioner obdurately refuses to accept this dogma. When the specialist impugns his statistics, denies his diagnostic ability, and in his delightfully modest way suggests other sources of pain in the right side of the abdomen, the general practitioner bears it with becoming meekness, knowing that in the eternal fitness of things the account will soon be balanced, in that he will not be able to advise the removal of the appendix if incapable of recognizing the disease which demands its ablation.

The extremist makes the assertion, regardless of its absurdity, that but from nine to fifteen per cent. of appendicitis cases recover under medical treatment.

Since he operates on all of his patients, his information apparently does not come from personal experience and may be taken with the customary modicum of sodium chloride. In this connection Dr. Woods' article in the MEDICAL RECORD of August 22, 1896, furnishes valuable information and, written from the standpoint of the insurance company, is undoubtedly free from bias.

The operative surgeon informs us that after medical treatment relapse will occur in the vast majority of cases. We maintain that, under the opium treatment favoring localized plastic peritonitis, relapses are infrequent. Dr. Morris says that some of my twenty-four cases "are not very well since their recovery," which leads me to wonder if Dr. Morris has information, other than purely theoretical, in regard to my cases which I myself do not possess, or whether he states this on the principle that if the facts do not accord with the theory so much the worse for the facts.

The apostle of operative procedure claims that medical treatment does not cure in these cases and holds up before our rapt vision the prospect of a safe, sure, and permanent cure. But in a liberal proportion of cases the appendix is not removed at the time of the operation. Can he then consistently claim that his patient is cured, ay, sugar-cured, plus the liability to a troublesome ventral hernia?

The operative expert communicates to us in due and ancient form the assertion that cases in country practice in which the person cannot pay a surgeon or cannot be removed to the hospital need but seldom occur. We who are familiar with the sordid poverty of many of these patients, the niggardly policy of our poor officials, the wretched roads, the snow blockades, the prejudices of such people who are apt to consider the hospital a sort of terrestrial gehenna, and the absolute refusal of many of these patients to be cut open—we would like the expert to explain how the necessary funds are to be obtained, the objections set at naught, and the desired end accomplished. If an operative surgeon is summoned he will expect to be recompensed. But the "fee does not enter into the controversy and is unworthy of being mentioned by an honorable practitioner." The said honorable practitioner should quietly dip his hand down into his pocket to pay it and perhaps forego a post-graduate course in operative surgery in New York or other uttermost parts of the earth in consequence. On the other hand the local surgeon, if he works with an eye to his patients' interests rather than his own, having only a moderate experience in abdominal surgery, will operate on appendicitis cases only when stern necessity compels.

The operative propagandist has an alluring way of contrasting the brilliant records of our most expert operators in well-equipped hospitals with some very doubtful statistics of results under medical treatment. Of what value is this in the question at issue? That surgical treatment for city and suburban cases is eminently successful was established long before this controversy arose. A contrast of the average results from surgical and from medical treatment would be to the point, and when the results of operations performed by the average surgeon throughout the country are supplemented by the results of cases in which patients have been ripped open by the tyro with more zeal for surgical fame than regard for human life the mortality will be found very high.

The real questions at issue are:

- 1st. What is the best treatment for outlying cases?
- 2d. What proportion would recover if treated medically?
- 3d. What proportion would relapse?
- 4th. What proportion of these cases if operated on under existing conditions would recover?

5th. What proportion would relapse?

6th. How shall we select the operative from the non-operative cases?

In deciding these points neither dogmatic assertions nor brilliancy of satire will count. What we need are facts—facts, which at best are stubborn things. My own contribution to this subject is that I have furnished twenty-four facts in the twenty-four consecutive cases which recovered under the opium treatment—facts which seem to have aroused the ire of some of my brethren.

In order to decide these points many statistics from private practice must be furnished. I still hold to my conviction that had I, since the beginning of my practice, adopted in all of my cases either an exclusively medical or an exclusively surgical treatment, I should have lost some of them, while as it is I have yet to record a death from appendicitis. I do not pretend to lay down any rule as to when operation is or is not indicated. These questions are largely questions of judgment, of most excellent judgment in the individual case, and I would suggest to some of our specialists that the exercise of this faculty should not be held in suspension or abeyance, should not be limited in its application by any inelastic and arbitrary rule, to merely a choice of operators or the most favorable time for slitting the abdominal parietes.

A writer in the MEDICAL RECORD of June 13th says that euthanasia will be a *fait accompli* "as soon as the opium treatment shall be regularly adopted" in gangrenous, perforative, or acutely suppurative appendicitis. "Gently and with Christian resignation," to use his own words, I would "point out to him" that having neither a "very pretty talent for mathematics" nor for "the gentle art of embroidery," as he so freely acknowledges, he should not heedlessly attempt to show that "two and two make six," by implying that I have ever advocated that the opium treatment should be "regularly adopted" in all cases, a position which I should attack were it necessary as earnestly as I do the other extreme. It is the extremist who exposes himself to attack, it is the extremist whom I attack, and it is the extremist who, aside from his proneness to err, exhibits at least one other human trait—he squeals when he is hurt.

What manner of man is the surgical enthusiast? Will he never be content? We do not deny the necessity for operative procedures in many cases. When he shows us a brilliant record of successful operations we applaud his success, we acknowledge his merit, we admire his skill, we marvel at his beautiful, not to say pulchritudinous dexterity, we even buy his books—and read them; but when this same enthusiast, unmindful of the history of the clitoridectomy fad, the oöphorectomy fad, the multitudinous other fads in fashion for lo, these many years, unblushingly demands that the general practitioner yield up every case of appendicitis to the goddess of the knife, we, the general practitioners, not entirely oblivious to nature's reparative power, backed up by a host of eminent surgeons, with a vivid memory of fads which have come and of fads which have gone, rise up and answer emphatically, NO.

W. N. MACARTNEY.

FORT COVINGTON, N. Y., August 15, 1896.

A Sign of Death.—Dr. G. H. Brandt, writing to the *British Medical Journal* with reference to the application of heat in cases of suspected death, sends the following mode of application: Light a wax vesta, apply the flame close to the skin until a blister is formed; if it contains serum the person is still living; if, on the contrary, it contains only gas, it will burst with a small explosion and life is extinct.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 29, 1896:

	Cases.	Deaths.
Tuberculosis.....	174	100
Typhoid fever.....	15	6
Scarlet fever.....	24	2
Cerebro-spinal meningitis.....	0	2
Measles.....	30	5
Diphtheria.....	131	18
Small-pox.....	0	0

Isn't it a Wart?—Dr. X— begins a communication to a contemporary: "I have on hand an enlarged prostate."

"Keep thy heart above all that thou guardest, for out of it are the issues of life," is an injunction nearly thirty centuries old, yet it is still a maxim as pregnant with wisdom for us in the treatment of the sick man as many a more modern dictum.—EMERSON.

A Human Crazy Quilt is what a girl in San Rafael, Cal., calls herself. She has been covered with skin grafts taken from numerous friends, to cover the results of a severe burning accident. It is said that she makes careful note of the location of each friend's contribution for future reference.

Slobbering.—Dr. Sanchez de Slivera (*Lo Sperimentale*) concludes that healthy infants never dribble. Infants that dribble only in the daytime, though apparently in good health, have their digestive functions impaired. Infants that dribble at night are suffering from obstruction of nasal respiration. These phenomena are altogether unconnected with dentition.

High-Altitude Treatment.—Dr. Mays (*New York Medical Journal*, June 27, 1896) writes as follows: The ever-recurring question is: Should patients with a disposition to blood spitting be sent to high altitudes? From a theoretical standpoint I think many objections may be raised against such a change, but practically I believe that high altitudes have no detrimental effect on this condition; on the contrary, it seems that nearly all such cases derive benefit from this kind of treatment.

Prevention of Conception.—I dare any political economist to show me one expedient whereby conception may be avoided. I challenge him to name a single preventive which will not do damage either to good health or good morals. Even natural sterility is a curse. Show me a home without children, and ten to one you show me an abode dreary in its loneliness, disturbed by jealousy and estrangement, distasteful from wayward caprice or from unlovable eccentricity.—DR. WILLIAM GOODELL.

Gastric Ulcer.—Dr. Williamson (*Physician and Surgeon*, July, 1896) recommends: 1. Absolute rest in bed. 2. Laxative saline mineral waters and rectal alimentation. Later on liquid nourishment and after three weeks a more generous diet; tonics, preferably the hypophosphites at first, owing to the liver's inactivity usually, and iron preparations subsequently, along with arsenic, which is one of the best. For gastralgia—anodynes, especially morphine. For hemorrhage—absolute rest, ice, morphine, and ergotin hypodermically.

A New Complaint.—"Is there any particular nervous complaint connected with your profession?" asked the cheerful idiot of the rifleman. "There is the tennis arm, the bicycle face, and the baseball arm, and I thought there might be something of the sort among you gunners."

"No," said the rifleman; "nothing of the sort."

"It is very queer," said the cheerful idiot thoughtfully. "I didn't suppose you could hit the target without taking sharpshooting pains."—*Indianapolis Journal*.

Menstruation in Eskimos.—Dr. Cook, who was with the Peary expedition, says the Eskimo girls do not begin menstruating until they are eighteen or twenty years of age.

Odor a Symptom of Disease.—Dr. McCassy (*Lancet-Clinic*) writes as follows: Diseases have their characteristic odors. Insane asylums have a familiar odor. Favus has a mousey odor; rheumatism has a copious, sour-smelling, acid sweat. A person suffering with pyæmia has a sweet, nauseating breath. The rank, unbearable odor of pus from the middle ear tells the tale of the decay of osseous tissue. In scurvy the odor is putrid, in chronic peritonitis musky, in syphilis sweet, in scrofula like stale beer, in intermittent fever like fresh-baked brown bread, in fevers ammoniacal, in hysteria like violets or pineapple. Measles, diphtheria, typhoid fever, epilepsy, phthisis, etc., have characteristic odors.

An Old Medical Work.—Dr. Dodson (*North Carolina Medical Journal*, July 20, 1896) writes as follows: In ancient Egypt the god Thoth was the guide of physicians and left his MSS. in the oldest known book in the world, the Prissi Papyrus. This book, written in the sixteenth century before Christ, contains on one hundred and ten pages the hermetic book upon the medicines of the ancient Egyptians, known also to the Alexandrine Greeks. These pages are supposed to be the revelations from the god Thoth, and with the drugs, prescriptions, weights, and measures are also the pious axioms to be repeated by the physician. He uses these in compounding his drugs. These various incantations smooth his way to the minds of his patients.

Labor.—Dr. Hirst says: "In the earlier stages of excess of expulsive power of the uterus, if the pains be so frequent as to threaten exhaustion, nerve action and muscular power may be lessened by the administration of chloral in fifteen-grain doses every fifteen minutes until three doses have been given. Opium and bromide may also be used. If the patient is irritable, establish mental control. If there is uterine inertia, the majority of cases must be treated in the first stage by inunction, in the second by the forceps. If the inertia is due to weakness or fatigue, quinine, fifteen grains, or stimulants may be given. If there is apathy of the uterine muscle, lukewarm injections of water should be made against the anterior wall of the cervix. Ergot should not be given, as it causes tetanic spasm and contracts the cervix."—*Medical World*, June, 1896.

Consanguineous Marriages.—The results of these marriages have been differently regarded by various authors. Esquirol attributed to them a predisposition to insanity among the descendants. Ménière affirms that in the majority of cases deaf-mutes owe their infirmity to the ties of relationship between their parents. Lucas thinks that these marriages are a cause of degeneration in the human race; that they produce mental dulness, brutality, insanity, impotence, etc. Liebreich states that consanguinity is frequently the cause of pigmentary retinitis among the descendants.

Raynaud ranks consanguinity among the conditions which may produce albinism. Luys seemed to have proved also, says the writer, the injurious influence of consanguineous marriages. On the other hand, says the writer, others have boldly declared themselves in favor of these marriages, and state that they are not at all injurious, that generally they give good results. It is not astonishing then, he says, that in the face of such extreme opinions other authors, such as Lévy, Bouchardat, Voisin, Darwin, Lacassagne, Ballet, and others, should view the question from both sides and affirm that these marriages are productive of both good and evil results, according to whether the contracting parties are exempt from or affected by constitutional diseases. With such a diversity of opinions, continues the writer, it is difficult for physicians to decide when they are consulted by patients in regard to the subject. M. Perrin recently made a study of the question under consideration, and gives his conclusions as follows: First of all, among the numerous affections attributed to marriages of consanguinity, idiocy, insanity, and epilepsy are due generally to heredity, but in a few cases consanguinity of the parents may certainly be the cause. As to convulsions in the young, the cases are so numerous that it is impossible to attribute this affection to the influence of consanguinity. It may have a share in the production of deaf-mutes, but it is not an invariable factor. With regard to affections of the sight, the influence exercised by consanguinity has been ascertained, and in albinism it has been distinctly proved. Concerning sterility, M. Perrin thinks this cannot be attributed to consanguinity alone. He has further shown that certain congenital deformities have been so frequently observed in children whose parents were perfectly healthy that, in these cases, we are forced to admit the theory of consanguinity alone. On the whole, says the writer, we may conclude that if under certain circumstances consanguinity and heredity are two etiological factors which combine in the same family to bring about the same morbid results, it is none the less true that in some cases consanguineous marriages among healthy persons may exercise an unfavorable influence on the children. M. Perrin, says the writer, advises physicians not to dissuade their patients from marriage if there is no diathesis, no hereditary disease, and if they are in good health and have strong constitutions; on the other hand, it is not well to encourage them, he says, because even in the best conditions the children of such marriages have presented irremediable defects. But if the physician discovers the least trace of physical or mental affection, he should exert all his influence to prevent such marriages, for they could only be productive of deplorable results.—*New York Medical Journal*.

The Emergency Ration.—A board of officers has recommended to the secretary of war the following as a suitable emergency ration for the United States army: Hard bread, 16 ounces; bacon, 10 ounces; pea meal, 4 ounces; coffee, roasted and ground, with 4 grains saccharin, 2 ounces, or a half-ounce of tea with 4 grains saccharin; salt, .64 ounces; pepper, .04 ounces; tobacco, half-ounce; making a total weight, with coffee, of 33.18 ounces; or, without tea, 31.68 ounces.

A Living Serre-Fine.—Greek barber surgeons in the Levant use large ants to keep together the edges of cuts. The ant, held with a forceps, opens its mandibles wide, and as soon as it seizes the edges of the wound has its head severed from the body, but retains its grip. People have been seen with wounds healing held together by seven or eight ants' heads. The kind used is a species of big-headed camponotus.

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Original Articles.

THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP, WITH ESPECIAL REFERENCE TO THE HOFFA-LORENZ OPERATION, WITH AN ILLUSTRATIVE CASE.¹

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CONGENITAL dislocation of the hip, although not a common disability, is certainly not a rare one, if one may judge from the report of the Hospital for Ruptured and Crippled, in which are recorded fifty-one new cases for the year 1895, although undoubtedly the histories of many of these patients may also be found in the records of other institutions, as may always be assumed of cases of a peculiar or incurable nature.

Although a satisfactory explanation of the exact causes of the displacement is still wanting, the knowledge of the anatomical conditions, until recently in great degree speculative, is now firmly supported by hundreds of observations recorded by Hoffa, Lorenz, and others. An indication at least of an acetabulum is practically always to be found in its proper position, and it is often of nearly normal size and shape. The upper extremity of the dislocated femur is somewhat smaller than normal, the head of the bone is usually flattened from side to side or otherwise distorted; the neck is short, almost invariably depressed to a right-angled relation with the shaft, and may be bent somewhat forward; the ligamentum teres is usually absent after the age of five years; the capsule is hypertrophied and often drawn upward into a somewhat purse-like form.

These changes, which at an early age are in great degree the result of altered function, are progressive in character under the influences of weight, pressure, and attrition on the parts immediately involved, and are accompanied by corresponding effects on the use and ability of the limb and on the posture of the body.

It is evident, then, that whatever is to be done for the relief or cure of the disability must be undertaken at as early a time as is practicable. The only questions can be whether or not the disability is sufficiently serious to warrant the attempt to remove it, and, if so, what means are to be employed toward this end. These questions are by no means settled, if one may judge from the advice that patients accumulate in their journeys from physician to physician and from clinic to clinic.

As the disability is not attended by notable pain, the mothers may be assured that it will be outgrown and that it is of no consequence. Or, if the true nature of the deformity is recognized, it is instinctively compared in the mind of the surgeon with the traumatic dislocation of the adolescent or adult, not only

to the belittling of the importance of a disability that is not accompanied by limitation of motion or pain, but to the exaggerating of the difficulty of effective treatment. It must be understood, then, that the question of treatment is to be considered and decided, not by the present condition of the patient alone, but by the knowledge of what the final effect of the deformity is likely to be; and there is both theoretical and practical proof of the statement that as the anatomical deformity tends to increase, so with age its clinical symptoms will become more evident.

The congenital dislocation of the hip is practically always a dislocation on the dorsum, upward and backward. If the displacement is of both sides the pelvis is suspended by the elongated capsules on femora whose heads are above and behind their normal position.

The effect of the deformity on the gait and appearance of the patient is in brief as follows: As the support of the body is displaced backward the pelvis is tilted forward, and the necessary compensation in the erect posture causes an increased lumbar lordosis and prominent abdomen.

Because of the absence of a firm support for the femoral heads, they are alternately forced upward in walking. This insecurity, increased by the functional weakness of the muscles attached about the neck of the bones and their abnormal separation and displacement, causes the peculiar rolling, waddling gait, so ludicrous, ungraceful, and characteristic that the diagnosis of the affection may often be made at a glance.

When the dislocation is of one side only the waddle is replaced by a limp which is, however, peculiar in its characteristics. As the head of one bone only is displaced upward and backward, the lumbar lordosis is less marked, but the pelvis is twisted; the anterior superior spine of the dislocated side is always in advance of the opposite side and at a lower level (Fig. 1). There is a peculiar telescopic limp, a sudden and exaggerated lunge of the trunk toward the short leg, that has been likened to the motion of descending steps (Fig. 2). The abnormal mobility may cause attrition, and sudden strain upon the weakened joints may set up attacks of traumatic synovitis.

The extent of the secondary changes, the amount of pain, and the increase of restriction of motion will depend in great degree upon the strain to which the weakened part is subjected. It may, I think, be stated that a double congenital dislocation of the hip would make a laborious occupation impossible; fortunately, the great majority of cases occur in females, so that the question is of less importance than it would otherwise be.

It may, then, be confidently predicted of the individual suffering from this disability that the awkward and noticeable waddling gait will continue; that weakness and disability, compared with the normal condition, will be marked; that pain or discomfort in the lumbar region, which is almost always the accompaniment of abnormal lordosis from any cause, will be experienced at times; and that discomfort or pain at the weakened joints may be expected after overexertion.

There is a probability that the disability will in-

¹ Read before the orthopædic section of the New York Academy of Medicine, February 21, 1896.

crease, and there is a very decided possibility that the restriction of motion and repeated inflammations may to a great extent disable the patient in later life.

The same prediction as to slowly increasing limp, weakness and disability, may be made of the one-sided dislocation; not only is the actual shortening increased by the dislocation, but to this may be added the apparent shortening due to the increasing limitation of abduction and tendency toward permanent adduction of the limb.

If these statements can be supported by clinical ex-

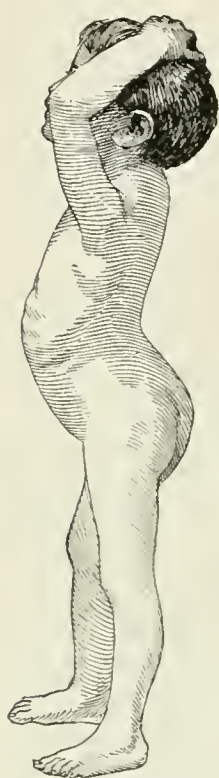


FIG. 1.—Congenital Dislocation of the Left Hip, illustrating the twisting of the pelvis and the abnormal lordosis.

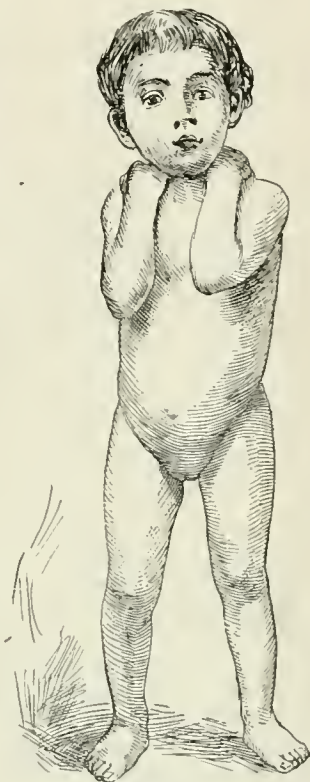


FIG. 2.—Front View of the Same Patient, illustrating the inclination of the body, the prominence in the trochanteric region, the comparative atrophy and shortening of the leg.

perience, I think it will be acknowledged that, even did not the weakness, awkwardness, and deformity of the immediate condition warrant interference, the knowledge of the more important disability of later years, not to mention the moral effect of a noticeable deformity, makes the only question one of the probability of the attainment of a cure or relief, and not of the possible difficulties in reaching this end.

In times past such arguments have been sufficiently conclusive to stimulate treatment lasting through years, by the use of braces and even by confinement to bed, and it was only the hopelessness of cure by such efforts that led to the practical abandonment of this method of treatment. Here and there one finds recorded a case successfully treated by apparatus, but even the most favorable report makes no claim that the head of the bone had actually been replaced in a sufficient acetabulum, supposing such to exist.

The object of the splint treatment has been simply, by drawing the head of the bone into the neighborhood of the acetabulum and by removing the strain of functional use, to check for a time the progression of the deformity. This can undoubtedly be done; the more efficient the support and the longer it is used, the greater the palliation, but when the support is removed one may again expect the slow increase of the disability; so that except in selected cases and except for the purpose above stated, this treatment no longer deserves serious comment.

There now seems to be, if not an open acknowledgment, certainly a tacit acceptance of the fact that there can be but one effective treatment of this condition, and that is to replace the head of the bone in its normal position, either in the acetabulum or an enlargement of its rudimentary indication. The credit of this great advance undoubtedly belongs to Hoffa, but the details of the operation in the direction of simplicity and effectiveness have been so essentially modified by Lorenz that it seems necessary to couple his name with that of its originator, and especially since Hoffa has long since abandoned the method of operating that formerly went by his name.

The conception of the treatment is Hoffa's; the operation is that of Lorenz. It seems proper, therefore, in order to avoid confusion, to speak of the treatment as the Hoffa-Lorenz operation.

The delay in accepting and practising the method may be ascribed to the unfortunate functional results that have followed the few reported operations in this country—results that were unsuccessful or only partially successful either because of the inexperience of the operator and the failure to replace the bone in a sufficient acetabulum, or because of the faulty technique and succeeding suppuration and contraction by which the limb was drawn into a distorted position.

On the other hand, the most fortunate operation by this method may be disappointing, if too much is expected as an immediate result. It cannot be hoped, for example, that a perfect joint can be made by placing the deformed femoral head in a more or less artificial acetabulum, nor that muscles whose relations and functions are suddenly changed can balance the body or move the limb through its normal arc.

The operation is distinctly for the future of the patient; it is simply claimed that if the head of the femur may support the body by the secure resistance of an acetabulum in its normal position, compensatory deformity of the body will disappear because the balance has been restored; the shortening will be reduced, insecurity will be replaced by security, and the disability will become gradually less rather than greater, because distortion of the limb and attrition of the bone will be prevented, and the accommodative changes of the future will be toward the normal rather than the abnormal.

Again, as these operations are performed in childhood, when the regenerative and accommodative power is so great as to ensure useful joints even after destructive disease, we can well imagine how much more effective may be the accommodation to a condition free from morbid influences.

So far, then, as the immediate result of an operation is concerned, it may be considered a success if the head of the bone is securely held in the new position, if there be no contractions that distort the limb and a range of motion from complete extension to forty-five degrees of flexion, sufficient to allow the patient to sit with comfort. If these essentials are attained, the patient has made the most important step toward complete recovery.

The following illustrative case is of interest, as this appears to be the first occasion on which a patient has been presented to a medical society in this country as a successful immediate result of this operation.

The child, a girl, four years of age, was admitted to the Hospital for Ruptured and Crippled on August 25, 1895, during my service as substitute. The peculiar limp and projecting abdomen and a lump in the buttock had attracted the mother's attention when the child began to walk. She was taken immediately to a public institution, where the parents were assured that nothing was the matter. Later at another hospital the mother was told that the child was "spoiled at birth." The deformity had become such an eyesore

to the parents that they readily consented to the proposed operation.

The case was one of typical congenital dislocation of the left hip. The great trochanter occupied the usual position behind and above the normal acetabulum, on a level with the anterior superior spine; the lordosis was well marked; there was the usual twisting of the pelvis and atrophy of the leg, which was one inch shorter than its fellow when no weight was borne, and the usual peculiar limp.

On the following morning the Lorenz operation was performed, and, as this has been recently modified somewhat by the author, its main points will be described.

An incision was made just to the outer side of the anterior superior spine, and extended downward and slightly outward for two and one-half inches. The fascia was freely divided and the joint exposed in the interval between the tensor vaginæ femoris and gluteus medius muscles. The capsule was freed and opened,

December 15, 1895. As the parents live far from the hospital, she has been seen at infrequent intervals only, and has had none of the massage, the manipulation, and the special training that have been insisted on by Lorenz as an indispensable part of the treatment, other than that which a busy mother has been able to apply. For this reason the case is of interest as showing a result attained under the ordinary unfavorable conditions.

The head of the bone is securely held in the new acetabulum. The abnormal lordosis has disappeared; the shortening is reduced to about one-fourth of an inch, representing the change in the angle of the neck of the bone; there is no prominence in the region of the trochanter. The child runs about all day without fatigue. There is still a well-marked limp, though of an entirely different character from that observed before the operation, and when the child is under direct instruction it can be much reduced. Contraction has disappeared and there is voluntary motion from full



FIG. 3.—To Illustrate Voluntary Flexion Five Months after Operation.

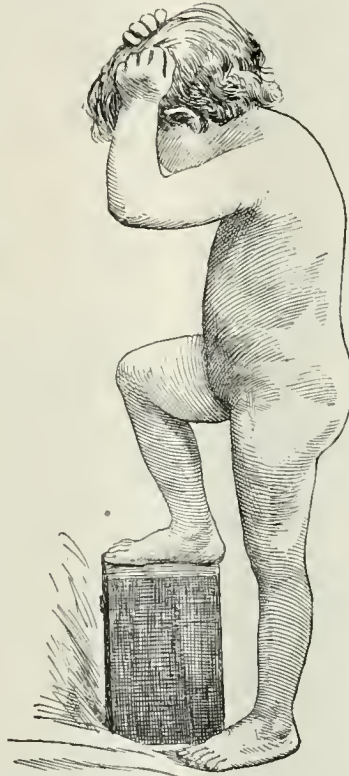


FIG. 4.—The Weight Supported on the Replaced Femur, illustrating, when contrasted with Fig. 1, the absence of abnormal lordosis.

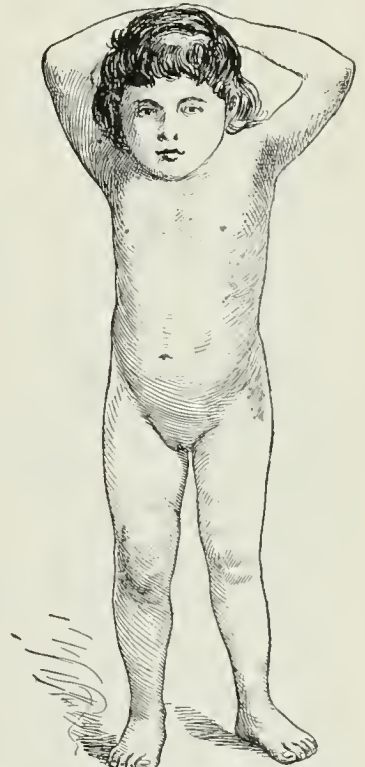


FIG. 5.—Front View of the Same Patient.

exposing the head of the bone; this was of fairly normal appearance, somewhat like an acorn in shape, with a deep depression on its anterior surface. The neck was as is usual, short and depressed to a right angle with the shaft. The ligamentum teres was absent. The situation of the old acetabulum was found, and it was, rapidly enlarged to a sufficient size. When the upper part of the capsule had been thoroughly divided the head of the bone could be easily replaced.

The capsule was not sutured, the wound was closed except for a small drain, and the limb in a slightly abducted position was placed in a long spica plaster bandage.

The after-history is not eventful. The original bandage remained in position for a month; it was then replaced by a short leather support, which was in turn removed three weeks later, since which time no support has been used. The child began to walk about on the leg at the end of six weeks. Although the importance of after-treatment was recognized, it was not considered best to retain a young child exposed to the dangers of a large hospital, and she was discharged

extension to one hundred degrees of flexion; abduction, adduction, and rotation are about three-fourths of normal, which means that for all practical purposes motion is perfect (Figs. 3, 4, 5).

According to Lorenz's experience this case may be classed as one of the best results, since he considers a very much more limited range of motion, from fifteen to forty-five degrees, a good result. As to the limp, which depends on insecurity, it may be expected to grow less with functional use, because it is the insecurity of muscular weakness, not the insecurity of non-support. For the immediate result, the better the motion the greater the limp; in fact, according to Lorenz, the firm ankylosis that might follow suppuration gives a better immediate result, provided there is no distortion of the leg. In from one to two years the limp may become imperceptible, much naturally depending on the training and after-treatment.

So far as the operation is concerned, from my own experience and from my observation of those performed by others, the following points deserve attention:

The operation is somewhat difficult, since its field is

deep and cannot be easily exposed to view. The neck of the femur is short and held tightly against the pelvis by the hypertrophied capsule. The operation should be as rapid as possible, and this rapidity may be aided by an accurate knowledge of the normal position of the acetabulum and a clear conception of the size and shape to which the rudimentary depression is to be enlarged, and it must be remembered that this is to be large and deep. The capsule should be freed, incised, and cut through, particularly at its upper attachment, as it is at this point that the resistance to reposition is most marked. In young children the obstacles to reposition will be found to be almost entirely in the capsule. In older subjects the preliminary extension by heavy weights or the extension by the screw machine at the time of operation may be necessary. In exceptional cases the head of the bone may be distorted so that shaping may be necessary.

It is evident that although the dislocation may be successfully reduced, the necessity for long-continued and careful after-treatment is not thereby removed; but it is care applied to a useful, growing limb, securely in place, rather than the same amount of treatment devoted to holding the limb approximately in normal position, as when mechanical means only are applied.

It is probable that the only other method of treatment likely to be extensively used in the future is the attempt to replace the dislocation by manipulation without open operation, as advocated by Paci; but this method must have a much more limited scope than is claimed by its author, for if its object is to actually replace the dislocation, it is not likely to be successful except in young children, because the acetabulum is not of sufficient size to contain the bone, and because the opening through the elongated capsule is impossible, not to mention the other difficulties in the resistance of muscles and ligaments, which are sufficiently familiar to those who have attempted the open operation.

Lorenz's argument is particularly conclusive on this point, as he has performed the manipulation of Paci, and then by the open method examined the relation of the parts and again laid bare the capsule and attempted reposition by this method—but never with success. He insists that the "fourth movement" of Paci will inevitably dislocate the head of the bone forward if it comes into the neighborhood of the acetabulum, and that it is because of this forward dislocation that the favorable results are obtained by this method.

Lorenz also asserts that the only effective method for the actual and immediate reduction of a dislocation by such means must be by traction, flexion, and extreme abduction; direct pressure downward on the trochanter and then toward the median line, while the leg is rotated slightly inward. He has further perfected the method and it will be described by him at the May meeting of the Orthopædic Association. As neither Lorenz nor Hoffa advise open operation before the age of two years, it would seem that the attempted reposition would be indicated in those rare instances in which one has the opportunity to apply treatment at this early period; and if, as is no doubt the case, the anterior dislocation is so much less disabling than the posterior, it would seem that the method of Paci might be carried out simply with this aim in view, if it were impossible to replace the head of the bone in its acetabulum, or when the open method had been refused or was considered to be impracticable.

Were it not for the continual evidence of mistakes in diagnosis that cases afford, one would suppose that the presence of the dislocation must be self-evident. The diagnosis can offer no difficulty in any

but very exceptional cases. It is characterized by an habitual limp or waddle not accompanied by the pain of joint disease or the helplessness of paralysis (the affection which I find most often made to explain the symptoms): a shortening of the leg, explained by the elevation of the trochanter on the affected side or on both sides when compared with Nélaton's line; finally, when the limb is flexed and adducted to its extreme limit, the neck and rounded head of the bone can be plainly felt, beyond and above the trochanter. Thus it may be distinguished from the rare cases of depression of the neck of the femur, which in young children may be due to rachitis, and from the dislocation the result of destruction of the head of the bone, as in acute epiphysitis of infancy, of which no history can be obtained.

Fortunately at the present time, thanks to the work of our European colleagues, Hoffa and Lorenz and Paci, the congenital dislocation of the hip is no longer a hopeless disability. The simplicity and the reasonableness of the operative method have always been self-evident, and now that its feasibility has been so decisively proved it would seem that the time had come for more decided effort to relieve the sufferers from this deformity.

RUDIMENTARY ORGANS.¹

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In all of the higher animals we find a large number of structures which are either absolutely useless or of such slight service as to bear little or no relation to the existing life or wants of the animal.

Those parts which are absolutely functionless are, strictly speaking, rudiments—though it is hard, in many cases, to make a distinction between them and those that have so far degenerated as to be of slight or doubtful value.

A very liberal interpretation of the subject would make it include those structures which were formerly of greater physiological importance than at present, or parts that may be in a state of transition, and even those that are merely pathological in their significance.

All rudiments are characterized by their great variability, either in size, form, sex, time of occurrence, or their entire suppression. They are often a source of decided disadvantage and even of danger to life, as in the case of the vermiform appendix.

To comparative anatomy and embryology we owe much for the elucidation of this subject. Comparative anatomy shows us that all vertebrates are constructed on the same plan: so, finding the same parts which are rudimentary in higher animals well developed and highly functional in the lower animals justifies the conclusion that these parts in the higher animals are now in a degenerate and functionless condition, but that they once had an important function in ancestral forms.

The human embryo shows successively and progressively during the course of its development the ancestral forms through which man has passed in the ascent from the simple to the complex organization. To briefly illustrate: The embryo of man has at an early period gills much like a fish, with ramification of blood-vessels in true fish type. These are found in the embryos of all existing vertebrates, together with other structural peculiarities which would result in the transformation of an aquatic into a terrestrial animal. The heart is at first a simple chamber, like that in the

¹A prize essay, College Physicians and Surgeons, Boston, Mass., session 1895-96.

worms; the backbone is prolonged into a tail, which extends beyond the extremities; the great toe is opposable like the thumbs. Three months before birth the whole body, except soles and palms, is covered with a thick coat of soft woolly hair. In short, the human embryo, during its development, recapitulates the history of the evolution of all its ancestral forms. In consequence of this, we have found in the embryo more than three hundred rudimentary parts or characters, most of which disappear in the economy of growth, but many are retained in the adult form. Of these I shall consider only those of general interest, and that necessarily in a superficial manner.

As to the part played by a gradual evolution of the environment, the laws of natural selection, disuse, economy of growth, or the combined effects of enlargement from increased use, suppression, and change of function, I cannot touch upon at all. This phase of the subject has been most extensively and satisfactorily worked out. Suffice it to say that rudimentary organs have furnished a most perplexing problem to those whose interest or condition of mind lead them to seek a teleological explanation of man's origin. Viewed only in the light of evolution has their meaning been made clear.

Let us begin with that most obnoxious of all rudiments, the human tail. Has man a rudimentary tail? In answering this question we must bear in mind that the definition of a tail in human anatomy must be in strict accord with that of comparative anatomy, which is, "that so much of the vertebral column as is posterior to that which attaches to the pelvic girdle is caudal." At an early stage in the development of the human embryo there is, as we have already said, in direct continuity with the axial skeleton, a free, pointed appendage, projecting beyond the extremities, and having an unmistakable resemblance to the tail of a lower animal. During the course of development this becomes shorter and shorter, is slowly taken into the trunk, and persists in the adult form of both man and apes as the *os coccyx*. As is the case with all vestiges, it is extremely variable; being made up usually of four vertebræ, it is found sometimes in the male composed of five, while in the female the number varies from three to six. That it is a true rudiment is shown by this variability in number, its incomplete development at birth, together with the fact that there is a whole series of degenerate caudal muscles attached to it. This is also a direct proof that it was at one time an external and functional tail. Although functionless now as a tail, the *coccyx* has some use in supporting internal parts.

The skeletal system furnishes many points of interest, on account of the assumption of the upright position by man. In consequence of this, the sternal portion of the thorax has shortened and the sternal ribs have diminished in number and size, because the chief support of the viscera is no longer in the ventral but in the caudal direction. We find, consequently, a compensatory widening of the pelvis, especially pronounced in woman, furnishing additional support in child bearing.

We must consider the eleventh and twelfth ribs—and a thirteenth rib is not a very rare occurrence—as rudimentary in nature. They have lost their sternal attachment. It is found that their chief use is in giving support to the serratus posticus inferior and a portion of the latissimus dorsi muscles; but it must be noted that the former muscle is unmistakably rudimentary, while that part of the latissimus dorsi attached to the ribs is very insignificant compared with the rest of the muscle.

The large transverse processes of the lumbar vertebræ must be considered as vestiges of ribs. In fact, they are ribs at one period in the embryo. The first

pair of ribs also shows signs of beginning degeneration.

From these facts we see that the vertebral column was evidently furnished with a greater number of ribs than at present.

The slender and variable styloid process of the temporal bone is clearly a rudiment, a left-over or made-over structure from the gill stage.

Probably the most harmless rudiment we possess is the pisiform bone of the wrist. As all mammals are constructed on the common plan of five digits, and as careful research shows this vestige to be the carpal bone of a long-vanished sixth finger, we shall have to go back at least to the amphibia to account for its origin.

Numerous foramina are found in certain bones, occasionally in those of civilized man, more commonly in ancient remains and the lowest races. We need mention but one that always occurs, the canal in the posterior aspect of the petrous portion of the temporal bone, the aquæductus vestibuli. It has been fully investigated and proves to be one of the most ancient and interesting of relics. It is the rudiment of a structure which primitively connected the inner ear directly with the external world, and opened on the dorsal aspect of the head. This is evidenced by the following facts: In the embryos of all vertebrates the development of the auditory vesicle begins by the formation of a patch of exoderm cells. This patch soon becomes invaginated and forms a pit, to the inner side of which the auditory nerve becomes closely applied. As this pit sinks deeper and deeper into the connective tissue, its mouth narrows and soon becomes closed in all higher vertebrates. The ear vesicle gradually moves still farther from the surface, yet remains connected with it by an elongated duct, either opening on the dorsal aspect of the head, as in elasmobranchs, or ending in a blind pocket. In the higher vertebrates the ear vesicle undergoes most complicated changes, which have been confined, however, wholly to its lower end, leaving this primitive dorsal external auditory canal unused. It still persists in man as a canal leading from the vestibule of the complex inner ear and opening on the top of the petrous bone. Some anatomists tell us that it still contains a tubular prolongation of the lining membrane of the vestibule, which ends in a cul-de-sac between the layers of the dura mater. To sum up: The aquæductus vestibuli is all that is left of the primitive ear tube through which the remote ancestors of man, the early sharks, heard.

It is said that hardly a human subject has been examined which has not shown some variation in the muscular system. In fact, in no other system do we find so many variations. On account of the degeneration of the tail, we have a whole series of muscles, which in tailed animals are strongly developed, for moving it. On the ventral side of the *coccyx* are the vestiges of the *coccygeus* muscle, being in the lower animals the adductor *coccygeus* or tail-wagging muscle. The *curvator coccygeus* corresponds with the depressor *cauda* of the tailed animals. The rudimentary character of the extensor and levator *coccygei* is indicated by their extremely small size and by the fact that they may be wholly or partially replaced by fibrous tissue, or may be entirely wanting. Their vestigial character is even more pronounced in the anthropoids than in man.

An interesting series of muscles is the *panniculi* or skin muscles—so called because they have their points of origin and insertion in the skin. They are well developed in many of the lower animals, in which they spread like a mantle over the back, head, neck, and flanks. They play an important part in raising the scales and feathers of reptiles and birds. In some

mammals they act as a protection against injury to the skin, as is seen in the strong twitching by which a horse or ox shakes off an insect. In man and apes only a feeble trace of this class of muscles is found, such as the *platysma myoides* in the cervical region, the muscles of the external ear, and those of the scalp.

The whole of the external shell of the ear in man is merely a rudiment, having no function whatever in its present condition. Its various folds and prominences in man are represented in the lower animals by muscles which are used for opening and closing or widening and narrowing the external auditory passage. While those three rudimentary extrinsic muscles—the *attollens*, *attrahens*, and *retrahens*—are large and functional in moving the ears of most of the lower mammals upward, forward, and backward, they are outside the control of the will in us, making the ear practically immovable. It has been said that the resting position has had much to do with crumpling the pinna, but to this must be added the effects of disuse through greater freedom of motion of the head and greater brain development. Excepting the primates, mammals determine direction of sound by exclusion—they move the ear until a position is found where the sound is loudest. In our complex brain the terminals of the auditory nerve have so specialized as to be capable of perceiving quality of sound in different relations to the individual. This, plus the capacity for correlating past experiences of sound, enables us to detect immediately its direction, and we have no further need of an external ear with a set of muscles to move it. Elaborate experiments have been made to prove that the crumpled condition of our ear deflects rather than concentrates sound vibrations. In the little blunt point projecting from the infolding margin of the helix we see the last relic of the pointed ears of our ancestors, which fact is emphasized by our finding it in the human embryo (before that stage when the helix rolls in) projecting upward, as is normal in the ears of lower mammals.

The *subclavius* in man is very small and insignificant, often only a band of fibrous tissue and as often absent. It may have a little use to aid in steadying the clavicle during movements of the arm, for we find an analogous muscle in birds, which is large and strong, raising the wing in flying.

The *pyramidalis* has the rudimentary character of variability. It is very insignificant, often wanting on one or both sides. It is the remnant of a powerful muscle, which in the marsupialia greatly strengthens the abdominal walls and supports the pouch.

The *levator claviculæ*, *ischio-pubic*, *musculus sternalis*, *gluteus quartus* are interesting rudiments, which we need not treat in detail.

The *palmaris* in the forearm and the *plantaris* in the leg are good examples of degenerates. The former is still slightly functional in aiding to "make a fist." Formerly it extended through the palmar fascia to the phalanges, acting as a strong flexor of the fingers. Now it reaches only to the palmar fascia. The *plantaris* is a true rudiment. While it formerly extended through the palmar fascia of the foot to flex the toes, it now does not even reach the fascia, but has shifted back to the *os calcis*, and is frequently absent. This muscle is largely developed in tree-climbing animals.

The assumption of the upright position has had much to do with this great variation in the muscular system. It caused that massive development of the *gluteus maximus* and *gastrocnemius* which must necessarily have thrown out of balance the nicety of relations of other sets of muscles. The changing of the foot from a prehensile to a supporting and walking organ brings into existence rudimental conditions of muscles. Professor Wood, of London, from examination of a large number of cases, finds that anomalies in muscles of the limbs are more numerous than else-

where. And in the arm he finds that there are two hundred and ninety-two variations as against one hundred and nineteen in the leg, owing, no doubt, to complexity of movement in serving a highly developed brain. Osborn says that "in the muscular system we find organs so far on the downward grade that they are mere pensioners on the body, drawing pay—that is, nutrition—for past honorable services without performing any corresponding work."

Although man is the least hairy of all the primates, a careful examination of the skin shows that hair follicles are to be found over its whole surface, in some regions, as the head, axilla, pubes, being strongly developed, while in other parts it is a fine, soft down. In males these downy hairs are often well developed on the breast, neck, abdomen, and limbs. These facts lead to the conclusion that primitive man was far more hairy than at present. To go back further, we can even see in the rudimentary condition of the hair of man traces of his descent from the lower animals. Hair appears on the embryo of homo at about the thirteenth week of intra-uterine life. The very first is seen about the eyebrows and mouth, the same parts where the "whiskers" or tactile hairs of lower animals are found. At about the sixth month the whole body, except the palms and soles, is covered with a soft, thick hair, called the "*lanugo*." This soon disappears and gives place to the developing buds of the permanent hair follicles.

In the mamma we have an organ, functional in one sex, rudimentary in the other. It is clearly indicated that some remote ancestor of the vertebrates must have been hermaphrodite, which indication is strongly accentuated by this embryological fact: at a very early period in foetal life both male and female glands occur in the same individual. In a short time one gland disappears. Which gland shall disappear and which shall persist, is determined by conditions which are not as yet fully understood.

It is significant in this connection that every human being at one period of its existence is double-sexed or hermaphrodite.

During the past few years an immense number of cases have been recorded of the occurrence of more than one pair of mammae. These instances of polymasty occur equally in both sexes, and may be regarded as a return to a primitive condition, where many glands were developed and many young were brought forth at one birth. There has been a large amount of research on this subject and numerous facts have been collected, which go to show that the male mammae are not merely inherited from the female but are true vestiges derived from hermaphrodite ancestors. Occasionally they are functional in the male. There are data which point toward degeneracy of the female mammae, one cause of which may be found in present modes of dress. A physician of large professional experience and observation says that degenerate malformation of the nipple is quite common, and it may be well to investigate how far the pressure of the corset is a cause of this.

The lowest races of men, as well as the apes, still retain the wisdom tooth as the largest in the series, while in civilized man it is clearly a rudiment, having many variable characteristics. It is late in its development, sometimes not appearing at all. Instead of a molar with four cusps, it is often but a stump with coalesced roots. It is the earliest to decay. The habitual eating of soft food, which the use of fire permits, does away with the necessity for heavy jaws for the attachment of powerful masticating muscles, and is the initial factor which tended to weaken and shorten the jaws, crowding out the wisdom tooth.

In certain glands of the axillary and anal regions the secretions have a penetrating odor, of which we are

not able to discover any use in man. But it is well known what an important part they play in mammals on account of their odorous secretions.

The nervous system is conservative in preserving antiquated structures. Still persisting in this system we have the last traces of the invertebrate descent of man in the mysterious pineal gland, the rudiment whose history has most recently been cleared up. Speculations concerning its nature began as far back as the time of the Greek philosophers, by whom it was thought to be the seat of the soul. It is a small, reddish, cone-shaped body, about the size of a cherry stone, which in man and the other mammals is pushed away from the surface of the brain by the growth of the cerebrum, until it has come to occupy a depression between the corpora quadrigemina. Its base is divided into two stalks, which are intimately blended with the optic thalami. In vertebrates, lower than mammals, this organ lies just under the top of the skull, at the parietal foramen. The pineal gland is now known to arise during the development of all vertebrates, and to have undergone degeneration in proportion as the skull became more and more solid. In the lower vertebrates—the amphibia and reptilia—the pineal body is found to be divided into two parts, one part still connected with the brain, while the other, made into a bladder-shaped structure, is closely connected with the first part. An English and a German scientist, both working independently on the brains of certain reptiles, discovered that the pineal gland in these animals was a true optic lobe, and that the bladder-shaped appendage was the rudiment of an unpaired, highly-developed median eye. While in all vertebrates we find this pineal optic lobe, in only the lowest vertebrates do we find the rudimentary pineal eye connected with it. Yet we do find the eye in the embryos of animals still a little higher up the scale. All that persists in man and the higher vertebrates is this pineal optic lobe, all trace of its associated eye having long disappeared. In the *Hatteria punctata*, the sole survivor of an extinct species of beak-mouthed lizard, found in Australia, we find a well-developed pineal eye on the top of the head, covered with a transparent scale, which acts as a cornea. In this animal there is a nerve connection between the eye and the pineal gland. But in even this low form its degeneration is begun, as is shown by the deposition of a mass of pigment cells under the transparent scale, which renders the eye functionless. In *Varanus*, a more modern type of lizard in which the pineal eye is found, there are no pigment cells to obstruct sight, but degeneration is shown here by the absence of the nerve connecting the pineal eye and the pineal optic lobe. It is interesting to note that in many animals the skin, connective tissue, and dural tissues over the parietal foramen remain uncolored; sometimes they are so clear and transparent that they might be considered a kind of cornea. In considering the intimate relationship between birds and reptiles, a Russian zoologist has discovered in the embryos of certain birds a brow spot, also a transparent scale like that of the now living lizards above mentioned, which in their structure point to the last trace of a pineal eye. Careful examination shows this eye, whether found in the embryo or in the adult form of still lower vertebrates, to be of the type of an invertebrate eye. To sum up briefly: The pineal eye is never functional in vertebrates when found. The only vestige left of it in higher vertebrates is the optic lobe or pineal gland, which must be considered as an heritage from the seeing apparatus of an invertebrate ancestor.

We find another rudimentary organ in the pituitary body of the brain, which, although not yet ontologically solved, bids fair to throw more light on our remote ancestry. The *lobus olfactorius*, although func-

tional, is in a degenerate condition. There can be no doubt that we inherit the sense of smell in an enfeebled condition from our early ancestors, in whom it was of very great service in guiding them to food and warning them of danger.

The *calamus scriptorius* is as yet an unreadable rudiment.

The eye presents an interesting rudiment in the little fold of the conjunctiva which lies at its inner angle, and is known as the *plica semilunaris*. This membrane corresponds to the third eyelid or nictitating membrane of the lower animals. In birds, reptiles, and some amphibians, in whom the upper and lower lids are nearly immovable, it is highly developed and can be drawn wholly across the eye by means of a special muscular apparatus. The use of the nictitating membrane in the lower animals is to maintain the healthy condition of the eye by removing foreign matter which has escaped the eyelids. What clearly demonstrates this function is the inverse relation which always exists between the development of this body and the facility with which the animal can rub the eye with the anterior limb. Thus, in the horse and ox it is well developed, while in the dog, which may use its paw to some extent when it is required to brush its eye, it is smaller. In the cat it is still less, while in man and the monkeys, whose hands are perfect, it is reduced to a very small rudiment. It serves also to cover the eye in the lower animals, as well as to keep it clean; but in man that function is wholly performed by the lids. Although in man and the higher apes this membrane has undergone extreme degeneration, yet in some of the more primitive races it frequently encloses a cartilaginous support.

The function of the suprarenal capsules is still unknown. We are justified in classing them among retrogressive organs, from the fact of their larger size in the embryo than in the adult.

In many places where canals open on a free surface the orifices are usually surrounded with glands and a collection of tissue of the adenoid variety. The tonsils are an example of this, occurring in the throat, marking the inner border of the gill-slit orifices. They are among the dangerous rudiments in man. There is a third tonsil in the vault of the pharynx; although not associated with the gill slits, yet it is a curious fact that it is situated at the pharyngeal orifice of a duct which in the embryo traverses the floor of the pituitary fossa and opens into the roof of the pharynx. This tonsil is identical in structure with the tonsils of the fauces. As is well known, adenoid tissue has an inherent tendency at slight irritation to increased activity of its cellular elements, thus enlarging the mass. This enlargement, especially of the pharyngeal tonsil, is the source of much trouble in childhood.

Between the true and false vocal cords there is on each side of the larynx a diverticulum, known as the sinus of Morgagni. This invagination is directed outward, sometimes upward. In man these Morgagnian pouches are variable and, so far as we know, functionless. But we have no difficulty in recognizing in them the homologues of the vocal sacs of the monkeys. In them they can be filled with air from the lungs, and when so filled are of immense size. Their only conceivable function is to act as resonators when the animal howls. From these facts we might be led to investigate the probability of these sinuses playing a part in influencing the quality of the singing voice in man.

Nothing is definitely known of the function of the thyroid gland. The manner in which it originates justifies us in classing it as a vestigial organ. There are strong evidences of its having undergone a change in function, which, so far as we can say, appears to have an important relation to the central nervous sys-

tem, since its removal is apt to give rise to idiocy, muscular twitchings, epileptoid movements, disturbances of deglutition and respiration. Its probable function is to form a secretion or remove some waste from the blood that would injure the nervous system.

The thymus gland is still more difficult to understand. It is large in the embryo. At the end of the second year it begins to degenerate. In old people there are still epithelial, lymphoidal, and fatty vestiges of it always present. The fact that it has its greatest development in the lower fishes may enable us to determine its function in them, thus giving us a clew to its use in homo.

The vermiform appendix is probably the most dangerous rudiment that we possess. Let us consider a few facts that have been collected concerning it. It is a feebly developed organ, which is attached to the short cæcum. Its average length in man is four inches. It is strongly developed in the embryo—its length, in proportion to the large intestine, being one to ten, while in the adult this proportion is one to twenty. Ribbert's investigations prove that in a large number of cases it is occluded. His tables show further that this occlusion increases with the age of the subject examined. He has made another table, which proves that occlusion increases as the length decreases. The presence of this rudiment points to the conclusion that the total length of the great intestine, as well as of the body cavity, was formerly greater than now. The great variation in form and size of the cæcum supports this view. The cæcum has a great length in the lower, vegetable-feeding animals. In the marsupial koala it is more than three times as long as the whole body. It is now thought that, on account of changes in diet and habits, the cæcum in man has become much shortened, the vermiform appendix being left as a rudiment of this shrunken part. As is true of all rudiments, it is occasionally absent in man. In looking over the great amount of research that has been made on this rudiment alone, one realizes that in a short paper like this no attention adequate to its importance can be given to it.

Although I stop here in the enumeration of man's rudimentary organs, I have by no means exhausted the list. We might begin to think that man is a sort of Nature's patchwork, were we not certain that every modification of structure is the direct result of that grand, immutable law of the universe, whose working raises the simple into the more complex, develops force diffused into force more concentrated, and that this law is as well shown in the evolution of complex worlds from simple nebulous matter as in the evolution of psychic man from simple forms of life.

374 NEWBURY STREET.

Indications for Curettage.—1. All those cases of persistent leucorrhœa with tender and subinvolved uterus. 2. For dysmenorrhœa in young girls and maiden ladies who, in spite of internal remedies, must spend two or three days out of each month in bed, and in whom an undeveloped and oftentimes flexed uterus is found. 3. For barrenness, when the fault is plainly with the woman, and no tangible cause other than poorly developed uterus exists for failure to conceive. 4. In all cases of menorrhagia, whether from fibroids, polypi, or other neoplasms, especially in the menorrhagia occurring at "the change of life," and which is not amenable to other treatment. 5. In all septic diseases of the uterus or its appendages, whether following accouchement, abortion, operations, or gonorrhœa, whether the inflammation be acute or chronic, curettage is indicated, and the earlier the better.—DR. LANCASTER, *Virginia Medical Semi-Monthly*, May 22, 1896, p. 97.

SYMPHYSEOTOMY.

By EDWARD A. AYERS, M.D.,

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GENTLEMEN: Until September 30, 1892, when your distinguished townsman, Prof. Charles Jewett, did a symphyseotomy, but three such operations had been performed in this country, none of which had been reported. To-day our records show some eighty-five and more cases recorded. Over four hundred cases have been reported by Zinke, including all countries. Outside of Italy and France, the operation was as little used in other European countries previous to 1892 as in America. And as in America, so it has been taken up by most of the nations of Europe since that time. Every obstetrician is therefore deeply interested in having its proper place clearly defined.

Scope of the Operation.—The scope of the operation must depend upon the skill required to perform it, the essential mortality that belongs to it, the mortality depending upon the enforced though undesirable conditions under which it must be performed, and their comparison with those of its alternatives—version, induced labor, craniotomy, and Cæsarean section; and upon the after-disabilities to the mother and the mortality of infants delivered by it. It further depends upon the degrees of pelvic contractions, the dimensions of the foetal heads, and the increase of pelvic space obtaining after pubic separation.

Comparative Mortality.—Internal podalic version in cases of contracted pelvis will sometimes secure delivery of a living child when, if it were not employed, an operation with the knife would be necessitated. The tendency of physicians not thoroughly trained in abdominal and pelvic mensuration is to exaggerate the difficulties at times and leap to an operative delivery that is not necessary. In such cases version is conservative. But the most skilled examiner finds it much more difficult to foretell that version will deliver than that symphyseotomy will do so.

It were far better not to undertake a version and fail to deliver, as it only adds to the difficulties by getting the child in the most awkward position for either craniotomy or symphyseotomy.

In the last two years I have done two basiotrypsies, and, through my hospital staff, delivered a foetal head that had been left in the uterus with the body torn away. All three were cases of impossible delivery by version. Basiotrypsy is an easy operation if one has a trephine, but this instrument is in very few offices.

Maternal mortality through version, from exhaustion, rupture of the uterus, or infection, averages from one-half to two per cent. The mortality to the foetus is from ten to twenty-five per cent.

Induced Labor.—The mortality from induced labor is for the mother from one to three per cent. The mortality for the infant in the first six months is from seventy-five to ninety per cent. These figures for infant mortality in prematurity seem large, but the more I have investigated the subject the larger have the figures grown. We must bear in mind that not all this mortality belongs to prematurity. Walcott gives in a recent paper the infant mortality from all causes as thirty per cent. in Bavaria, 20.3 per cent. in Holland, 16.6 per cent. in France, 16.3 per cent. in Massachusetts, and twenty-six per cent. in Boston. The incubator and improved infant feeding have not yet brought premature infant raising to a satisfactory accomplishment. As an alternative to symphyseotomy induced labor loses probably one-half its utility through that percentage of cases not being recognized in time for its performance.

Craniotomy.—There is a very wide variation in the

¹ Read before the Brooklyn Medical Society, April 17, 1896.

mortality of craniotomy. Done early and without damaging effort with the forceps, it is quite a safe operation, unless there is great contraction of the pelvis. Its total mortality is in the neighborhood of fifteen per cent. Done early and with skill, its mortality is from one to two per cent. For the child of course it is one-hundred per cent.

Cæsarean Section.—The best per cent. obtained for Cæsarean section is eight.

The average general mortality is between twenty-five and thirty per cent. For the Porro operation it is nearly thirty-eight per cent. For the infants it is 22.4 per cent. There is little need of so great a mortality for infants, the per cent. being due to some extent to operations after the infant was dead. In others it has been due to the present method of first constricting the uterus before opening it and removing the child. The essential mortality for infants should not be more than in normal labor, if the operation is begun early. The mortality for the mothers will always be high, no matter how great future efforts will be to lessen its dangers. It will always be the operation last selected. I state with positive assurance that the newer operation, symphyseotomy, is sure to have first consideration from this time on.

Symphyseotomy.—The general mortality for symphyseotomy in this country, where all but three cases were done during the antiseptic period, is about nine per cent. Following the admirable tabulated records of over four hundred symphyseotomies, covering all countries, published by Zinke and Harris, I have made a table of only those cases occurring since 1886, when antiseptic surgery was well established and in which the patients had not been in labor longer than twenty-four hours.

This leaves out a number of cases which were successfully operated upon after being longer in labor, but impartiality demands some such definite limit for classification.

SUMMARY OF TABULATED CASES.

Total number of cases, ...	111
Total number of maternal deaths, ...	6
Total number of children born, ...	112
Total number of children died, ...	16
Average number of hours in labor, ...	16

Of the six maternal deaths, Case 78 in Zinke's Table had "septicæmia when admitted to the hospital."

Case 176, Zinke's table, died from septic peritonitis, a condition that was believed to have originated before the operation.

Case 174, Zinke's table, had a periosteal pelvic fibroma, rupture of the vaginal wall, phlegmasia in the left leg, and died from an embolus in the pulmonary artery.

Case 19, Harris' table, died from pneumonia and intestinal paresis from impacted feces.

Case 74, Harris' table, died from septic peritonitis.

Case 6, not yet reported, my own, died over a month after operation from sloughing of large cicatrix in the vagina and from pneumonia.

This table therefore gives a mortality of five per cent. Of these six deaths the first was septic before entering the hospital, the second was believed to be infected before being operated upon, the third, with a periosteal pelvic fibroma, should be counted as a symphyseotomy death, although it was a mistake to select this operation. The fourth case, operated upon by Dr. Davis, of Philadelphia, did not die from symphyseotomy at all. The fifth case, done in a moribund condition, cannot be fairly said to touch the question of the "essential" mortality. The sixth case, my own,

did not have any joint trouble, as will be seen in my report, about to be given.

It is therefore no exaggeration to say that the essential mortality of symphyseotomy is not much over one per cent. I believe the operation is slightly more dangerous than induced labor. I should say it is one per cent. greater risk. On the other hand, the risk for the child by induced labor is fully three hundred per cent. greater: that is to say, a mortality of from seventy-five to eighty per cent. as against twenty to twenty-eight per cent. by symphyseotomy.

As regards the rate of mortality, symphyseotomy takes precedence over Cæsarean section and craniotomy, and is practically on a par with induced labor, but with much superior results in infant-life saving.

Mensural Limitations.—In a separation of two and one-half inches, which is, or should be the limit of diastasis, a gain of half an inch is secured in the diameter of the conjugata vera. The average biparietal diameter of infants at birth is three and four-fifth inches. That of the occipito-bregmatic diameter is the same, so that we have a circle of this size representing the smallest cylinder the foetal head can offer for passage through the pelvis. There is a reduction of about a quarter of an inch in this cylinder by moulding. Three-quarters of an inch to an inch then is gained in space by moulding, pubic separation of two and a half inches, and forceps compression. On the single basis of inches we would say that symphyseotomy should not be undertaken with a conjugata vera of less than three inches. But the elements of variation here are numerous. The pubic bones have been separated by Caruso three and two-fifth and three and three-fifth inches without evil.

The foetal head may be so small that delivery could be accomplished by operation in a conjugata vera of two and one-half inches. Again, the biparietal diameter may be too great for delivery in an almost average conjugate diameter. My third case, of twin renown, had a conjugata vera of four inches, but with a narrowed internal transverse diameter, and both infants measured at birth four and one-half inches in the biparietal diameters.

Practically the most important and difficult factor in leading to a proper selection of cases is the individual doctor's skill in physical diagnosis. I beg leave to call your attention to a new obstetrical history chart which will shortly be published, the aim of which is the development of skill in diagnosis and prognosis in all matters pertaining to an approaching labor.

Methods of Operating.—Three ways of performing symphyseotomy are now recognized: Morisani's, Pinard's, and the one which I recently brought forward at the Academy of Medicine in New York.

Morisani's method of cutting down to the upper border of the pubis, then passing a curved Galbiati knife down behind the joint and cutting from the base up and out, is not popular in this country, as it should not be, being both anatomically and surgically objectionable. Pinard's operation, which consists of cutting down upon the face of the symphysis through the soft tissues and exposing the joint, is a great improvement over Morisani's. The chief objection to it lies in the cutting through the vessels of the clitoris, causing much hemorrhage, and in unnecessarily exposing the joint.

I have operated five times in the last eighteen months by a new method which I described in a paper before the obstetrical section of the Academy of Medicine in January. This paper appeared in the May number of *The Polyclinic Medical and Surgical Review*.

Following are the brief essential points in the operation:

1. Secure full dilatation of the cervix, if possible without risk to the child, before cutting the symphysis.
2. Make the initial incision a little above the subpubic arch and under the elevated clitoris.
3. Have the urethra and bladder held to one side with a small male sound.
4. Introduce the left index finger within the vagina against the posterior ridge of the joint up to the top.
5. Pass a narrow tenotomy knife with the point close to the joint up to within a half inch of the top, and under the overlying soft tissues, cutting the middle portion of the joint.
6. Substitute a probe-pointed bistoury and meet the left index finger with the probe over the top of the joint, and work the blade through the joint downward until separation is felt by the posterior finger.
7. Have an assistant press the mouth of the wound and the tissues lying over the joint with a small piece of gauze.
8. Deliver with the forceps, if possible, and refrain from suprapubic pressure, aiming to deliver the head through the cervix without drawing it down below the symphysis.
9. Hold the bladder well to one side while pressing the pubic bones together.
10. Pass a small strip of gauze into the prepubic wound and another against the cervix after irrigating, leaving both pieces exposed for easy removal, having refrained from stitching cervix or perineum.
11. Dress the vulva with gauze and strap the joint with adhesive strips.
12. Remove all the gauze in thirty-six hours and irrigate the vulva and vagina twice a day, keeping the vulva carefully dressed between times.
13. Attend to catheterization in person.

Following is a report of my fifth case, not hitherto published.

Mrs. K. L.—, aged 29, Irish: one previous pregnancy, four years ago; she was in labor one week, and was attended by a physician who made several visits, then by a midwife, and was finally delivered by the latter of a full-term, stillborn child.

Examination.—She was admitted to the Mothers' and Babies' Hospital February 14, 1896; weight, 110 pounds; last menstruation, May, 1895. Abdominal wall flaccid, prominent in right upper quadrant; iliac crests, 10½ inches; anterior superior spines, 10¾ inches; external conjugate, 7 inches; trochanters, 11 inches; fundus 2 inches from the ensiform; uterus flaccid, thin; amniotic fluid moderate; fœtus movable; head at inlet; fœtus highest in right upper quadrant; back in middle, left side; extremities felt in right upper quadrant; fœtal heart heard in left lower quadrant; fœtal pulse, 112; fœtal movements felt most by the mother in the middle upper portion, head resting in the inlet and movable; head medium.

Vagina remarkably misshapen; a longitudinal cicatrix extended from the posterior part of the cervix to within two inches of the posterior commissure, forming a small, wire-like strip.

Labor commencing, the cervix was found to be fully dilated, bag of waters presenting, retraction of the anterior lip going on, and the cicatricial band was felt to be severely stretched during uterine pains. An enormous cicatricial ring an inch and a half thick embraced the entire ostium vaginæ, absolutely inelastic, limiting the diameter of the os to two inches, with no possible increase save by cutting or tearing. The entire pelvic floor was cicatricial, hard, inelastic, resisting, unpliant. This ring extended up around and behind the symphysis; it was impossible to introduce the hand beyond the ring, much less to hope to deliver a fœtal head through it.

The urethra was found divided in the middle, so that a sound introduced in the meatus passed into the

vagina. The posterior urethral opening could not be seen, but was felt under and behind the pubis, close to the anterior lip of the cervix; the bladder could be seen distended above the pubis, covering irregularly a space one inch below the umbilicus and two and a half inches to the right and left. A soft catheter was introduced with difficulty and the urine drawn off; the fœtal condition was excellent, the cervix quite fully dilated.

Labor began at 1:30 A.M., February 14th; presentation, L. O. A.; bladder full and high; head engaged; moulding complete; transverse diameter of pelvis much reduced; the vaginal cicatrix prevented direct measurement; subpubic arch was 2 inches wide; distance between the ischia, 4 inches; distance of coccyx from subpubis, 3 inches; conjugata vera 3½ inches.

The vagina was irrigated with bichloride solution at 11 A.M.; bowels moved freely during the morning.

The longitudinal cicatricial band running down from the posterior cervix was cut; numerous incisions were made in the vagina to right and left of the rectum. This enlarged the vaginal opening one inch, although leaving everything very rigid. The amnion was ruptured and forceps applied. The justifiable limit in traction with safety to the child was employed, the head being in proper position, but no advance was secured. The fœtus was still in excellent condition; version being impossible on account of the rigidity of the vagina, which rendered introduction of the hand or arm out of the question, symphyseotomy was accomplished in a few moments. The head descended one-half inch following section and separation of one and one-half inches ensued. After considerable difficulty and severe forceps traction, the head was delivered, the child being in a most vigorous condition. Not more than three or four ounces of blood were lost in the entire delivery. My subcutaneous method, as employed in four previous cases, was used in this case with entirely satisfactory results.

The wound and vagina were packed with iodoform gauze, and then patient placed in a stretcher suspended in bed, the canvas being cut under the buttocks, with adhesive straps bound about the pubes and trochanters. Great difficulty was experienced in bringing the symphysis together, owing, probably, to the rigidity of the soft structures.

This woman must have been frightfully handled in her first labor, with granulation healing of the vagina.

The child, a male, weighed eight pounds and six ounces; its pulse was 120 after birth.

The measurements of the fœtal head were as follows:

Biparietal, with head fully moulded	3¾ inches.
Bitemporal	3½ "
Fronto-mental	4 "
Occipito-frontal	5 "
Cervico-bregmatic	3¾ "
Suboccipito-bregmatic	4 "
Occipito-mental	5½ "

Thirty-six hours after delivery the gauze was removed from the pubic wound, and the parts were gently washed with bichloride solution.

The catheter was not needed, the urine not being retained by the bladder. Temperature elevation of from one to three degrees kept up, the cause being a double slough of the vaginal cicatricial tissue. A fistula formed just within the internal anal sphincter, and a slough from the base of the bladder was thrown off.

The pubic wound was in no way infected, but healed up promptly, being entirely closed in eight days from delivery. The patient was slowly improving four weeks from delivery, when pneumonia supervened and she died March 18th, thirty-three days after

delivery. The child is living and well, now two months old. Without desiring to strain conclusions in the slightest degree, I can fairly say that the one error in the case was in not doing a Cæsarean section instead of a symphyseotomy. I can fairly say that death in no way can be charged to the pubic section, but to the tremendous cicatrix in the vagina. I did not realize when I made pubic section how great the resistance of the soft parts would be.

The behavior of this case is the strongest argument yet shown in favor of my method of operating. Here was a vaginal condition that in either Morisani's or Pinard's method would almost certainly have infected the pubic joint. My method has now been witnessed by four or five of our most prominent obstetricians, and has been highly approved without exception. It has greatly reduced the chances of hemorrhage, not more than from three to four ounces of blood being lost in any case of the six now on record; it has very much lessened the liability of infection of the joint and renders section of the joint much simpler than before. The real dangers in symphyseotomy are not in the pubic section, but in the delivery of the child after separation of the joint. Laceration of the vagina appears from a study of the records to be the most prominent danger. I must emphasize the importance of securing the fullest dilatation of the cervix before making pubic section; otherwise, in pulling with the forceps the undilated uterus is dragged down into the pelvis, filling its space and pressing the depressed bladder into the diastasis, also causing the tissues in the region of the bulbi vestibuli to swell with blood and preventing their stretching, thus causing them to burst and give a starting tear to the anterior wall of the vagina. The operator must also be on his guard to secure by the forceps, if necessary, anterior rotation of the occiput, the alteration in the form of the pelvic cavity resulting from pubic separation preventing the customary act of the sacro-sciatic ligaments in throwing the parietal eminence forward. There is a distinct tendency at times for the head to remain in the transverse occipital position. I must speak emphatically in favor of forceps delivery as against version following symphyseotomy, if the head is presenting normally. In the table previously referred to there were 112 cases, of which 82 were delivered by forceps, and 14 by version; 4 being by both and 12 not reported. Fætal deaths when forceps were used were 7 out of 82 and by version 5 out of 14 cases.

My paper upon the after-effects of successful symphyseotomies in America, in the *Polyclinic Journal*, gives a remarkably favorable report. Not a single patient has been permanently disabled, and but one has a persisting fistula, which is rapidly closing. No disablement of permanent character has resulted. Further comment seems useless. Symphyseotomy has established itself on the unshakable rock of demonstrated fact, and comes to us a welcome choice in preference to craniotomy or Cæsarean section, and in most cases of induced labor also.

The Poison of Tetanin.—A writer in the *Journal of the American Medical Association* writes that Brieger has found and isolated a ptomain from the tissues in a fatal case of tetanus which he named tetanin. This was obtained also from cultures of the bacillus by Kitasato and Weyl. This substance kills animals with the characteristic symptoms of tetanus, but is not the substance to which is due the intense intoxication of tetanus, and Brieger himself obtained a toxalbumin of much greater toxicity. This toxalbumin, the chemic relations of which we do not know, is probably only an impure form of the specific toxin—a mixture of the precipitated albumins and the toxin.

THE VALUE OF CARBOLIC ACID IN SOME CATARRHAL DISEASES OF CHILDREN.*

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DURING the past autumn and winter I have treated with carbolic acid nearly three hundred infants and children complaining of a group of catarrhal symptoms, which I have classed as being of infectious origin—in other words, a mild, irregular type of influenza. Altogether the results in these cases have been so nearly uniform and satisfactory that I regard them as well worth reporting.

In the beginning of the past season many children affected similarly to these now reported were treated with a mild sudorific and expectorant mixture, a combination of liquor ammonii acetatis, ipecac, ether, and syrup of senega, but it was soon observed that the prompt success which had always been previously experienced in like cases did not follow. This led me to become suspicious of the nature of the complaint until later on its infectious character was fully recognized. About that time my attention was directed to the adoption of carbolic acid as a remedy, largely through a most instructive article on its use published in the *Medical Times* for November, 1895, by my friend, Dr. James Robie Wood.

Perhaps it is familiar to all physicians who have been many years in practice that after using a certain remedy for a period of time we discard it for some new remedy grown more popular, until after a lapse of time we return to the use of our old friend with renewed confidence. I, like many other older members of the profession, had years before used carbolic acid largely in the treatment of various infantile complaints depending upon a low order of germ infection, such as summer diarrhœas, erysipelas, pertussis, and slight congestions of mucous membranes. When influenza made its appearance in this country eight years ago, however, the newer coal-tar derivatives were then in vogue, and, as the type of the disease was much severer than now, we easily found ourselves using an apparently well-indicated remedy, like antipyrin, phenacetin, or salicylate of sodium, as they were analgesic as well as antipyretic. A wide experience with these coal-tar products in the presence of fever soon taught us to be careful of their depressing effects upon the heart, which is brought about through their influence upon the hæmoglobin of the blood, converting it into a methæmoglobin, as well as by interference with complete conversion of increased waste products incidental to the fever process, the latter being now regarded as a conservative manifestation to get rid of the disease poison. A reaction in our therapeutics of influenza had thus begun to occur, and I was one of those who preferred to adopt an eliminative method of treatment, as outlined in my remarks on the discussion of this disease before the New York County Medical Society in November, 1891.

At the present time, however, the mild type of the affection, as manifested in children by a dry cough, worse at night, with very few coarse ronchi heard on auscultation, either alone or together with few dry subcrepitant râles in localized areas, scattered over one or both lungs, alternating on slight exposure to changes of atmospheric temperature, with a coryza or possibly a diarrhœa, did not seem to call for so active a line of treatment as severe cases, or those attended with prostration and pneumonia.

The good results obtained with carbolic acid in the cases of dry bronchitis led me later on to extend its use with like good results to other cases, those in which, for instance, a post-nasal catarrh with rise of rectal

* Read before the Society for Medical Progress of the West Side German Dispensary, May 9, 1896.

temperature two or three degrees, or an cedematous condition of the mucous membrane of the soft palate and post-pharyngeal space was present, the latter extending in some instances to the larynx, and producing aphonia and even stenotic respiration.

It is, however, for the dry irritant cough or bronchitis of influenza that I especially wish to recommend carbolic acid as an almost specific remedy. Thompson describes the cough of a bronchitis as either irritant or expectorant. Clinically the irritant cough is not a succession of sounds linked together as in the expectorant cough, but is dry and barking, or like the cough of a sheep, "schafhusten" of the Germans. This feature of the cough alone would tend to indicate the germ origin of the bronchitis. Moreover, this condition with scant secretion of mucus lasts longer than in the first stage of an ordinary bronchitis, in which the normal secretion is first diminished in quantity and afterward increased with alteration in quality. In fact it may continue until the cough entirely disappears, without any subsequent increase of secretion. In the mean while the physical signs are out of all proportion to the amount and effort of the cough.

The elevation of rectal temperature before mentioned was observed in these cases to continue for four or five days. Another characteristic feature in these cases under consideration is the appearance of the tongue. It is slightly covered with a white, moist or glazed-like fur, less at the tip and sides than at the base and centre. Through this gum-like coating, as if delicately laid on with a brush, the fungiform papillæ project, reddened and often enlarged, giving the tongue the appearance, as some English writers have described it, of a white strawberry. This condition of the tongue I regard as entirely characteristic of this form of germ infection of mucous epithelium, and a diagnosis of influenza is possible from its presence alone, by any one thoroughly familiar with its appearance.

It will be recognized at once that this description is not that of an ordinary subacute bronchitis, in which the lungs on auscultation may show different varieties of râles, either dry or moist, but without any rise of temperature after the second day, unless complicated with a pneumonic process, or an exacerbation of the disease depending upon further extension into other bronchi.

Granting, however, that my cases were only those of an ordinary subacute bronchitis, and that the condition of the tongue, loss of appetite, and general malaise went for naught, the fact remains that the cough persisted in spite of the usual expectorant treatment that was previously entirely successful in ordinary bronchitis. Hence I was forced to seek some other mode of treatment, and, as I said before, my thoughts most naturally turned to carbolic acid. And why not? Have not the tar preparations been used in pulmonary catarrhs from traditional times? And was it not known in the early days of the use of carbolic acid that it was partly eliminated from the lungs in the same manner as tar and the terebinthines? Was not carbolic acid used by many of us in the treatment of pulmonary tuberculosis with fairly good results, long before the introduction of creosote for this disease, upon the assumption of its antiseptic action on the pulmonary mucous membrane? Finally, is it not the basis of all the other coal-tar derivatives and the simplest form for medicinal use?

"The end crowns the work." My choice, so far in my experience, has happily proved most satisfactory and my theory apparently correct. Many of these cases of annoying cough in infants and children have been relieved in two or three days, all of them certainly within a week, whereas in the beginning of the

season cases of this class were not relieved sometimes in three weeks or even longer.

The preparation I have used is a one-per-cent. solution of the chemically pure acid, to which is added a small quantity of glycerin or simple syrup. The dose for children under five years of age is a teaspoonful, equal to between one-half and two-thirds of a drop of carbolic acid. This is given every two hours until improvement is decided, when the intervals may be increased until the cessation of all symptoms is complete. The taste is not unpleasant, though now and then some objection may be made to its administration at first, but with a little firmness this soon gives way. Perhaps it may be well to throw out the hint that a word of assurance on the part of the physician to the parent as to the nature of the remedy will serve to secure their confidence, as in the commencement of my present experience several parents, detecting the drug from the odor of the solution and knowing that carbolic acid was a powerful poison, hastened back to the druggist to learn if some mistake had not been made in dispensing the prescription. One woman even accused me of wishing to kill her child. A friend has suggested to use the word "phenic acid," as being not so familiar. I can certainly recommend this simple treatment for influenza bronchitis, or even influenza of a mild type, with perfect confidence. So far I have observed no bad effects from the remedy when used in the dose and manner I have stated. I am well aware that Jacobi and other writers on pædiatrics, while recommending carbolic acid as an internal antiseptic remedy, urge so much caution as to its irritant effect upon the kidneys as to debar the cautious physician from employing it.¹ All of us who have seen cases of poisoning from carbolic acid are familiar with the smoky color of the urine, which is said to be due to the presence of hydroquinone, a product of oxidation of the acid from its combustion in the body. This in itself, to my mind, is no proof of any lesion of the kidney, for there is every reason to believe that it occurs in the blood circulation. As to any other evidence of renal lesion, such as albumin and casts, I know of none. Thus far, out of nearly three hundred cases treated with carbolic acid in the manner I have mentioned, I have seen only one case of nephritis occurring during its use, and that one I do not attribute to the acid, but to a complication of influenza, which we now know may cause nephritis, the same as scarlatina, diphtheria, or measles. Medical friends have informed me of cases of influenza nephritis occurring in their practice this season in which no carbolic acid had been given.

In regard to the *rationale* of its therapeutical action, I can only say that I believe carbolic acid to be a typical antiseptic. By this I do not mean that it destroys any germ or antidotes any toxin as a germicide is supposed to do, but that it renders the blood and tissues of the body, the soil upon which the germ thrives, sterile, thus checking any further production of the toxin. That carbolic acid can and does permeate the blood and tissues of the body can be convincingly demonstrated to any one who has ever been present at an autopsy where death was caused by a toxic dose of the same. The blood is dark and uncoagulated, and gives a decided odor of the acid. As to the daily amount of carbolic acid employed being sufficient to affect the blood and tissues so as to prevent the further growth of the influenza germ, I cannot furnish any positive proof or demonstration to corroborate my explanation of its antiseptic action. But, besides the happy therapeutical results that follow its use, it may be stated that there is more than a mere possibility that this assumption is true, for M. Raulin,

¹ Chemically carbolic acid is regarded as a phenyl alcohol, and, like the other alcohols, is largely excreted by the kidneys.

a French scientist, quoted by Bacigalupi, has very prettily shown that some of the lower order of germs are most sensitive to the action of certain elements that are either necessary or prejudicial to their growth. Thus, for example, the *aspergillus niger*, order of *mucoedinae*, is increased in growth by the presence of zinc in a culture medium seven hundred times its weight of the metal contained therein, while one-sixteen-hundred-thousandth of a grain of nitrate of silver arrests its growth abruptly, and it will not even begin to grow in a silver vessel, so sensitive is its prejudice toward this metal. Who shall say after learning such facts that analogous conditions may not exist in weak pathogenic germs, such as those causing influenza, erysipelas, summer diarrhoea, etc., toward carbolic acid, even in the small quantity I have recommended, since the blood becomes impregnated to that extent?

I have observed that after a few days' use of carbolic acid the transpiratory function of the skin becomes most active. In addition to the slight physiological action of carbolic acid upon the sweat glands, I think this can be explained by regarding the normal restoration of eliminative function to have occurred as soon as the further generation of the *materies morbi* has been checked. This is nature's own method of re-establishing the healthy state.

Since the foregoing was written, I find that Brunton, in his work on "Pharmacology and Therapeutics," 1885 edition, p. 690, recommends carbolic acid as a most serviceable remedy in precisely the class of cases that I have here reported. Consequently I cannot lay any claim to originality in the treatment of influenza catarrhs with carbolic acid other than in the manner of administration of the remedy. Brunton recommends the use of a weak solution of carbolic acid to be inhaled in the form of a vapor or spray, while I give it internally, a decided advantage in my estimation, especially in the treatment of children in a dispensary practice.

In conclusion it may be truthfully said that in carbolic acid we have a most valuable remedy when properly used. This statement does not apply merely to children nor to influenza affecting them, but to adults and diseases affecting them as well. History in medicine, as in politics, repeats itself, and I believe the day is not far distant when we will be found using carbolic acid as frequently as in years past, but with a better knowledge of its true value than we formerly possessed.

144 WEST EIGHTY-FIFTH STREET.

Colles' Fracture.—Dr. Morgan, before the Medical Association of Georgia, April 15, 1896, says that every case of Colles' fracture can be readily reduced by strong, forced dorsal flexion, effected during anæsthesia. He considers Wyeth's modification of Pilcher's dressing the best. The plaster-of-paris dressing is preferable in old people in whom there is a firm impaction which the surgeon does not care to break up, or in cases in which the fragments are more or less comminuted. It should be applied from the lower border of the metacarpus to the middle third of the forearm, with the patient's hand in the straight position. A straight dorsal splint may be employed but is not very desirable, while in no case should the angular or pistol-shaped splint be used; no splint should be allowed to extend beyond the metacarpus. The fingers should remain freely movable, and limited motion should be encouraged at first, followed later by more active motion. In aged patients in whom there is more or less impaction of the broken ends reduction should not be attempted, as impaction favors the consolidation of fractured bones, and a crooked wrist is better than a failure at bony union.

ETHER AND OXYGEN AS ANÆSTHETICS.

By JOHN L. CORISH, M.D.,

BROOKLYN.

My attention was called to the use of oxygen in connection with ether as an anæsthetic by an article which appeared in a Brooklyn daily paper in December last, describing the results of experiments made in a Brooklyn hospital.

On January 5, 1896, I was called upon to attend a child three days old, who was suffering from a severe capillary bronchitis with marked cyanosis, dyspnœa, and atelectasis of the lungs. A further description of this remarkable case will be reserved for a separate article, but I wish to embody in the present one the result of the administration of oxygen with nitrogen monoxid as an anæsthetic. This mixture was not given for the purpose of producing anæsthesia, but for an entirely different object, namely, the dilatation of the lungs and removal of obstructions of mucus from the pulmonary lobules. On January 8th, the last day of the administration of the oxygen mixture, I gave forced inhalations at four different times, the last being at 3:15 P. M. The child had recovered from the cyanosis, atelectasis, etc., but I gave one additional application, thinking that I would make the treatment doubly sure. The mixture was administered by passing the gases through a globe wash bottle and then into an ice bag, altered and applied in such a manner as to encircle the chin and vault of the skull. The child took the mixture while crying. The pressure used was half an atmosphere, as shown by the gauge on the bottle. The natural color of the skin changed to a rosy hue, distributed evenly over the whole body. The child cried for perhaps half a minute, and the respirations decreased in frequency and depth (they had been thirty-five previous to the administration). As the administration of the oxygen progressed, their character became similar to those of a person suffering from morphine poisoning, as were the symptoms of decubitus, etc., with the difference of the rosy hue of the skin as previously mentioned. Suddenly the breathing stopped entirely. I examined the heart and found the pulse 140, full and regular. The mother became alarmed; she thought the child was dead. I resorted to Sylvester's method for restoration and kept it up for a period of five minutes with no results. While preparing my hypodermic for an injection of brandy, the child gave a deep gasp, a convulsive one, and then let out a hearty yell. From that point on the child's respiration became normal.

As the child lay there with no respiratory movement, with excessive redness of the skin, and natural heart beat, it recalled to my mind the case of a lineman who was shocked with a 700-volt current, amperage unknown, whom I attended last August. The positions in this state of anæsthesia of both man and child were the same; the character of the heart beat was the same. There were no respiratory movements in the case of the lineman for twenty minutes; he recovered under the D'Arsonval treatment. The question to be answered is: What was the condition of the child during the period when respiration was absent? Had it been deprived of any of its natural resources? No. Then, what rendered it oblivious to the rough usage and treatment which we adopted to restore it to consciousness? I had simply introduced into its system a superabundance of oxygen; in fact, to such an extent that the system was saturated, and the respiratory centre satiated. The system was supplied with an excess of oxygen stored up in the circulating fluid, as is done by the mother for the fœtus in utero. The child did not have to use its respiratory apparatus to sustain life until the superabundance of oxygen had been used up in the bodily requirements; and when it

had been used up what happened? Any medical man, who has watched the newly born infant knows how with a gasp of deepest proportions the new arrival begins the struggle of life—with a yell. That is what occurred in this case. When the child found it could take care of itself, it ceased crying. I am positive from the tests I made that the child was totally unconscious during those seven minutes, and that an amputation could have been performed without the child's returning to consciousness until the extra supply of oxygen stored in the system had been used up. This explains how it is possible for an intra-uterine amputation of the arm or leg to take place with the fetus in utero, without giving rise to reflex symptoms on the part of the mother. It may be claimed that the nitrous oxide used to dilute the oxygen was the cause of the anæsthesia, but Wood in his "Therapeutics" positively states that nitrous oxide does not produce anæsthesia of itself, that the effect is caused by a want of oxygen. As a result of their experiments M. Jolyet and Blanche reached the same conclusion. Paul Bert asserts that nitrous oxide as an anæsthetic is destitute of positive qualities. I think these arguments will be sufficient to exclude nitrous oxide as the cause of the anæsthesia in this case.

I have spoken all along of the physiological result obtained in this case as an anæsthesia. Was it anæsthesia which was produced? What is anæsthesia? Dunglison says: "Anæsthesia is the deprivation of sensation and especially that of touch; according to some, paralysis of sensibility; it may be general or partial." All the characteristics of anæsthesia were present in this case without the toxicological symptoms accompanying etherization, which are similar to those present in apoplexy, viz., stertor, dilatation of the pupils, etc. The pupils in this case were normal; there was no sensibility in the eye. Slapping and pinching did not excite reflex movements. From the above I conclude that oxygen is an anæsthetic, and an anæsthetic *par excellence*, if given in sufficient quantities. This brings me to the administration of ether and oxygen in combination for anæsthetic purposes. The following case will bear out my conclusions:

Edward H—, seventeen years old, weight 135 pounds, residing at Fort Hamilton, was severely injured on February 9, 1896, by a falling chimney. Chloroform was used in the preliminary examination. The patient was suffering from severe shock at the time; still he had vitality sufficient to make a determined resistance to the administration of the chloroform, which was given by Dr. —, ambulance surgeon of Sency Hospital. The excitement was very marked; the anæsthetic was administered for forty minutes, and recovery did not take place for three hours. On February 17, 1896, in company with Dr. Blackmar, of Bay Ridge, I put the right lower extremity in a Buck's extension (for fracture of the femur) and attended to other injuries at the same time. I used a compound of oxygen and nitrous oxide, the gas being passed directly through the ether in the wash bottle without the intervention of a water wash bottle.

The apparatus used was the identical one employed in the case of the child above noted. The patient was told to elevate the hand; he did so, and kept it up for eight minutes, when it dropped. Anæsthesia was incomplete until three minutes after the dropping of the hand, the mixture still being applied. The anæsthesia was sustained for one hour and twenty minutes under the following conditions: Inhaler applied at 11:30 A.M.; complete anæsthesia at 11:41, inhaler removed; reapplied at 12:15 P.M. for three minutes; interval of twelve minutes; reapplied for four minutes and then discontinued altogether. Patient opened his eyes at 12:48 P.M. and fully recovered at 1 P.M. At this point I would like to call attention to the relatively small

amount of ether employed, namely, two ounces and six drachms, the patient being in a condition of etherization for one hour and twenty minutes. This amount includes loss from handling, and necessary waste by volatilization, etc. All articles published previously on this subject have shown a far greater proportion of ether used for the length of time the patient was in a condition of etherization. This may be accounted for in several ways: 1st, owing to the imperfect construction of the apparatus; 2d, the continued application of the mixture when unnecessary; 3d, the oxygen, having first passed through water, is not capable of absorbing as much ether as it would if passed directly through ether without the intervention of an intermediate wash bottle; 4th, instead of the ether vapor and oxygen being thoroughly mixed before reaching the cone, the ether had been placed in the cone itself and the oxygen passed through it, *i.e.*, an attempt had been made to unite the oxygen and ether in the cone itself, a quantity of the ether thereby not being uniformly mixed with the oxygen and rendering a certain amount of the ether unnecessary.

I would call special attention to this important point: that there was an entire absence of excess of mucous secretions in the nares and pharynx. At no time was there any cyanosis, neither were the extremities cold. There was an entire absence of vomiting and nausea. Patient had partaken of two eggs, two slices of toast, and a cup of coffee at 8:30 A.M., three hours previous to etherization. Fifteen minutes after recovery from the effects of the ether he was given a cup of coffee, which did not in the slightest degree disturb his stomach; half an hour after the recovery he fell into a doze and slept for four hours. Dr. Blackmar tells me that he gave the patient morphine, one-eighth grain, and atropine sulphate, one-two-hundredth grain. I do not think that this alone would have caused such refreshing sleep. When the patient awoke he immediately sat up in bed. There were no symptoms of exhaustion following the operation.

Care should be taken to use an oxygen prepared otherwise than the ordinary commercial oxygen which is largely advertised and sold as pure oxygen, as much of this gas is unfit for human consumption, being saturated with chlorine and other deleterious gases. Pure oxygen itself is unsuited for the purpose of anæsthesia because of its dense specific gravity, it not passing through the capillary blood-vessels when undiluted. It has been repeatedly demonstrated that animals cannot live in an atmosphere of pure oxygen. Nature kindly points the way by directing us to the use of nitrogen, which forms such a large percentage of the air we breathe; it therefore follows that we should imitate nature by using nitrogen monoxid as a vehicle for carrying the oxygen, it being lighter in its specific gravity and being exquisitely applicable for this purpose. The mixture that has given me the most satisfactory results is one composed of two parts oxygen and one part nitrogen monoxid. A point I wish to make here is that if one is sure of the quality of the oxygen, it is advisable to pass it directly through the ether, instead of first passing it through water, and do away with the pouring of the ether into the inhaler, generally constructed of paper and towels. The advantages are that the mixture is more thorough, the gas is not loaded with watery vapor in addition to the ether, the lungs can more readily absorb the mixture, and there is very little loss, especially when given through a suitable inhaler. At the time that these experiments were conducted I sought in vain for an inhaler with which to carry out the administration of the oxygen. Within a short time an inhaler has been brought to my attention, which is infinitely better than the one I im-

provided. I believe this inhaler is on the market and can be obtained from any drug store where oxygen is for sale.

Oxygen as an Anæsthetic.—An extended series of experiments in the employment of ether, chloroform, nitrous oxide, and oxygen leads me to the following conclusions:

(a) The excitement stage due to the cutting off of the oxygen from the circulation, thereby causing nervous reflex muscular movements and irritation of the air passages, is abolished when the oxygen is added, on account of the blood receiving sufficient oxygen.

(b) The cyanosis which is caused by the reflex paralysis of the vasomotors, thereby allowing dilatation of the venous and contraction of the arterial blood vessels, due to a lack of oxygen at the nerve centres, is little marked or entirely absent.

(c) That there is no increase of the mucous secretion is due to the removal of the cause of irritation and congestion of the mucous membranes. This nuisance, which in many instances is intolerable, particularly in the surgery of the nose and mouth, has in some cases in which the secretion entered the larynx caused dangerous symptoms of asphyxiation or subsequent pneumonia.

(d) The vomiting and nausea, owing to the congestion of the stomach and irritation of the palate, are alleviated and this of necessity does away with the danger of food becoming lodged in the air passages.

(e) The anæsthesia may be continued without stertor. This symptom, due to muscular paralysis of the palate, is not a necessary accompaniment of anæsthesia. It shows that excess of the anæsthetic is being used. The palate is controlled by both voluntary and involuntary "forces." This symptom is a very good guide for the operator to go by.

(f) The recovery from anæsthesia is quicker and more complete, owing to a minimum of ether being used. The recovery cannot be hastened by the employment of oxygen separately after the operation.

(g) The amount of ether used is just sufficient to keep the patient under its effects, and when thoroughly mixed with the oxygen (compound) no serious symptoms can result. The patient will not breathe at all if oxygen be given to the point of saturation, and therefore no more ether will be taken in than is required until the respiratory centre calls for more oxygen.

(h) Owing to the amount of oxygen stored up in the system by this method, the etherization may be discontinued at times for from fifteen to thirty minutes and complete anæsthesia may be readily and quickly reinduced in thirty seconds, if occasion requires, by application of the previous method. This advantage to the specialist in pharyngeal operations must be apparent.

(i) Owing to the character of the heart beat not being much altered, the combined anæsthetic can be given with comparatively less danger in cases of stenosis and insufficiency of the cardiac valves.

Finally, I wish to state that I believe and think it will be borne out by subsequent experiments that when the oxygen is given in superabundance in connection with ether, a double effect will be produced, *i.e.*, an anæsthesia from ether primarily and from oxygen secondarily. Ether is eliminated from the system by means of the lungs through respiratory efforts. If we can supply sufficient oxygen to the system, so that the respiratory centre is not irritated or rendered dormant, we prolong our anæsthesia until such time as the ether is split up chemically and passed off through the skin. Another point to be observed in the use of oxygen with ether is this: in extensive operations in which great loss of blood is to be expected and it is usual to constrict the limbs, it would be advisable to ad-

minister oxygen before the tourniquet is applied, so that when the blood is allowed to reenter the circulation it will be in a condition more in conformity with that of the rest of the body.

With regard to the anæsthetic power of oxygen when properly induced, in its application to surgery, I am positive that it will be of very great value in operations on young children who may require surgical interference of short duration. Operations about the mouth and nose could be performed to the entire satisfaction of the operator, as the apparatus could be dispensed with immediately on the cessation of respiration. Under the condition of oxygen anæsthesia, so to speak, the system is saturated with oxygen, the blood in the veins assumes an arterial hue, and the surgeon would have difficulty in recognizing venous from arterial hemorrhage, but this would be insignificant in comparison to the benefits obtained.

It is to be hoped that further research into this very important subject will prove that as we perfect our apparatus we will approach the point where we will use the minimum amount of ether and the maximum amount of oxygen.

I have no doubt that this article will be severely criticised, and in fact would be surprised if it were not. I would ask my critics, however, before subjecting the article to adverse criticism, to make their experiments in accordance with the plan I have adopted.

NINETY-SECOND STREET, NEAR THIRD AVENUE.

Progress of Medical Science.

Fistulæ in Ano.—Dr. Metcalf (*Physicians and Surgeons*) says: "Fistulæ in ano may be caused by penetrating wounds, by suppuration arising from injury to the mucous membrane from foreign bodies in the fæces, or from catarrhal dysenteric or gonorrhœal inflammation extending into the submucous tissue. The suppuration may start in hemorrhoids, occasionally caused by improper methods of treatment."

Sciatica.—Dr. C. Negro (*Semaine Médicale*) treats sciatic neuralgia by digital compression of the painful points along the course of the nerve, and has almost unvarying success. Out of one hundred and thirteen cases he had good results with one hundred. The patient reclines in bed with the lower limbs in a state of complete muscular relaxation. Compression is first made at the point of exit of the nerve, which is usually the most sensitive point. The right thumb is placed in contact with the painful point, and over the right thumb the left is placed; the pressure must be energetic and last about twenty seconds. Lateral pressure is made at the same time, the thumbs remaining in a fixed position. Other painful points are successively treated. The *séances* of compression are repeated every other day. Ordinarily six *séances* suffice for a cure.

Pental and its Administration.—At a recent meeting of the Society of Anæsthetists Dr. Prince Stallard read a paper on this subject (*New York Medical Journal*). Pental, he said, was a clear, mobile, colorless liquid, having no marked taste, but producing a slight burning sensation when it was placed on the tongue, and a slight irritation at the back of the throat, which, however, soon disappeared. It was exceedingly volatile and highly inflammable; it had no escharotic action when dropped on the skin, and its smell was somewhat pungent, but not disagreeable, as patients never complained of its odor. At the ordinary temperature of the room it was so volatile that it was nec-

essary to administer it by the closed method, with the admission of as little air as possible. If exhibited on a piece of lint, as was usual with chloroform, a large quantity of the drug was required. In one hundred and forty-eight cases Clover's portable ether inhaler had been used. Two drachms of pental were poured into the reservoir, the indicator placed at 0, and the patient encouraged to fill the small bag with his expirations; the indicator was then turned rapidly but evenly to 3; rarely was it necessary to turn to F. Pental was thus given more rapidly than was advisable with ether, and attention had been directed to the absence of coughing, struggling, and fighting for breath, so characteristic when the latter drug is given alone without the previous exhibition of nitrous oxide gas. No restriction had been placed on the patients with regard to diet, and in only one case had there been after-vomiting. The clothing should be quite loose around the throat and abdomen so that the thoracic and abdominal movements could be quite free. All the administrations had taken place at about 10 A.M. In all the cases the patients had been seated in a dental chair, the head having been placed in an easy position midway between flexion and hyperextension. The horizontal position, said Dr. Stallard, would be much safer, as signs of cardiac failure had not infrequently occurred in the cases quoted, pental, in this respect, resembling chloroform. When this drug was inhaled the pulse was at first quickened, and likewise the breathing, and then the pulse became fuller and bounding, with dilatation of the capillaries of the face, which was evinced by extreme flushing, similar to that observed when nitrite of amyl was inhaled; swallowing movements were observed, but never any coughing or struggling; screaming might occur, and dreams of a pleasant nature were frequently experienced. Spasms, tonic and clonic, were occasionally present in the arms or in the legs. The lid reflex was usually present unless the anæsthesia was deep; when the patient was deeply under the influence of the drug the pupils were dilated and the eyeballs turned upward under the upper lids, and, in some cases, the conjunctival vessels were prominent and congested; the arm when raised dropped helplessly to the side. At the height of anæsthesia the pulse became small, and might be running. There was no cyanosis or diskiness of the features, and stertor was very rare. Micturition and defecation had never been observed. Opisthotonos and twitchings of muscles had been noted in a few cases, the patients having generally been tranquil. The breathing could hardly be heard, and this, said the author, constituted one of the dangers, and, in this respect, pental again resembled chloroform. Recovery was extremely rapid, and was not followed by any stupor or drowsiness. As a rule, there were no after-effects, and the patients felt quite well three minutes after the removal of the face piece, and were able to walk out of the house. One case only of vomiting had occurred and three or four of nausea; slight headache had been noted in a few cases, but this had rapidly passed off. The average time required to produce anæsthesia had been fifty-six seconds, and the average anæsthesia obtained had lasted for seventy-six seconds. The pre-anæsthetic stage had varied from thirty to one hundred and twenty seconds and the anæsthetic period from twenty-five to two hundred and ten seconds. The advantages maintained for pental, said Dr. Stallard, were: 1. Longer anæsthesia than nitrous oxide gas yielded. 2. Simple apparatus. 3. No struggling, coughing, or dislike to the drug. 4. The small amount required, which averaged two drachms. 5. Rapid recovery. 6. The absence of after-effects. The disadvantages were: 1. The insidiousness of its action—an overdose could easily be administered. 2. Noiseless and

shallow breathing. 3. Screaming. 4. The sudden cessation of respiration. 5. Sudden cardiac failure.

Dr. Dudley Buxton, speaking of the mortality following the administration of pental, said that Dr. Stallard had given one case out of one hundred and forty-nine, but he doubted whether it had really been due to pental. Gurlt had given three deaths in six hundred administrations, and Snow had given two in two hundred and thirty-eight cases. One of the difficulties in working with amylene and pental, he said, was the presence of impurities. Before we could accuse pental of causing deaths we must be sure it was pure pental and not some mixture of drugs simulating it. In all probability much of the pental at present supplied was impure. One German observer had found albuminuria and hæmoglobinuria occurring in many cases within three or four days after the administration. Pental, so far as we knew at present, was a most useful drug, but it possibly and probably possessed grave disadvantages from its tendency to affect respiration, perhaps through spasm of the glottis and of the diaphragm. In the cases of death it was to be noted that these had arisen from failure of respiration, while the heart had continued to beat for some minutes afterward. A marked injustice might easily be done to any new anæsthetic if, because cases of death had occurred in the early days of its administration, its use was therefore discarded.

Mr. Joseph White said that forty years ago he had used amylene extensively, principally for the extraction of teeth, and had found it a charming anæsthetic, quick in its action, with no after-effects, and liked by the patients. When it had been used for longer operations he soon found that alarming symptoms had been very apt to arise, and feeble respiration and circulation had occurred very suddenly, so that he had discarded the drug, as he did not consider it as safe as chloroform.

Dr. Silk was struck with the similarity of the remarks of Dr. Stallard's cases with those he had himself published as occurring when bromide of ethyl was administered, and, given the change of name in the two records of cases observed, it would be difficult to distinguish the one from the other. He had noticed that with bromide of ethyl decomposition always occurred sooner or later when the bottle had once been opened, and as the clinical symptoms appear so similar he would ask Dr. Stallard whether he had found any evidence of decomposition occurring with pental. He was of opinion that patients should not be in the dental chair, but recumbent during the inhalation of pental, as vascular depression so frequently occurred.

Dr. Augustus Cook said he had been administering pental during the last four or five years; all his cases had been fairly long ones, some of half an hour's extent, but his patients were invariably in the recumbent position. The main advantage of pental was the absence of after-effects; it might even be administered on a full stomach without fear of causing vomiting. The open method was employed in all the cases.

Dr. Dudley Buxton asked if Dr. Stallard could explain why in these recorded cases one would give an anæsthesia of ninety seconds, another of twenty-five seconds, and another of as much as two hundred and ten seconds.

Dr. Stallard said that he had frequently noticed decomposition of the drug. With regard to albuminuria, he had examined twenty-five cases after administration and found no albumin, but it must be remembered that all his cases had been short ones and its effect would not be long enough to injure the kidney. The fall of blood-pressure was marked. With regard to the length of anæsthesia obtained, he was of opinion that there was a marked personal factor in many cases.

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RABBITS AND REFORM.

THE course of reform never did run smooth, any more than that of true love. Its troubles with the perversities of human nature have been chronicled and sung in all the ages. Its purest projects have ever been thwarted by the selfishness of designing men; its converts, like Voltaire's woman, never can be trusted till they're dead; its noblest precepts have ever been flatly defied by sinful humanity. We can therefore imagine that it must have been with almost a sigh of relief that the great and good men known as "The Committee of Fifty" upon alcoholism turned from this stiff-necked and ungrateful species to pursue their studies upon and among the docile and amiable rabbit and the timid hare. But fate still pursues them. The question sought to be decided was the apparently simple one, whether the daily ingestion of alcohol sufficient to produce acute intoxication in hitherto respectable and well-behaved bunnies affected in any way their resistance to inoculation with various pathogenic germs. The investigation was accordingly inaugurated in that native haunt of purity and propriety, the University of Pennsylvania, in its Institute of Hygiene, and under a competent bacteriologist. But no sooner had it begun than difficulties began to spring up on every side. Rabbit nature suddenly developed striking similarities to the human ditto, in point of perverseness. In the first place, under no circumstances and in no combination, neither with the fragrant mint, the cooling lemon, nor the ardent but too constant onion, could bunny be induced to absorb the beverage of his own free will. This, of course, simply confirms our previous impressions as to the very low grade of intelligence possessed by these animals, but it was a very real and serious obstacle to the experiments, for all the alcohol given had to be injected through a stomach tube, which, owing to the resistance offered by the animal, was very apt sooner or later to produce lesions of the gullet or stomach which gave rise to serious and often fatal secondary septic infections.

Secondly, it was found extremely difficult to determine a "standard" dose which could be relied upon to produce acute intoxication in any case, partly from the wide range of individual susceptibility to the drug, but mainly on account of the difficulty of deciding when the animal was actually drunk. The "truly rural" articulation test was, of course, out of the ques-

tion in a species of such reticent habit; their expression is mild but singularly fixed, and couldn't be sillier, and the only sign which the experimenters could find to be depended upon was a staggering gait. Even this, of course, was naturally hard to elicit in a creature of such conservative and earth-loving tendencies, and which keeps nearly as much of its surface constantly applied to the ground as a penny bun does. Thirdly, in order to overcome his positively adhesive equilibrium, it was found necessary to give enormous doses of alcohol, such as would be the equivalent of nearly a quart of whiskey *per diem* for a human being, and these caused such a rapid loss of weight that the experimenter himself declared that the lowering of the resisting power produced was probably analogous to that effected by simple starvation.

The result of the experiments showed that under this vigorous treatment the resisting power of the animals was distinctly lowered for the various strepto- and staphylo-groups (pyogenic), but scarcely affected at all for the typhoid, diphtheria, and other bacilli.

As a contribution to the study of the effects of alcohol upon the human subject these experiments are, of course, to the physician's eye little less than a farce, but we fear that such little discrepancies as those most frankly and fully pointed out by the bacteriologist in charge, in his recent report, will in no way discourage our temperance friends from using the results in their next onslaught upon the drink demon.

A similar investigation is just being carried out upon monkeys, which present the advantages of having no conscientious or other scruples against taking the liquor in almost any form and of being gifted with both a loquacity and an activity of movement which enable them to exhibit the characteristic symptoms of the drug with an almost Hibernian promptness and unmistakableness. However, we fear that long ere the research is concluded the thumbs of the experimenter will look back with keen regret to the days of the blameless and non-belligerent bunny, and that the ideal subject for these experiments has not yet been found.

THE LAW AND ACCIDENT INSURANCE POLICIES.

THE liability of companies insuring against accidents is so often tested in courts of law that it becomes of the utmost importance that the relative positions of plaintiff and defendant should be accurately defined. In the practice of this new branch of jurisprudence numerous decisions have been rendered which aid very materially in the formulation of leading principles of action in given cases, and in the main they may be considered just and reasonable to all parties concerned. That more, however, is to be learned is shown by a case recently before the appellate division of the Supreme Court in the third department of this State. A physician in Essex County sued the Interstate Casualty Company for \$487.50, in consequence of cellulitis resulting from a self-administration of a hypodermatic injection of morphine. In order to base the action upon an accident and bring the occur-

rence under the intent and meaning of the policy held by the plaintiff, a novel and ingenious claim was made. While the physician was driving on his rounds, away from immediate help, he was seized with exhaustion arising from an injury previously received. He accordingly stopped his horse, and while he was administering a hypodermatic injection to himself the horse started suddenly and the needle was driven to an unnecessary depth into the leg. Cellulitis ensued, which disabled him for a period of many weeks. The company refused to pay the doctor, and the Circuit Court in Essex County, before which the case was tried, dismissed the suit on the grounds that the administration of the morphine was voluntary, that the drug had nothing to do with the cause of the inflammation, and, lastly, that the whole difficulty was caused by an unclean needle. From a scientific point of view, the decision was an eminently just one, and the only surprise is that the judgment of the first court was reversed by the appellate court, mainly on the ground that the mere depth to which the needle penetrated might have been an important and leading causative element. It will be interesting to note what will be the result of the recommendation of a trial by jury on the points involved. It will be extremely difficult, in the light of our present knowledge of wound treatment, to prove any relation of cause and effect with the mere depth of the wound, provided a perfectly aseptic instrument was used. The mere starting of the horse was the only element of accident in the case, and had evidently no more to do directly with the after-results than if the animal had been miles away. The slightest prick of a septic needle would have settled the question of infection, no matter how carefully otherwise the instrument might have been used.

The case in point, although only directly important to the litigating parties, is likely to involve questions which may affect the relations of practitioners to patients in defining what may or may not be preventable disasters. An unclean needle deliberately used in administering a hypodermatic injection is by no means an accident.

THE CASTRATION OF CRIMINALS.

IN a paper entitled "The Crimes of Medical Men," in the *Medical Herald* for June, 1896, Dr. W. O. Henry mentions as one of the crimes of which some, no doubt many, of us are guilty is a failure to urge legislation to prevent the marriage of criminals, or to have them castrated. Whether we are to regard such a failure as wrong or not must depend entirely upon whether or not we think the "proposed remedy is one that will the most surely prevent crime."

As to forbidding marriage, most persons of the class referred to are married before they become confirmed drunkards or are known as habitual criminals; moreover, it is by no means certain that they would procreate less if they were not married and had their liberty.

Castration of the "rapist" might fit in with the sense of justice as well as with that of retaliation of

most people, but if the community should reach the conclusion that drunkards and criminals should not leave descendants, it would seem that an effectual means to that end could be found aside from depriving them of organs which are so important as to be characteristic of sex, and which, it is more than likely, are essential in some respects to normal mind and physical health. And then, who shall say that the drunkard and the criminal have fallen so low that they ought as a result of mutilation to be deprived forever of the possibility of redemption through woman's purifying influence? The reason for making a general law condemning these unfortunates to castration is suggested solely by judgment based presumably upon facts, but the facts are not all in or are too uncertain in their application to assure a whole profession that the judgment is final. But if it were proven that procreation by these persons is so baneful to society as to justify steps effectually to stop it, the end could be reached simply by such restraint as would prevent the sexual relation, while incidentally the criminal would be made to forego his crimes and the drunkard his debaucheries. Then, in the event of a mistake having been made by the community, it would not be impossible to undo the injury.

TAPEWORMS OF POULTRY.

THE bureau of animal industry of the United States department of agriculture has recently published a bulletin in which our present knowledge of tapeworm in poultry is presented in a concentrated form, richly illustrated with two hundred and seventy-six carefully drawn figures, while the ample facts are well arranged for reference, offering an excellent foundation for those who desire to take up such investigations. The medical profession and the public can be assured that there are no attending horrors of infection involved in the investigations of Dr. C. W. Stiles, who has compiled this work, and that chicken roasted, boiled, or fried may be prescribed by physicians or enjoyed by ladies without fear or suspicion of danger lurking in this favorite and appetizing dish, for although we must now admit that the presence of tapeworms is very prevalent in turkeys, geese, ducks, fowls, and other birds eaten as food, both wild and domesticated, we have the comforting assurance that none of the tapeworms of birds is transmissible to man, in any stage of its development, and that the presence of tapeworms in the intestines of fowls does not in itself warrant the condemnation of their bodies as an article of food. The life history of the poultry tapeworm agrees with that of other tapeworms: the eggs are contained in the droppings of the diseased animal—the ova are then swallowed by the necessary intermediate host. Within the ova are the six hooked embryos, known as oncosphere; these bore their way into the body of the intermediate host, and are developed into the larval form, known in this case as cysticercoid. This larva, snugly hid in the body of a tempting-looking worm or snail, is innocently swallowed by a turkey, duck, or chicken, and is then developed into the adult tapeworm. One of the most

common of intermediate hosts is the minute little crustacean abounding in pond and lake waters, popularly known as the water flea.

These water fleas are so commonly bearers of the parasites that geese and ducks are found to be infested with no less than five different kinds of tapeworms which have obtained entrance to their bodies by means of the ingested fleas. It is, therefore, a merciful provision of providence that the human family is proof against contagion of this character, which is fatal to so many birds, but the fact nevertheless offers a strong argument for freeing by perfect filtration all drinking-water from contaminations. The treatment for poultry tapeworm is much the same as for those found in man, the chief drugs employed being extract of male fern, turpentine, powdered kalmala, areca nut, pomegranate-root bark, pumpkin seed, and sulphate of copper. Dr. Salmon offers a word of warning advising that the above drugs should be as fresh as possible, as failure in treatment is often due to the fact that old drugs have been used which had lost their anthelmintic value. The suggestion is a good one, and causes us to wonder how often the good work of the physician is rendered abortive by his prescriptions being prepared with drugs which are the remnants of an old stock and impotent for good.

News of the Week.

Dr. Francis Richard Cruise, of Dublin, has recently had knighthood conferred upon him by the lord lieutenant of Ireland.

Camden County (N. J.) Medical Society.—At the regular monthly meeting of the Camden County Medical Society, at Camden, N. J., Dr. J. Chalmers Da Costa read a paper on "Malignant Tumors."

Reducing the Death Rate.—The death rate in Chicago is going to be materially reduced, not by the introduction of needed sanitary measures but by estimating the population of the city at a much higher figure than hitherto.

Individual Cups for School Children.—Dr. Frank P. Connelly, superintendent of the bureau of contagious diseases of Newark, has recommended to the board of health of that city that no drinking-cups or dippers for general use shall be provided in the public schools, and that each scholar shall be required to provide an individual cup or glass.

An Austrian Code of Ethics is now in process of formation. The compilers have just finished with the knotty problem of consultations, and have decided that, in case of two or more consultants being called in, the last one summoned takes precedence over the others. Each consultant in turn must be told what fee the previous one received, and may then value his own services accordingly.

Medical Women in Scotland.—The Marquis of Bute, who is lord rector of St. Andrew's University, has given notice of his intention to move at the next

meeting of the University Court that a woman shall be appointed to the post of assistant professor of medicine and lecturer in physiology at St. Andrew's. It remains to be seen whether the Scotch students will be as unmannerly as their Irish confrères, who threatened to leave the university rather than come up before a woman examiner.

Generous Gift to the Philadelphia Polyclinic.—The trustees of the Philadelphia Polyclinic Hospital have just received \$5,000 from Mr. Barclay Lippincott, to establish a free bed as a tribute to the memory of his wife, Mary Lippincott.

The New Mexico Medical Society, at its annual meeting at Socorro, N. M., on August 12th and 13th, elected officers as follows: *President*, Dr. C. G. Duncan, of Socorro, N. M.; *Secretary*, Dr. H. J. Abernathy of Socorro, N. M. The next meeting will be held in Albuquerque on the second Wednesday in May, 1897.

Norristown (Pa.) Hospital for the Insane.—Dr. Susan J. Taber, who has been for twelve years first assistant physician, has been selected as the successor of Dr. Alice Bennett, recently resigned, as chief resident physician in the women's department of the Norristown Hospital for the Insane.

Would It Were So!—The editor of the *St. Louis Clinique* has made a discovery that will astonish most of our New York readers. He says that "there is one thing in which our Eastern brethren get ahead of us smartly, and that is in collecting their fees. They certainly get the wealth, whether they earn it or not. If you get a prescription you have got to pay for it. It is easy to keep books in New York. Everything is cash and on the gold standard."

The Ninth Annual Meeting of the American Association of Obstetricians and Gynecologists will be held at the Hotel Jefferson, Richmond, Va., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1896. Railway rates from all points to and from Richmond for this meeting will be one full fare going and one-third fare returning, on the certificate plan. Members on purchasing their tickets must secure from the agent a certificate that they have paid a full fare to Richmond. On reaching Richmond they can obtain a return ticket for one-third of the usual fare.

An Unusual Suit for Damages.—A suit for \$10,000 has been entered by Dr. D. C. T. Watkins, of Pottsville, Pa., against a female patient, who, after refusing to make payment of a bill for the treatment of a compound fracture of the tibia, claiming imperfect setting and shortening, had a skiagraph made of the fractured bone and sent a communication to a local newspaper, stating that the picture showed shortening and deformity due to overlapping of the fragments.

Foreign Dentists in Hungary.—It has for a long time been a disputed question whether dentists who have obtained dental diplomas abroad should be permitted to practise in Hungary. Considering that only qualified medical men are allowed to practise dentistry

in Hungary, and that there is no special examining board for dentistry in this country, the government has declared that for the future a license granted in another country will be valid only if its possessor is a qualified medical man who acquired his diploma of M.D. in one of those universities which are recognized in Hungary.—*The Lancet*.

"Masked Appendicitis."—In the article with this title in the issue of August 29th, it was stated that the evening temperature of the patient ran from 100° to 110° F.; and in the last line the author stated that the temperature never went above 110° F. In each instance it should have been 101° F., instead of 110° F.

New York State Association of Railway Surgeons.—The annual meeting of this association will be held under the presidency of Dr. C. S. Parkhill, of Hornellsville, on November 17, 1896, at the Academy of Medicine, New York City. The secretary of the association is Dr. C. B. Herrick, of Troy.

The Water Supply of Brooklyn.—Many complaints have been made during the past summer of the foul condition of Brooklyn's water supply. An examination of the ponds whence the water is drawn has shown that they are full of decaying vegetable matter and of insects and their larvæ. The water is discolored and has a bad odor and taste. It has been recommended by the health board that the ponds and reservoirs be cleaned and the pipes flushed, without waiting for the natural purification which will result from the cooler weather and the heavy autumn rains.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the two weeks ending September 5, 1896: August 24th.—Medical Director David Kindleberger placed on the retired list, September 2d; Assistant Surgeon H. La Motte ordered to the naval hospital at Norfolk; Surgeon C. Biddle detached from the *Monongahela* and placed on waiting orders. August 26th.—Medical Inspector J. C. Wise and Surgeons J. C. Byrnes and C. Biddle ordered as a board to convene at Annapolis, September 3d, to examine candidates for admission to the naval academy. August 29th.—Passed Assistant Surgeon E. R. Stitt ordered to duty in the bureau of medicine and surgery. August 31st.—Passed Assistant Surgeon C. H. T. Lowndes detached from the naval hospital, Philadelphia, and ordered to the Washington navy yard; Assistant Surgeon L. Morris ordered to the naval hospital, Philadelphia. September 3d.—Assistant Surgeon G. D. Costigan ordered to the naval laboratory for instruction.

Dr. Thomas Gallagher, the alleged dynamiter who was sentenced to a life imprisonment in England thirteen years ago, on purely circumstantial evidence, has just been released and arrived in this country last week. He has been found to be incurably insane, and was removed to a private asylum a few days after his arrival. He was graduated from Bellevue Medical College in 1880, and had a large practice in Brooklyn before he went to London. He became insane dur-

ing his life in prison, and is said to bear marks on his body of ill-treatment. It does not follow, however, that he was badly treated, for the tissues of the insane are exceedingly vulnerable, and Dr. Gallagher's injuries may have resulted from the use of only such force as was necessary to restrain him.

Typhoid Fever from Ice Cream.—An outbreak of typhoid fever occurred during the latter part of July in the town of East Barrington, N. H. The cases were all traced to a single source. The first case was an unrecognized one, the patient being unwell but helping about the house and doing part of the milking. It is supposed that he must have in some way contaminated the milk, as by going to stool and not washing his hands before returning to his milking. The water supply was carefully examined and found to be all right. On a Friday evening a party was given at the house and the guests ate of ice cream made at home from the milk supply above referred to. Within the next ten or fourteen days fourteen of the guests came down with typhoid fever—eight in the town of Barrington, of whom one died; two in Lee; one each in Dover, Rochester, and Woodbury, N. H., and one in Haverhill, Mass. All of these out-of-town cases were guests at the party. No other cases occurred in the town, and all were partakers of the cream.—*Boston Medical and Surgical Journal*.

Obituary Notes.—DR. ELSWORTH F. SMITH, one of the oldest physicians of St. Louis, died at Fort Missoula in the early part of August. He was born in St. Louis and was graduated from the St. Louis Medical College in 1848. After studying four years in Paris he returned to his native city, where he practised until a few years ago. He was seventy-three years old. His death resulted from injuries received while trying to extinguish some burning curtains.—DR. ALEXANDER BUCHANAN, of this city, died on September 2d, of pulmonary tuberculosis. He was born in Glasgow, but while still young came to this country. He was graduated in medicine in Glasgow in 1860, and also from the New York Medical College in 1862. He had lived and practised in New York since that date. He left a widow and three children.—DR. HULL ALLEN, of Milford, Conn., died a short time ago at his home in that town. Dr. Allen was in his ninety-seventh year, and until recently was in the active enjoyment of good health.—DR. ABRAHAM LIVEZEY, the oldest physician in Bucks County, Pa., died at Yardley on August 31st, at the age of seventy-five years. He was graduated from Princeton College in 1842 and from Jefferson Medical College in 1844. He was at one time professor of obstetrics in the Woman's Medical College of Philadelphia.—DR. SYLVANUS S. MULFORD, of New York, died suddenly of heart disease on September 9th. He was born in 1830, and was graduated in medicine from the College of Physicians and Surgeons in this city in 1856.—DR. WILLIAM M. McLAURY died suddenly at his home in this city on September 8th. He was born in 1830, and received his medical degree from the medical department of the University of the City of New York in 1860.

An Editor's Vacation.—The editor of a French contemporary announces to his readers that he is going to take a two months' leave of absence, in order to relieve them of his writings and himself of a stone in the bladder.

A Law that Should be Observed.—It is stated in the *Sun* that there is in New York a city ordinance which provides that no person shall place or post or cause to be placed or posted in any street of the city "any handbill or advertisement giving notice of any person having, or professing to have, skill in the treatment or curing of any illness, or offering for sale any medicine, under a penalty of \$25." It is a pity that this ordinance is not enforced.

The Rays Did Not Depilate.—A man in Paris heard of a case in which the hair of the head fell out from a patch exposed to the x-rays, and thought he had discovered a way to make his fortune. He accordingly advertised that he would guarantee to remove the mustaches and whiskers with which some French women are adorned. He took his fees and exposed the patients to the apparatus, but, as the hair showed no sign of disappearing, he was straightway arrested for fraud.

Tenement Houses in Greater New York.—In the proposed charter for Greater New York it is required that all tenement houses must have light, ventilation, and ample means of exit in their construction. They are to be inspected twice each year, and the infected and uninhabitable buildings must be condemned. Two buildings cannot be placed on the same lot, unless there is a clear open space between them, not less than ten feet wide. No building shall occupy more than sixty-five per cent. of the area of its lot. In tenement houses erected after June 16, 1897, every sleeping-room must have a window, at least twelve square feet in size, admitting light and air directly from the street or yard.

Pennsylvania and Maryland Union Medical Association.—The nineteenth annual session of the Pennsylvania and Maryland Union Medical Association was held at York, Pa., on August 27th. An address of welcome was delivered by Dr. T. M. Livingston, of Columbia, president of the association, and was responded to by Dr. Charles G. Hill, of Baltimore. Addresses were delivered also by Drs. Joseph Price, of Philadelphia, and E. W. Meisenhelder, of York. The following officers were elected for the ensuing year: *President*, Dr. Joseph Price, of Philadelphia; *Vice-Presidents*, Drs. C. A. Rahter, of Harrisburg; Charles G. Hill, of Baltimore; *Secretary and Treasurer*, Dr. Roland Jessop, of York; *Executive Committee*, Drs. Alexander R. Craig, of Columbia; A. A. Long, of York; G. H. Bare, of Cecil County, Md.; G. H. Rohé, of Baltimore; W. M. Weidman, of Reading; S. D. Risley, of Philadelphia; George R. Welchans, of Lancaster; C. G. Treichler, of Honeybrook; and H. L. Orth, of Harrisburg.

A Physician's Right to Withhold Alcohol.—It is stated in the *British Medical Journal* that the highest criminal court in Magdeburg, on May 28th last, gave

judgment in a trial, at the instance of the State attorney, of Dr. Hirschfeld, who was accused of having caused or accelerated the death of a man who had been thirty-six hours under his care whom he had sent to hospital, where, after treatment for eight days with large doses of alcohol and quinine, the patient died. The accused had administered no alcohol. The disease was stated to have been serous inflammation of the cellular tissue of the left arm, ushered in by pyrexia (blood poisoning). The district medical officer and one of the hospital staff attributed the death to the withholding of alcohol. In justification, Dr. Hirschfeld pleaded that he believed alcohol to be mischievous in all diseases, taking away the patient's strength. Smith, of Marbach, quoted Harnack, of Halle, and Drysdale, of London, and there were two adjournments to procure an authoritative opinion from the General Medical Council of Saxony, which opinion called attention to the great change of medical opinion as to the therapeutic value of alcohol, and upheld the principle that it is inadmissible to put any limit to the exercise of the individual judgment of the physician. There was a verdict of acquittal, and the State was made liable for the costs of the prosecution.

"**Janus**" is the name of a new international bi-monthly periodical to be devoted to the history of medicine and to medical geography. The new journal is published in Amsterdam under the editorial charge of Dr. H. F. A. Peypers. Among the list of associate editors appear the names of the following Americans: Surgeon-General Dr. George M. Sternberg, of the United States army; Dr. William Osler, of Baltimore; and Dr. William Pepper, of Philadelphia. In the list of collaborators are Dr. L. C. Gray, of New York; Dr. J. Guitéras, of Philadelphia; Dr. A. Jacobi, of New York; Dr. Charles Jewett, of Brooklyn; Dr. L. C. Lane, of San Francisco; Dr. A. E. Regensburger, of San Francisco; Dr. N. Senn, of Chicago; Dr. F. A. Shattuck, of Boston; Dr. J. T. Whittaker, of Cincinnati; and Dr. Charles Denison, of Denver. The first number, that of July–August, 1896, opens with an introduction in French, entitled "*Janus Redivivus*," by Prof. B. J. Stokvis, of Amsterdam. This is followed by articles on "*Variolation and Vaccination*," by Dr. J. Petersen, of Copenhagen; "*Study of Leprosy in Iceland*," by Dr. E. Ehlers, of Copenhagen; "*History of the Functions of the Cerebral Cortex*," by Professor Adamkiewicz, of Vienna; "*Vaccination against Snake-Poison*," by Dr. Calmette, of Lille; "*The Early History of Lanolin*," by Professor Husemann, of Göttingen; "*History of Diphtheria in Denmark*," by Dr. J. Carlsen, of Copenhagen; "*A Pseudo-Precursor of Pasteur*," by the editor, Dr. Peypers; and the "*Medical Jurist of Three Centuries Ago*," by Dr. R. Landau, of Frankenberg. These articles are written in English, French, or German, according to the nationality or inclination of the authors. The number closes with a number of abstracts on subjects relating to medical geography and the history of medicine. If the promise of the first number is fulfilled, *Janus* will be a very valuable addition to medical periodical literature.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEEDMAN, M.D., New York City. In Twenty Volumes. Volume VIII. "Diseases of the Digestive Organs." New York: William Wood and Company. 1896.

THE publishers announce that they have again been obliged to issue a volume of this series out of the regular order, and that the seventh volume will be the next to appear. The surprising thing is, not that a volume must occasionally be published ahead of its turn, but that one appears with such regularity every three months. When it is remembered that the contributors to this work are scattered far and wide over the world, and that each doubtless writes in his own language and must be translated, we can only marvel at the success of the editor and publishers in keeping their promise of four volumes a year.

The present volume deals with the "Diseases of the Digestive Organs." The first article, that on "Diseases of the Mouth," by Professor Mickulicz and Dr. Kümmel, of Breslau, treats of the general diseases of this cavity, and is an excellent presentation of the subject. We find little said of the local affections of the tongue, lips, and other parts, and we presume that these are to be treated of in a subsequent volume. Following this is a short but sufficiently comprehensive article by Dr. R. H. Fitz, on "Diseases of the Esophagus," and this is succeeded by one of considerable length on the "Diseases of the Stomach," written by Dr. Max Einhorn. The author devotes a number of pages to a consideration of the various manipulations employed in the examination of the stomach and in the treatment of its disorders, the explanation being accompanied by numerous well-made illustrations, which are apparently original. Professor Leo, of Bonn, has an article of about thirty pages on the "Diseases of the Pancreas." If the aim of study is to learn that we know nothing, this article admirably accomplishes the object, for one rises from its perusal with the conviction that most pancreatic affections can be diagnosed only in the dead-house, or if, perchance, diagnosed earlier, nothing can keep the sufferers from this place. This is followed by a well-written and very original article on the "Diseases of the Peritoneum;" that is to say, on peritonitis from various causes. The section on "Appendicitis" is interesting and instructive. The author, Dr. B. F. Curtis, of New York, being a surgeon, is naturally inclined to the operative side of the present controversy, yet he is by no means intemperate in his advocacy of surgical measures. Not only this section but the whole article may be read with profit by physician and surgeon, alike. The concluding articles in the volume are on "Animal Parasites" and "Treatment of the Diseases caused by Animal Parasites" the first by Dr. J. Ch. Huber, of Memmingen, in Bavaria, and the second by Dr. James M. French, of Cincinnati. The first article is very rich in bibliographical references and a little too academic for the average physician, we imagine, yet it appears to be exhaustive in its treatment of the subject. The second article, that on treatment, is thoroughly practical. The volume, regarded as a whole, appears to be fully up to the high standard set by the earlier numbers of the series, and it becomes more and more evident that the promise of an authoritative work on latter-day medicine will be kept.

THE FUNDUS OCULI, WITH AN OPHTHALMOSCOPIC ATLAS ILLUSTRATING ITS PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS. By W. ADAMS FROST, F.R.C.S., Ophthalmic Surgeon, St. George's Hospital; Surgeon to the Royal Westminster Ophthalmic Hospital. New York: Macmillan & Co. Price, \$18.

THIS publication, which forms a book nine and a half by twelve inches and is one and a half inches thick, is printed in large (Columbian) type on heavy white paper. The text of the work is preceded by a preface, table of contents, list of illustrations, and an introduction. There are forty-six figures in the body of the text and forty-seven plates of chromolithographs with one hundred and seven figures, which represent all of the more common appearances of the fundus oculi in health and in disease. All of the colored plates were produced from drawings from actual cases, made by an artist

under the direct supervision of the author. The upright image and artificial light were employed, except in a few instances, in which the indirect method was used. In the introduction an argument is advanced for the purpose of impressing the general practitioner with the importance of a knowledge of ophthalmoscopy, and the work is avowedly produced for his use. Ophthalmoscopy cannot be practised satisfactorily by those who employ it only occasionally; for this reason such publications as the one under review will be consulted most frequently by the student in ophthalmology. The text of the work, which occupies two hundred and eight pages, is divided into thirteen chapters, which are devoted to the discussion of the anatomy of the parts involved in the production of the fundus picture, explanations of the different appearances observed, etiology, and normal and pathological histology. The discussion of the different conditions observed in the fundus bears evidence of very careful observation and research. It is fully up to date, except in some parts relating to the anatomy of the retina, where the most recent views have not been adopted, and in some minor details of morbid anatomy, particularly in regard to albuminuric retinitis. The direct, concise, and lucid manner in which the descriptions of the various conditions are given is truly admirable. Exhaustive without being verbose, complete in facts without being confusing, the conception and completion of the argument leaves little to be desired. Too much cannot be said in praise of the colored plates. They faithfully represent the conditions that they are intended to depict, producing the best impression when viewed by artificial light. Seven plates—twenty-one figures—are devoted to the representation of physiological variations in the appearance of the fundus. This is an excellent departure, since it serves to acquaint the student with the great variations in physiological conditions—a point often insufficiently emphasized. Plates representing the appearances of the fundus when intra-ocular growths, tubercle, or entozoa are present have been omitted, but, on account of their relatively rare presence, this omission does not detract greatly from the value of the work.

A MANUAL OF ANATOMY. By IRVING S. HAYNES, Ph.B., M.D., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of the New York University; Visiting Surgeon to the Harlem Hospital. Philadelphia: W. B. Saunders. 1896.

THIS is the work of a practical instructor, one who knows by experience the requirements of the average student and is able to meet these requirements in a very satisfactory way. It is a book on regional and topographical anatomy chiefly, a large part of it being devoted to a description of the abdominal and thoracic viscera and their relations to the surface of the body. The illustrations are largely reproductive of photographs of dissections, and many of them are excellent. The author has endeavored to depict the relation of the viscera to the surface landmarks by means of composite photographs, but not with great success, for, like all composite photographs, they are quite indistinct. The author calls special attention in his preface to the index, and a careful testing of it convinces us that he has cause to feel satisfied with it. The book is one that can be commended.

DIAGNOSIS AND TREATMENT OF THE RECTUM, ANUS, AND CONTIGUOUS TEXTURES. Designed for Practitioners and Students. By S. G. GANT, M.D., Professor of Diseases of the Rectum and Anus, University and Woman's Medical Colleges; Lecturer on Intestinal Diseases in the Scarlett Training-School for Nurses, etc., Kansas City. With two chapters on "Cancer" and "Colotomy" by HERBERT WILLIAM ALLINGHAM, F.R.C.S. Eng., Surgeon to the Great Northern Hospital, etc. Illustrated with 16 full-page chromolithographic plates and 115 wood engravings in the text. Philadelphia: The F. A. Davis Company. 1896.

IF it is true, as has many times been stated, that doctors want picture books, then the volume just issued will meet a good sale. We are inclined to believe, however, that American physicians are being educated up to a standard of illustration which the present work has failed to reach. In the abundance of woodcuts and colored drawings, mediocrity rather than finished elegance and accuracy of detail has prevailed. The author has aimed to give to the physician seeking knowledge of these ailments and the methods advo-

ated for their relief a practical working book, and with this aim has scattered his object lessons with a profuse bounty.

It is unfortunate that the printer did not insert tissue slips to face the lithographs, and thus prevent sticking of the text page, as happened in several instances in the volume before us. The text shows a wide familiarity with these diseases, and methods of cure and authorities are frequently quoted. "Railroading as an Etiological Factor in Rectal Diseases" is a chapter not to be found in other similar works. The author's railroad-hospital work and society connections have evidently made his subject familiar to him.

The work is eminently practical, and gives the impression of honesty of opinion as the result of honest search for truth.

THE NON-HEREDITY OF INEBRIETY. By LESLIE E. KEELEY, M.D., LL.D. Chicago: S. C. Griggs & Co. 1896.

THIRTY-NINE chapters, comprised within three hundred and forty-two pages, and covering all forms of questions bearing upon the general subject of inebriety, have the ultimate aim of demonstration that it is a disease, not of hereditary origin, but one readily curable. The author states that in the discovery of his method of cure he investigated the question on the lines of natural selections relating to pathology. "I learned," he says, "that cells acquire an immunity from poisons by being poisoned. I finally learned that certain well-known drugs will obliterate the vestiges of variation, or whatever changes there may be in nerve cells after long use of alcohol."

Just what these drugs are is not mentioned.

HAHNEMANN'S DEFENSE OF THE ORGANON OF RATIONAL MEDICINE, and of his Previous Homœopathic Works against the Attack of Professor Hecker. An Explanatory commentary on the Homœopathic System. Translated by R. E. Dudgeon, M.D. Philadelphia: Boencke & Tafel. 1896.

THIS work has not hitherto been translated. It was supposed to have been written by Friedrich Hahnemann, son of the father of this system of medicine, but the translator believes it to be in reality the work of the paternal master hand. The reply was made at a time when homœopathy was threatened with overthrow from the attacks of Hecker, of Dresden, who at that time was a leading authority. This is said to be the only writing extant in which Hahnemann defends his teachings, and will consequently be read with interest by all interested in them. It is not a purely defensive work, as occasional thrusts at the scientific medicine of the day are found here and there, and the translator has left all of the asperities of diction for which the writer was occasionally noted.

A letter from Hahnemann himself to his publisher will be found interesting. As to whether it was worth while to translate the "refutation," we must leave the reader to decide.

BLIND LEADERS OF THE BLIND: The Romance of a Blind Lawyer. By JAMES R. COCKE, M.D., author of "Hypnotism," etc. Boston: Lee & Shepard. 1896.

THERE are no less than fifty-two chapters in this novel. Most of them are devoid of interest or of sufficient literary newsworthiness to explain their existence.

AN INQUIRY INTO THE DIFFICULTIES ENCOUNTERED IN REDUCTION OF DISLOCATIONS OF THE HIP. By OSCAR H. ALLIS, M.D., Surgeon to the Presbyterian Hospital, Philadelphia, etc. The Samuel D. Gross Prize Essay. Philadelphia. 1896.

AFTER some twelve pages of interesting reminiscences, the essay takes the form of a discussion of the following propositions:

1. The capsule is the most important agent against traumatic dislocations of the femur.
2. For the laceration of the capsule and dislodgement of the head of the femur, the femur is employed as a lever.
3. Every lever has a fulcrum; the fulcra required in dislocations of the femur are bony and ligamentous.
4. Dislocation by thrust, if possible, is infrequent.
5. Reduction by circumduction is the simplest, the most brilliant, and the most hazardous of all modes of replacement.
6. Methods suggested for reduction of dislocation of the head of the femur when associated with fracture of the shaft.

An introductory study treats of the anatomy of the parts; then the lesions produced in experimental work are taken up, and this is followed by pathological considerations. In Part II, reduction of dislocations by manipulation is fully entered into and the methods and obstacles are critically examined. The illustrations are numerous and instructive, and the whole essay is deserving of much praise.

ELEMENTARY ANATOMY AND SURGERY FOR NURSES. A Series of Lectures Delivered to the Nursing Staff of the West London Hospital. By W. MCADAM ECCLES, M.S. Lond., F.R.C.S. Eng., Assistant Surgeon to the West London Hospital, Assistant Surgeon to the City of London Truss Society, etc. London: The Scientific Press, Limited. 1896.

THE more important points in anatomy requisite for a nurse to know are particularly brought out. An abstract of surgery is given in much the same manner. These are important matters, especially for surgical nurses, to acquire, and have not always been dwelt upon in works upon nursing.

There are nearly one hundred illustrations.

Perhaps most of the information could be obtained from other works usually found in the library of the trained nurse, but here the essential points are given in compact form.

ENCYKLOPÄDIE DER THERAPIE. Herausgegeben von OSCAR LIEBREICH, Dr. Med., Geheimer Medicinalrath, o.ö. Professor der Heilmittellehre an der Friedrich-Wilhelms-Universität, unter Mitwirkung von MARTIN MENDELSON, Dr. Med., Privatdocent der inneren Medicin an der Friedrich-Wilhelms-Universität, und ARTHUR WÜRZBURG, Dr. Med., Kgl. Sanitätsrath, Bibliothekar im Kaiserlichen Gesundheitsamte. Erster Band, III. Abtheilung. Berlin: August Hirschwald. 1896.

THIS part of Liebreich's "Cyclopedia of Therapeutics" completes Vol. I. It includes titles from Ceradial to Diamine, and contains such important subjects as cinchona, and its alkaloids, chloral, chloroform, chlorosis, cholera, cocaine, cystitis, intestinal affections (under Darm), and diabetes. The articles are concise but comprehensive, and contain all the information needed for the average reader, expressed in the fewest possible words. A feature of the work is a brief notice of all the health resorts in the world. Among them we find: "Coney Island, Ort im Staate New York, Seebad." As a work of reference for the busy practitioner, this one leaves nothing to be desired.

TRANSACTIONS OF THE FIRST PAN-AMERICAN MEDICAL CONGRESS, HELD IN WASHINGTON, D.C., September 5, 6, 7, and 8, 1893. In two parts. Washington: Government Printing Office. 1895.

THAT it required two volumes of over eleven hundred pages each of small-type print to contain the papers and discussions indicates what a vast amount of work was represented in this first congress of the Americas.

That such a meeting and exchange of views can only be enhanced in its benefits by a distribution of the published transactions goes without saying. Much can be learned by physicians of North America concerning the diseases peculiar to the southern climes by the study of these papers; the converse is probably of equal truth. The papers are not uniformly of the highest scientific order, and it would be unjust to medical America to have the impression go abroad that these two volumes represent the best effort of scientific medical thought on this side the Atlantic.

TRAITEMENT DES MALADIES DES FEMMES PAR L'ÉLECTRICITÉ. Par le DR. L. R. REGNIER. With preface by DR. LABADIE. Paris: Lagrange. 1896.

FOR all those whose interests lead them toward the study and employment of the powerful therapeutic agent, electricity, in gynecology, Dr. Regnier's work will prove instructive. The literature has been carefully worked over, and the author's personal experience has been brought to bear upon the selection of data and commentation. This is one of the *Progrès Médical* series of publications.

ANLEITENDE VORLESUNGEN FÜR DEN OPERATIONS-CURSUS AN DER LEICHE. Von PROF. E. VON BERGMANN und DR. H. ROCHS. Third enlarged edition, with 63 illustrations. Berlin: August Hirschwald. 1896.

THIS is a very useful little work, well illustrated, and adapted for the use of students of operative surgery, and might be of

aid likewise to teachers of this branch as well as that of regional anatomy.

It is arranged in the form of fifteen lectures upon operations on the cadaver.

FEAR. By ANGELO MOSSO. Translated from the Fifth Edition of the Italian, by E. LOUGH and F. KIESOW. London, New York, and Bombay: Longmans, Green & Co. 1896.

THIS is a work in which physicians will find much of interest. There are chapters on the circulation of the blood in the brain during emotion, trembling, the physiognomy of pain, fear in children, maladies producing fear, hereditary transmission, etc. The author believes that fear is a disease to be cured.

A HANDBOOK ON LEPROSY. By S. P. IMPEY, M.D., M.C. Late Chief and Medical Superintendent, Robben Island Leper and Lunatic Asylum, Cape Colony, South Africa. Philadelphia: P. Blakiston, Son & Co. 1896.

COMING from one experienced at one of the largest leper settlements in the world, the little work of Dr. Impey should carry some weight with it. It is profusely illustrated and well calculated to meet the want for which it was especially written, *i.e.*, to supply information to medical men as well as to interested laymen upon the subject of what leprosy is and what it is not. The author's experience at the Robben Island Infirmary taught him that many cases were sent in as leprosy which were in reality something entirely different.

DIE HEILUNG DER SYPHILIS. Von DR. C. WESTERFIELD. Wiesbaden.

A LITTLE brochure intended for the patient, giving him useful instruction, not alone about the care necessary in bringing about his own cure, but also concerning the precautions necessary to prevent danger to others. There has been too little effort on the part of physicians to instruct the public in those things which should be known about syphilis.

It may be that such literature is not put forth with wholly unselfish motives, but if accidental transmission is prevented in a few instances the end may justify the intention.

FORMULAIRE. Aide-Mémoire de la Faculté de Médecine et des Médecins des Hôpitaux de Paris. Par le DR. FERDINAND ROUX, Mention Honorable de l'Institut, etc. Fourth Edition. G. Steinheil, Editor. Paris. 1896.

ALPHABETICALLY arranged as eight subjects, with the first four letters at the top of the page, in dictionary fashion, to make reference easy, and giving the various plans of treatment under the names of the different authorities. Dr. Roux's little work comprises in its four hundred and twenty-three pages much therapeutic information in a compact and accessible form. The paper and print are good, but the binding is of rather thin cardboard.

DIE PATHOLOGIE DER SCHUTZPOCKEN IMPFUNG. Von S.-R. DR. L. FÜRST, Special-Arzt für Kinderheilkunde. Berlin: Verlag von Oscar Coblentz. 1896.

COMING, as this work does, just as we are celebrating Jenner's centennial, it seems very timely. The author has considered preventive vaccination from its many sides, and has devoted much space to the abnormal and pathological appearances which follow now and then, and has pointed out the proper therapeutic measures to pursue in these conditions. These are grouped under the different headings: "Auto-inoculation," "Abnormal Local Course," and "Generalized Anomalies." Under the head of infections are given first at some length the various dermatoses, and secondly, the other infectious processes. Ten pages of literary references close a volume which will prove of interest to a large class of readers, including the dermatologists.

AFFECTIONS CHIRURGICALES DU TRONC (RACHIS, THORAX, ABDOMEN, BASSIN), STATISTIQUE ET OBSERVATIONS. Par le DR. POLAILLON, Chirurgien de l'Hôtel Dieu, etc. Paris: Librairie Octave Doin. 1896.

THE author, already known by his hospital statistics of surgical affections of the extremities, presents in this volume the statistics of his hospital experience, extracting the principal facts of importance, and giving the results of treatment with and without operation. The fatal cases have not been omitted and often teach useful lessons. Such a work, based upon personal observations extending over a period of

seventeen years, carries with it an element often lacking in compilations giving the experience and opinions of a number of different observers.

Part First treats of the various diseases of the thorax, abdomen, pelvis, and spinal column; Part Second will comprise those of the ano-rectal and genital regions.

Most of the histories of cases are given with great detail, with temperatures and changes from day to day.

TEXT-BOOK OF COMPARATIVE ANATOMY. By ARNOLD LANG, Professor of Zoology in the University of Zurich, formerly Ritter Professor of Phylogeny in the University of Jena. Translated into English by HENRY M. BERNARD, M.A. Cantab., and MATILDA BERNARD. Part II. London and New York: Macmillan & Co. 1896.

THIS volume corresponds to the third and fourth parts of the original, which were late in appearing, and the difficulties of translation have combined to cause a delay in the appearance of this second volume of Professor Lang's comparative anatomy of the invertebrata. In spite of this delay, zoologists will be repaid in the knowledge that the material has been well worked over before being submitted to the printer. The drawings, which are numerous, have been almost wholly the work of the author's pen. The translation is commendable, when the difficulties of such an undertaking are considered.

The volume is in reality more in the nature of a comprehensive treatise upon the groups with which it deals, "Mollusca," "Echinodermata," and "Enteropneusta," than an unbroken continuation of the first volume.

HOW TO FEED CHILDREN. A Manual for Mothers, Nurses, and Physicians. By LOUISE E. HOGAN. Philadelphia: J. B. Lippincott Company. 1896.

THIS is a work based upon various papers which have appeared of late in periodical literature. It offers in a practical form suggestions as to diet in infancy and childhood, such as are approved by the best authorities. There are two hundred and thirty-six pages, inclusive of index, and all worth reading. Much valuable information is given upon this important topic.

BRAITHWAITE'S RETROSPECT OF MEDICINE. Volume CXIII. January 7th to June, 1896. London: Simpkin, Marshall, Hamilton, Kent & Co. 1896.

THIS half-yearly journal contains its usual retrospective view of discoveries, practical improvements, and advances in all departments of medical science.

A general index covering the volumes issued since 1893 is contained in this number, providing easy reference to any subject one may be investigating.

DES ANGINES COUENNEUSES NON-DIPHTHÉRIQUES. Considerations sur la Pathogénie, le Diagnostic, et le Traitement. Par M. le DOCTEUR DUFAUD, Médecin-Major de 2^d Classe. Paris: A. Maloine, Editeur. 1896.

A BROCHURE of a hundred and odd pages covering the various forms of membranous affections of the throat which are not due to diphtheritic infections. Twenty-eight observations are given and a bibliographic index is appended.

The question is an important and interesting one, and every light that can be thrown upon it is welcome.

VERÖFFENTLICHUNGEN AUS DEM GEBIETE DES MILITÄR-SANITÄTSWESENS. Herausgegeben von der Medicinal-Abtheilung des Königlich Preussischen Kriegsministeriums. Heft 10. Berlin: Verlag von August Hirschwald. 1896.

THIS volume is taken up chiefly with a consideration of the x-rays, and contains numerous excellent examples of shadow-picture pathology.

ON GERMINAL SELECTION. By AUGUST WEISMANN. Chicago: The Open Court Publishing Company. 1896.

THIS is a translation by J. T. McCormack from an address delivered before the International Congress of Zoologists at Leyden, September 16, 1895.

The author, while assuming that primary variations are accidental, endeavors to demonstrate that an interior mechanism exists which compels them to go on increasing in definite direction the moment selection intervenes.

Society Reports.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 13, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

A New Method of Preparing the Blood for Clinical Purposes.—DR. LOUIS WALDSTEIN said that since the work of Ehrlich and his followers, attention had been drawn again to the granules that are found in leucocytes, of which Max Schultz gave a description long before the studies of Ehrlich on this subject. Since that time the examination of blood with a view of determining the nature and the number of these granules had entered the clinical field and had become more important as a diagnostic method.

The method of Ehrlich and his followers was more especially one that could be applied in the laboratory only, as it required certain special apparatus and considerable time was needed to perfect the coloring. A number of other investigators had, however, given their attention to this clinical method, among others, Hardy and Kanthack in England, several investigators in Germany, and Dr. Ewing in this country. Dr. Ewing had originated a method which came very near to the ideal one. During last year, the speaker said, he had devoted considerable attention to this subject, and in the *Berliner klinische Wochenschrift* of April of last year he had published the description of a method which, with some modifications, he desired to describe and demonstrate this evening. All the various methods had for their principal object the rapid and perfect fixation of the blood. The more perfectly and the more quickly this was done, the better. Heat, when applied in various ways, did this in more or less complete manner; but often the flame and the incubator were not at hand at the bedside, and hence he had resorted to the fumes of osmic acid. He had used this agent previously in some studies that he had made under Hanvier, in Paris, in 1881. But there was a disadvantage connected with this plan, *i.e.*, the longer the blood was subjected to the fumes of a four-per-cent. solution of osmic acid, the less it would take up of the coloring agent. Last summer, in England, he had made some unsuccessful experiments with formalin, but since that time he had had more encouraging results with this agent. He was now able to prepare a satisfactory slide in six or seven minutes, and this preparation could be kept and examined at leisure. The method was so simple that even the nurse could spread the cover glass for the physician. He believed the time would come when the blood would be examined just as commonly and systematically as the pulse and temperature are at the present time. There was a certain school of pathologists which thought that we had reached the limits of cellular pathology, but he felt confident that the time was coming when cytology would be extended into the profounder study of the blood corpuscle during life, and that here we would find as important information as in the chemical and biological investigations of the serum.

It is most essential that the slides upon which the blood smears are made should be perfectly clean, and it is well to this end to wash them with alcohol and ether, equal parts. The puncture for obtaining the blood is best made with a spear such as is used by the dermatologists for the treatment of acne, for it will then not be necessary to squeeze the finger or ear too much. A fraction of a drop of blood is caught up by the end of a smearing-slip, which is placed at an acute angle on the slide and drawn over its surface with a gentle pressure as soon as the drop has run along the

entire edge of the slip. These slips are made of crown glass, measuring three by two and one-half by one-eighth inches, with edges ground perfectly smooth and rounded. The slide is then immediately placed, blood downward, over the mouth of a bottle containing a ten-per-cent. solution of formalin (twenty-five per cent. of the commercial formalin, which is a forty-per-cent. solution), and allowed to remain there from three to five minutes, which is long enough to fix the blood elements. These specimens can be colored at once or kept any length of time for further treatment. It is advisable to use only Grüber's alcoholic eosin, as the ordinary eosin differs greatly in staining quality as well as in solubility when coming from different factories. For the close study of the two varieties of granules stained with eosin, the best fluid is one containing eosin to saturation in eighty-per-cent. alcohol, to which is added twice the quantity of alcohol of the same strength. The smears are treated with this solution during two minutes, and then washed with water and allowed to dry in the air, and enclosed with Canada balsam, which should not, however, be dissolved in xylol or benzol: that dissolved in cedar oil gave the best results. Besides the large "eosinophile" granules the smaller ones are also distinctly colored; they, as well as the former, are, therefore, "acidophile"—a fact upon which attention had already been called in the above-mentioned article, and which had also been found by Hardy and Kanthack ("oxyphile"). Ehrlich designates them as "neutrophile" granules, because he found that they take up both acid and basic aniline dyes. Although it was not the purpose of this communication to enter upon a discussion of the granules themselves, it might be mentioned that when basic dyes are applied to such specimens previously stained with eosin, these smaller granules take up the basic dye in proportion to the time of exposure to their action; methylin-blue, for instance, will show them violet at first, blue at a later stage, and lastly it will have neutralized the red completely, so that the granules will be entirely discolored. The eosin acts evidently, in respect to the basic dye, as a mordant, much as in the case of cotton in the dyeing industry. Cotton is dyed by an acid color, but not by a basic dye. But if the acid dye be used first, it is found to act as a mordant; the cotton thread is thus provided with what the dyer calls an "acid back." The small acidophile granules also take up what the dyer calls "substantive dyes," just as does cotton. It is possible, therefore, that these so-called neutrophile granules are bodies resembling carbohydrates, and may thus be chemically different from those bodies which take up the basic dyes, *e.g.*, the nucleus and other forms of granules. The large acidophile or eosinophile granules are readily saturated with acid dyes, and will not, therefore, take up any basic dye when once colored with an acid dye, provided that the basic-dye solution employed does not contain above a certain proportion of alcohol when other conditions prevail.

As a basic dye, the speaker said, he used for its distinctive qualities, both with regard to the staining of the nucleus and certain differentiations of the basophile granules, thionin—not the thionin of commerce, but what is also known as the "violet of Lauth." It is also called the thionin of Hoyer, because Hoyer used it in 1890 in his investigations of mucin. The speaker recommends the following staining fluid: a saturated solution of thionin in thirty-three-per-cent. alcohol, to which is added twice the quantity of alcohol of the same strength. The specimens are exposed to this solution for two minutes, thoroughly washed with water, allowed to dry in the air, and enclosed in Canada balsam. Thionin is an excellent nuclear stain, and produces peculiar coloring in certain blood specimens, which are to be treated of on a future occa-

sion; it imparts, for instance, a brownish color to the large granules (basophilic [?]) found in leucocythæmia. Under certain conditions the serum would be of a bluish tinge, and the red discs would be colored from blue to light green, depending upon certain degrees of anæmia. For these reasons this dye was a very valuable one. The best plan was to stain one slide with the eosin and the other with the thionin. That the formalin instantaneously fixed the blood was demonstrated by the fact that in certain cases the "budding" of the leucocytes was well shown.

This solution of thionin is also a capital one-color stain for malaria-blood specimens, the plasmodia appearing with admirable distinctness against the light greenish tinge imparted to the red blood corpuscles.

From a number of indications the speaker ventured to conclude that continuous and systematic examinations of the blood during the entire course of the disease would lead to most interesting results, from which might be ascertained important information not only concerning the action of the toxins in infectious and other acute diseases, but also symptomatic changes in reference to their treatment. He would, therefore, recommend that such blood slides should be made by the attendants quite as regularly as the records are taken of the temperature, pulse, and respiration. At all events, he would continue his work along these lines, and hoped to be able to report upon it at some future time.

DR. JAMES EWING said he had examined a number of specimens stained by this method, and considered it a most excellent one. The method of spreading the blood was in itself a distinct advantage over the ordinary technique, in that the specially ground slide was more easily handled than the cover glass and the blood was spread more uniformly. It seemed to him even superior to the method of dropping the blood on one cover glass and spreading it on another cover glass, for Dr. Waldstein's plan gave a good opportunity for the formation of rouleaux. The fixation he had found to be very simple and in every way satisfactory. He had tried Ehrlich's triacid mixture in addition to Dr. Waldstein's coloring agents, and he had come to the conclusion that the triacid mixture was the best of all. He had found that in the method of fixing by formalin the corpuscles were rather more yellow than when fixed by heat. Ehrlich's dye itself was not a very good nuclear stain, and in specimens fixed by formalin the triacid mixture did not stain so well as when the fixation was secured by heat. The blood plates were, however, rather better stained after the formalin fixation than after heat. The theolin stain was certainly a most valuable one. The whole method called for a very careful and extended trial by every one interested in the study of the blood.

DR. J. S. THACHER asked if the length of time the blood was exposed to the formalin was of importance.

DR. WALDSTEIN replied that he had not found any bad effect from prolonged exposure to formalin, but one or two minutes sufficed for the purpose of fixation.

An Experimental Study of Some of the Nutritional Changes Resulting from Fat Starvation.

—DR. C. A. HERTER presented a paper with this title. He said that this experimental study had been originally undertaken to determine if the lesions of rickets could be produced in growing animals by withholding fats, so far as possible, from their dietary. This was suggested by the fact that the clinical indications of rickets were often made promptly to disappear by the addition of fat to the food. The pig was selected for these experiments.

Pig 1 was experimented upon for a period of fifty-one weeks, beginning December 16, 1893. It was given a limited quantity of milk from the Walker-Gordon laboratory. The average proportion of fat in

this milk was one-fortieth per cent., whereas the milk of the sow usually contains from eight to ten per cent. and that of the cow one per cent. of fat. At the end of the first week, notwithstanding the fact that the animal was receiving about one-three-hundredth part of the normal proportion of fat for a pig, its weight increased, so that at the end of the fifty-one weeks the total increase in weight was sixteen pounds. The animal became markedly constipated, and after a few weeks showed great muscular weakness and the skin and hair became dry. Toward the end of the term of experimentation the animal became very weak and drowsy; then the temperature rose, and it was evident that it was moribund. It was therefore killed. It was found that the hæmoglobin had been reduced to sixty-five per cent., and that there was a slight reduction in the number of red cells. Pig 8 was fed on the same milk, but was allowed to take as much as it desired instead of a limited quantity. At the end of twenty weeks the animal showed some muscular weakness and a tendency to drowsiness. Pig 2 was experimented upon for fifty-six weeks. It was given a supplementary diet of carbohydrates. Toward the end of the experiment the urine was at times saccharine. The fæces were dark and sometimes diarrhœal. The skin remained soft and well nourished. Toward the end slight muscular weakness was noted.

An inquiry into the pathological anatomy of the changes in the skin, principally, showed that there was no subcutaneous fat, but, instead, a layer of gelatinous material. In all the parts of the body where fat was normally located this gelatinous material was found. In Pig 2 some shrinkage was found in the fat cells after eight weeks, and after fourteen weeks they were shrunken to half their normal size. At the end of twenty weeks the fat layer was very pale and the fat cells were reduced in size, but there was no gelatinous material such as was found in Pig 1 and Pig 8. The heart was large, pale, and flabby; there were several hemorrhages on either side of the coronary arteries; instead of the usual fat layer was one of gelatinous material. Many of the muscular fibres of the left ventricle were the seat of slight granular degeneration. The histological appearance of the liver was normal. The kidneys were surrounded by the same gelatinous material, and these organs were enlarged and contained hemorrhagic spots. The epithelium of the tubules everywhere showed granular degeneration, and the cells of the secreting tubes were swollen and degenerating—in short, the kidneys presented the appearance of parenchymatous degeneration. The suprarenals appeared normal, except for being unduly large. The knee-joints were filled with bloody synovial fluid. The cranial bones were thinner and more brittle than normal. The bone marrow was replaced by material having the consistence and appearance of blood clot. Sections from the femur showed normal bone structure. In Pig 2 the femur showed a development of bone almost exactly the same in degree as in Pig 1, the marrow adjacent to the compact bone being very red, while the rest was of the normal pink color. A chemical examination of the gelatinous material showed it to be evidently a phosphorus containing proteid, known as a nucleo-albumin; hence, the process already described might be properly described as a "mucoïd degeneration." An inquiry into the quantity of urea and phosphoric acid and the ratio between the two resulted in showing that there was a very considerable increase in the amount of urea excreted in the course of the experiment; but there was not a corresponding increase in the excretion of phosphoric acid—indeed, there was a slight decrease. The striking feature was the high ratios throughout, or, in other words, the small quantity of phosphoric acid excreted in proportion to the urea. In Pig 9 there was an ir-

regular but slight increase in the phosphoric acid. These animals were fed on fatless milk, and in all the proportion of phosphoric acid was distinctly lower than in the animals fed on normal milk. On feeding Pig 9 with an additional allowance of suet, there was an immediate return to the ratio normally observed in pigs fed on normal diet. This would seem to prove that the low phosphoric-acid secretion was the result of the defective absorption of phosphorus from the intestine. Notwithstanding the great diminution of fat, the quantity of phosphorized fat—the lecithins of the brain—was not diminished. In endeavoring to study minutely this process of mucoid degeneration, it was found that the cells broke up into larger and smaller fat globules; then the cells diminished in size, the cell membrane grew irregular in outline, and in time the cell contents were free from fat. The findings in Pig 2 show that this withdrawal of fat from the milk did not necessarily cause this mucoid degeneration. The chronic degeneration of the kidney in Pig 1 probably resulted from the prolonged activity in excreting nitrogenized material, owing to the highly nitrogenized diet. This view was confirmed by the findings in Pig 2, in which there was much less nitrogenized food, and no such changes were found in the kidney.

The following were the author's conclusions: (1) That the lesions resulting from fat starvation in pigs do not resemble rickets; (2) that prolonged fat starvation leads to the disappearance of fat from the adipose of the body and its replacement by a gelatinous homogeneous-looking substance; (3) that this substance contains a nucleo-albumin but not mucin, but the pathological change may be spoken of for the present as mucoid degeneration; (4) that the lecithins of the brain and liver are not materially reduced by fat starvation; (5) that fat starvation does not lead to mucoid degeneration if the animal be given a large excess of carbohydrate food; and (6) that fat starvation causes a very imperfect absorption of phosphoric acid from the intestine.

DR. ALEXANDER LAMBERT asked if the paralysis appeared to be due to a general weakness or to a nerve lesion.

DR. HERTER replied that he thought it was due to the local atrophy of the muscle fibres. The nerves, however, were not examined.

DR. REGINALD H. SAYRE asked if the hind legs alone were paralyzed in these animals.

DR. HERTER replied that all four legs were affected, but the hind legs suffered more severely in Pig 1. They were about equally affected in Pig 8. As to the question of fat starvation and its bearing on rickets, he would say that the appearances were more like those of scurvy than of rickets. He had examined the breast milk from women nursing rickety children exclusively, and had been surprised to find that in some of these the milk was exceedingly rich in fat, and in none was the fat below the average.

DR. WALDSTEIN said that in a rather large clinical experience he had seen many rickety children, and he had never been impressed with the idea that there was a causal connection between the proportion of fat in the milk and rickets, but he had been impressed with the fact that many children were rachitic whose mothers had been chlorotic or markedly anæmic during the period of pregnancy. He could recall several instances in which the same mother had had both healthy and rachitic children, and in every instance the mother had been anæmic during the time in which she had carried the child which had subsequently developed rickets. He had made many inquiries on this point, with results of a similar tenor. Moreover, he had not found that the use of cod-liver oil was of benefit in rickety children. The only valuable treatment, in his experience, for rachitis, had been the administration

of phosphorus in olive-oil emulsion, according to the method of Kassowitz. He had not obtained such results from the use of Thomson's solution of phosphorus. He recalled having seen in lipomata of old people a gelatinous condition answering the description of mucoid degeneration as given in the paper.

DR. JAMES EWING said he had repeatedly seen the fat about the heart and kidney in cases of acute phthisis replaced by a gelatinous material.

The society then went into executive session.

Clinical Department.

INFLAMMATION OF THE SUBLINGUAL GLANDS.

By A. H. HENDERSON, M.D.,

MONÉ, SOUTH SHAN STATES.

As primary inflammation of the sublingual glands is of rare occurrence, I send the following: On June 2d a Shan came asking me to go and see a woman who was growing a second tongue. I was informed that when this happened they grew very fast and were very sore. I found it to be not a bad description of the general appearance for one who knew nothing of anatomy. The symptoms were those of parotitis—pain, swelling under the jaw, temperature of 100° F., pulse of 120, with a copious flow of saliva, according to the report of the patient, although the amount seemed normal when I saw it. The treatment and subsequent history were those of parotitis. As it seemed to be known by the people, I presume it is not uncommon here, though this is the first case I have seen.

DOES APPENDICITIS FOLLOW FAMILY LINES?

By WILLIAM T. SMITH, M.D.,

HANOVER, N. H.

THREE cases coming under my notice within a few months past have suggested the above question. The following is a brief account of these cases:

CASE I.—A man, forty-five years of age. Acute catarrhal appendicitis. During a year he had had three attacks. The appendix was removed. One year before this operation a daughter of the patient died of peritonitis resulting from appendicitis. She had had three previous attacks.

CASE II.—A child, eleven years of age. I removed a perforated appendix from an abscess cavity. Two weeks before, a first cousin of the patient, twelve years of age, had been operated on in another State for appendicitis.

CASE III.—A boy, aged thirteen. Appendicitis of three days' standing. When he was first seen by me, perforation had taken place and he had general peritonitis. I removed a gangrenous appendix. Just eleven months previously I had made an autopsy on an elder brother of this boy who had died of general peritonitis. I found in his case also a gangrenous appendix.

These are three cases out of about a dozen which I have seen during the year, in most of which no special inquiry was made in the line of the question suggested. Probably the underlying cause of appendicitis is commonly obstruction of the lumen of the organ or of its artery, or of both. Its length, the character of its attachment to the gut, its mobility, its position are important factors in determining obstruction, and such structural characters are doubtless transmitted in families.

PYROZONE AND DILUTE HYDROCHLORIC ACID IN SUPPURATING INFLAMMATIONS OF THE MIDDLE EAR.

By WILLIAM CHEATHAM, A.B., M.D.,

PROFESSOR OF DISEASES OF THE EYE, EAR, THROAT, AND NOSE IN THE LOUISVILLE MEDICAL COLLEGE, ETC., LOUISVILLE, KY.

I SUPPOSE that in giving the history and the result in these cases nothing new is being written. It is my purpose to attract the attention of the physician to the line of treatment that has rendered me the best service in this sometimes most obstinate affection.

CASE I.—A. C.—, male, aged twenty-three years; had had suppuration of the right ear for many years; there was some œdema and tenderness over the mastoid. The discharge from the ear had a very disagreeable odor; there was some discharge through the Eustachian tube into the throat; the auditory canal was much swollen and very tender. Hot applications and hot douches of carbolized water soon reduced the œdema, and gave freer drainage. After partially relieving the stenosis of the auditory canal, with curette and pick I removed large cholesteatomatous masses and found the middle ear and contents swept away, and in its place a large funnel-shaped cavity, base in and apex at about half-way of auditory canal, which at this point was still much contracted. The curette, chromic acid, pyrozone, and many other remedies were used, but the epithelial masses still collected. Formalin, boric acid, and alcohol were tried with the same result.

I finally directed that ten drops of a mixture of dilute hydrochloric acid, gtts. x., and pyrozone, $\frac{5}{8}$ i., be put into the ear morning, noon, and night, after cleansing. A wonderful change was noticed in a few days, and in a short time there was no secretion from the cavity. There has been no return in several months.

CASE II.—Mr. G.— had had suppuration of his right middle ear for twenty years. On cleansing away some inspissated pus I found his case was one of attic disease with bone necrosis. Above the middle-ear cavity proper and not communicating with it was a large cavity, which was filled with inspissated pus and necrosed epithelium. Rough bone was felt with the probe; small pieces were detached with the curette. The ear was directed to be kept thoroughly cleansed by means of carbolized warm water; it was curetted once or twice: iodoform, iodol, boric acid, loretin, formalin, and alcohol were used at different times, with applications of chromic acid and lactic acid; the ear was treated by the dry method also and drained with bits of iodoform gauze, with no permanent relief.

This case was on hand about the same time as the one first reported. The same mixture of dilute hydrochloric acid, gtts. x., in pyrozone, $\frac{5}{8}$ i., was given, with the direction that ten drops be put in the ear one, two, or three times a day, to be left in five minutes after having been forced in deep by firm pressure upon the tragus, and then the ear wiped dry with absorbent cotton. This case in a few weeks began to improve rapidly, going on to recovery with no relapse.

I have treated several similar cases with but one failure, that in a tuberculous subject. Of cases of less severity I have treated many, with only an occasional failure. I have yet to see this treatment fail in acute cases. Of course in the primary stage of acute cases such medication is contraindicated, but after pain, throbbing, and swelling have subsided, and suppuration continues notwithstanding ordinary treatment, the acid and pyrozone check it very promptly.

As to drainage in these cases, the iodoform or some other of the gauzes cut into narrow strips, lately advised by several, has given me by far the best results.

The treatment mentioned is not a cure-all by any

means, but I hope this brief report will lead to others trying the acid-and-pyrozone combination. Of course, when the deeper sinuses are involved surgery is first indicated, then the pyrozone and acid. Under its use I find mastoid-cell involvement much less frequent; I do not believe these effervescing preparations increase such dangers.

TWO CASES OF OBSCURE INTRA-ABDOMINAL LESIONS.

By F. B. TIBBALS, M.D.,

DETROIT, MICH.

THE diagnostic difficulties presented by intra-abdominal lesions are many and varied, and fortunate indeed is the surgeon of experience who escapes error. Many an abdomen has been opened and nothing found to account for existing symptoms; many a cœliotomy has disclosed conditions far different from those previously diagnosed.

When we consider the number of important viscera liable to injury or disease and the obscurity of symptoms pointing thereto, the wonder is that we are not more frequently led astray. From the region of the pancreas, gall bladder, and pylorus to the appendix and viscera of the female pelvis inclusive, lies a surgical field rich in possibilities, teeming with uncertainties and perplexing doubts.

I do not propose in this a clinical paper to cover the diagnostic difficulties of this great surgical field, but by reporting two unusual acute cases to illustrate some of the knotty problems with which any one of us may at any moment be confronted.

CASE I.—Miss Ida S.—, aged twenty, took cold during menses and suffered from dysmenorrhœa, with mild ovarian pain for several weeks following. A bimanual examination disclosed a retroverted uterus, which was considered the cause of the continuance of pain. Ovaries and tubes seemed normal; they were not sensitive on pressure, and I found at no time during this period the slightest rise of temperature. The treatment consisted of the usual uterine sedatives, douches, and rest. I had not seen her for a week, when at 10 A.M., on September 20, 1895, I was called to find her with temperature of 102.5° F. and pulse of 90. She had had a sharp chill the previous evening, and there were great pain and tenderness over McBurney's point. Vaginal examination again disclosed nothing except a retroverted uterus, firm pressure with the vaginal finger eliciting no sensitiveness of right ovary or tube. Dr. Donald Maclean saw her in consultation with me at 4:30 P.M. Temperature then was 104° F.; pulse, 110; pain easier; there was no tympanites and no vomiting. We advised immediate operation, but various delays incident to securing family consent and removal to hospital occurred, and the patient presented a temperature of 105° F. and pulse of 130 when ready for operation at midnight.

The abdominal incision was made adjacent to the appendix, but the appendix was found to be normal. Further examination disclosed a broken-down right ovary, the abscess cavity capable of holding perhaps one-half drachm. This unexpected abscess had undoubtedly ruptured at the inception of the attack and already had induced localized septic peritonitis.

Both tubes were found swollen (catarrhal, without pus) and were removed with some difficulty through the original incision.

The abdomen was thoroughly flushed and drained, but the peritonitis extended and the patient died twenty-eight hours later.

CASE II.—Mr. J. C. W.—, aged thirty-five, was riding his wheel between 5 and 6 P.M., Saturday,

April 25, 1896. He threw himself off in order to escape an approaching electric car and struck the asphalt pavement with some force, the gluteal region being the impinging part. He thought himself uninjured and remounting his wheel rode five miles, then went home, ate a hearty supper, and took a young lady out to an evening entertainment. After escorting her home, while riding down town on the wheel, he for the first time felt abdominal pains, which soon so increased in intensity that he sought relief in a convenient drug store, where I was called to see him at 12:30 A.M., seven hours after his fall. He attached no importance to his fall, and, as the only objective symptom was pain, I gave him anodynes, took him home in a coupé, and left him resting easily.

Sunday, 10 A.M.—Had a restless night. Little pain, but great soreness. A full breath was painful. There was no vomiting. The patient had urinated; temperature, 99° F.; pulse, 90.

5 P.M.—Bowels had not moved nor had gas passed since the morning visit, though he had taken calomel, gr. iij., and phosphate of sodium, $\bar{5}$ i. Temperature was now 100° F.; pulse, 120. Tympanites beginning.

I secured Dr. Maclean in consultation two hours later. Temperature was now 101.5° F.; pulse, 130; tympanites more marked. Four ounces of clear urine were drawn by catheter, being the entire quantity secreted since 9 A.M. The rapidly developing tympanites, rising temperature and pulse, and paresis of the intestinal tract were considered indicative of some unusual intra-abdominal lesion and immediate operation was proposed and accepted.

Operation was performed at 9:30 P.M. with Dr. B. P. Brodie as anæsthetist. A three-inch incision was made below the umbilicus and the accessible viscera were carefully examined, but neither hernia, volvulus, intussusception, nor hemorrhage was found. The intestines were congested and much distended with gas, and there was much free fluid in the abdominal cavity. The incision was now extended upward, the bowels were turned out, and careful search was made for a point of rupture. At last on the posterior wall of the stomach close to the pylorus was found a raw surface, the result of ruptured adhesions, and a small hole extending completely through the stomach wall, through which the contents of the stomach were oozing. The point of rupture was the site of an old ulcer, of which neither the patient nor his family could give any history, and the concomitant adhesions to the duodenal mesentery when torn loose by the jolt of his fall made a rupture of the weakened stomach wall possible.

The wound was carefully repaired, the cavity thoroughly douched, and the long incision rapidly closed. The patient rallied well and apparently would have recovered but for an unsuspected abnormality of the kidney, to which I attribute his complete suppression of urine, for no urine whatever was secreted from the catheterization two and a half hours before operation until his death at 5 P.M. the next day.

The post-mortem revealed a congested right kidney normal in size, while the left kidney was only one-fourth its usual size and was firmly embedded in the median line against the head of the sacrum. This abnormality is of interest both as such and as a factor in the final outcome of the case. Evidently the one kidney capable of secreting became inactive from shock and thus deprived the patient of otherwise good prospects of recovery. The condition of the stomach and intestines post-mortem was excellent, the congestion and distention of intestines and all evidences of peritonitis having disappeared, while the hole in the stomach was completely healed.

These two cases met with in my practice during the year past seem to me worthy of record as illustrative of the diagnostic difficulties of intra-abdominal lesions.

Primary abscess of the ovary is a condition of extreme rarity and one which we can seldom recognize during life. In my case diagnosis was not possible until the rupture of the abscess, when exact diagnosis became of little moment, as the rapidly developing symptoms made clear the need of prompt operative interference.

The other case is remarkable in that a deep ulcer of the stomach had existed and extensive adhesions had formed without the knowledge of the patient, and because so slight an injury as the jolt of a fall upon the buttocks cost him his life.

My thanks are due to Dr. Maclean for the skill, unfortunately unavailing, with which he wielded the knife, as well as for his valuable diagnostic assistance.

TWO CASES OF HYDROPHOBIA.

By W. MOSER, M.D.,

BROOKLYN, N. Y.

CASE I.—The boy was bitten on the left lower eyelid by a dog. The wound was treated at St. Catharine's Dispensary until completely healed. The Pasteur treatment was not instituted, as the dog, which was a stray cur, was not supposed to be afflicted with rabies. Seven weeks after the date of the bite the boy was admitted into St. Catharine's Hospital, service of Dr. Moitrier, with the following symptoms: Great muscular prostration, great excitability, difficulty in swallowing, especially water. There was no fear of water (hydrophobia) *per se*, as the boy could look at a glass of water without showing fear, but as soon as the glass of water was taken from the table and brought to him with the request that he drink it, he would become terror-stricken, falling, if the request for him to drink be urged, into general convulsions. Rectal enemata of water produced no convulsions. Hallucinations occurred at times, the most frequent being that he was being bitten by dogs. Hemiplegia on the injured side was noted. (Edema of the lungs set in on the second day and was the immediate cause of the boy's death. The autopsy, performed by me, showed œdema of the lungs and an acute inflammation of the meninges of the brain and cord. All the other organs were normal, excepting a few punctate hemorrhages on the pons Varolii.

CASE II.—A boy, four years old, was bitten on the left hand by a dog. The wound was cauterized and treated at the boy's home. Five weeks from the date of bite the boy was carried by his father to St. Catharine's Hospital, in the service of Dr. Moitrier. He then presented the following symptoms: great muscular prostration; the difficulty in swallowing water was so great as to cause a peculiar choking sensation at each attempt; hallucinations occurred, the most frequent being that dogs were biting him. The boy had only a few general clonic convulsions. Hemiplegia occurred on the left, the injured side. (Edema of the lungs set in on the second day, to which the boy succumbed.

Remarks.—We note, in reviewing these two cases, the diagnosis of which was confirmed by Drs. Gibier and Labadie, the following peculiarities in their symptomatology:

1. Both boys were under the impression that dogs were biting them.
2. The singular fact that both should have had hemiplegia on the bitten side. Dr. Fuhs concurred in the opinion that the hemiplegia was on the left side.
3. That both boys died in two days from œdema of the lungs.
4. We note the period of incubation—seven weeks in the one case, five in the other.

A POSSIBLE EFFECT OF ANTITOXIN.

BY E. CROSBY CHAMBERLIN, M.D.,

NEW YORK.

WITHOUT discussing the value of diphtheria antitoxin, when early administered, I wish to relate a case which is of some interest. A young woman, aged twenty-two, has been afflicted with a chronic diarrhœa for the past four years. In December I attended her for a gastritis, which after a few washings of the stomach passed away. Two months later diphtheria developed; being pharyngeal at first, it extended in all directions until two days later, when an otitis media with a copious discharge was developed. This day the report from the board of health was received confirming the diagnosis. She had been using for two days corrosive sublimate, both internally and as a gargle. The discharge from her ears by this time was so abundant she could not sleep, it flooding out of the external meatus over the face through absorbent cotton and everything. I at once gave her two grains of antitoxin. The next day the discharge was reduced at least one-half. Later she received another injection of antitoxin, and the following day not only had the discharge entirely disappeared but the diarrhœa was reduced from five or ten stools daily to one or two stools of a normal solid consistency.

That was two months ago and at present she has not had a return of the distressing diarrhœa.

FRACTURE OF THE BASE OF THE SKULL, OF BOTH SUPERIOR MAXILLÆ, OF THE NASAL BONES, OF THE INFERIOR MAXILLA, AND OF THE HYOID BONE — RECOVERY.

BY L. B. SMITH, M.D.,

AND

GEORGE HASLAM, M.D.,

FREMONT, NEB.

On the evening of December 26, 1895, Mr. T. N——, aged sixty-seven, after taking an accustomed dose of a hypnotic, retired to rest and slept until about 2 A.M. of December 27th, in a room upstairs with which he was somewhat unfamiliar, as his habit had been to sleep downstairs. Arising in a semi-conscious condition, as was his wont, to relieve his bladder, he turned as he would have done in his own room below, and in consequence fell down a flight of stairs, a vertical distance of twelve feet, and then rolled or crawled a farther distance of about four feet, where he was found by members of the family, who had been awakened by the noise of his involuntary descent.

Arriving at about 2:30 A.M., I found the patient resting on a lounge, to which he had been carried. He was partially conscious, being able to give an intelligent answer to a direct question and able to complain of pain in the back of the neck whenever his position was changed or when he made an effort to turn. He also complained of pain in the throat. Afterward he had no recollection whatever of this period.

Blood flowed from the mouth and nose; respiration was difficult and could be effected only through the mouth, as the nose was completely closed. The posterior wall of the pharynx was also swollen and tended to increase the difficulty. The left eye was closed, the eyelid blue and much swollen; the right eyelid was swollen and slightly discolored. Pulse was slow and weak.

Further examination demonstrated both superior maxillæ to be separated from the cranium and movable on each other. The nose, which formerly was deflected to the right, was now strongly bent to the left, and the bones were movable. A compound fracture of the lower jaw was discovered on the left side at the posterior border of the canine tooth.

Fractured base of the skull was diagnosed from the condition of the eyes, etc., and was confirmed by further and independent examination made by Dr. Haslam some eight hours later. At this time and later no cause for the pain in the hyoid region could be detected, in spite of repeated examinations made both from within and from without.

On Monday (December 30th) the patient recovered consciousness and at once redoubled his complaints of pain in the throat, especially on making an effort to swallow, no reasonable cause for which could be detected until the tenth day, when he forced a mouthful of fluid down at one gulp. There was an extreme though momentary pain, followed by instant relief. Distinct crepitation in the body of the hyoid was now easy to detect, either on making lateral pressure or when the patient swallowed. Evidently the parts had been firmly held in an unnatural position until now suddenly released.

For two weeks after the accident his gait was unsteady and it was possible to walk only by looking directly in front, a single side glance being sufficient to disturb his equilibrium; to turn a corner was a matter of considerable difficulty. During a period of six weeks he suffered from severe neuralgic pains, which he said shot toward the cranial vertex, and during this whole period it was always necessary for him to support his head with his hands when in any position other than the recumbent. The chest and abdomen were ecchymosed as low as the navel, and were for a long time perfectly black.

Mr. T. N—— made a good recovery, except that in consequence of his refusal to submit to surgical treatment the portions of the lower maxilla are ununited. The roof of the mouth presents a bulging ridge along the intermaxillary suture, where the bones have re-united.

STRANGULATED HERNIA IN AN AGED SUBJECT—OPERATION—RECOVERY.

BY S. S. CARTWRIGHT, M.D.,

ROXBURY, N. Y.

I WAS called, June 23d, to see M. S——, aged seventy-eight, suffering from left inguinal hernia. He had been troubled with it for five or six years. In April last I had reduced it for him and advised him to wear a truss; but he did not follow the advice. On June 24th, after considerable difficulty, I reduced it; but on June 25th it came down again. I then called Dr. A. R. Ellis, of this village, to assist me. We administered ether and kept him under the influence of it for two hours, reducing the hernia, so far as the bowel was concerned; but a portion of the omentum could not be reduced. I saw him again June 25th, and found the hernia strangulated. No further attempt was made at reduction, and we sent for a surgeon, who came but refused to operate on account of the hopelessness of the case. He decided that the omentum and bowel were both gangrenous, which was evidently a mistake. The following day his pulse was between 60 and 70, his temperature about 99° F. I decided that an operation should be performed, and sent for Dr. William Kemble, of Rondout, N. Y. He came on Sunday, June 28th, and after a careful examination it was decided to operate.

The operation was performed by Dr. Kemble, assisted by myself and Dr. Ellis, in the usual manner. On account of hydrocele of the tunica vaginalis testis, it was deemed proper to remove the left testicle. A portion of the omentum was removed, all bleeding vessels were secured by catgut ligatures, the bowel and remainder of the omentum were returned to the cavity of the abdomen, and the wound was closed by contin-

uous suture. The antiseptic used was carbolic acid, 1 to 20.

June 29th.—The patient had rested well. I administered a dose of Epsom salts, which operated in the course of the day.

June 30th.—Temperature, 100.5° F.; pulse, 80.

July 1st.—Temperature, 99.5° F.; pulse, 72. There was no particular pain nor inconvenience. From this time the temperature gradually fell to the normal.

The sutures were allowed to remain until July 10th, when they were removed, the wound being nearly healed. The rubber drainage tube was removed at the same time. On July 12th he was up and dressed.

The surroundings were of the most unpromising kind, and the age of the patient would have led one to expect an untoward result; still the termination was all that could be asked for.

The lesson of this is that we should not despair of such a case if one comes under observation, and instead of waiting for death we should give the patient a chance of life.

SUBPHRENIC ABSCESS.

By L. B. SMITH, M.D.,

AND

GEORGE HASLAM, M.D.,

FREMONT, NEB.

MR. C. R.—, aged forty-five, a man of medium build, of fairly good habits, but who some ten or more years ago would occasionally imbibe too freely, had always enjoyed good health except that some six years ago he suffered from lumbago.

On January 19, 1896, he complained of a sudden severe pain in the right side in the region of the lower ribs. He was compelled to remain two or three days in bed, and then got up fairly well. During the week following he complained of nothing but weakness and some indefinite stomach symptoms. He was unable to work, but walked around and seemed to be convalescing. He then complained of a neuralgic pain in the left leg, which was diagnosticated and treated as sciatica. The pain disappeared, to reappear on the right side two weeks after its origin in the left side. In each case the limb was somewhat swollen but did not pit on pressure; the veins were slightly engorged but not varicose. After about another week there was pain in the left groin, followed by general abdominal pain. The patient was constipated from the beginning.

On April 21st the pain reappeared in the right side, as at the beginning of the illness, and on the 23d he commenced to vomit and retch, with the eructation of much gas. About the beginning of May the pain became worse and the gastric symptoms more severe. Somewhat later the lower chest began to swell, and subphrenic abscess was now diagnosticated. As soon as this condition was recognized the abscess was opened by Drs. George Haslam and by H. N. Brown, who excised portions of the ninth and tenth ribs and opened the pleural cavity, which was lined with a layer of stratified lymph about five-sixteenths of an inch thick. More than a pint of grumous fluid escaped. The diaphragm was then opened, when a much larger quantity of similar fluid escaped.

On May 19th the patient died. Only a limited post-mortem examination was allowed. It was found that the cavity reached half-way down behind the right kidney. No exciting cause for the condition could be traced.

The Roentgen Rays kill tubercle bacilli, according to a report made to the Académie des Sciences by MM. Lortet and Genoud.

Therapeutic Hints.

Pneumonia.—Calcium chloride in four-grain dose.

Asthma.—Ice pack over pneumogastric in region of neck.—SANGER.

Hiccough.—Sugar. When purely nervous, hydrochlorate of pilocarpine, one-tenth grain, three or four times a day.

Rickets.—

℞ Phosphorus gr. $\frac{1}{100}$.
Cod-liver oil gr. mcccc.
Saccharin gr. lxxv.
Essence of lemon gtt. ij.
M. A small teaspoonful may be taken daily.

—MARFAN, *Revue des Maladies de l'Enfance*, July, 1896.

Gout.—

℞ Magnesii sulph. 3 ij.
Potass. bicarb. gr. xv.
Tr. colchici sem. ℥ x.
Infus. buchu. 3 i.
Ft. haustus. S. To be taken every four or six hours, followed by a large draught of water, not too cold.

—FOTHERGILL.

Granular Conjunctivitis.—

℞ Mercuric oxide gr. iij.
Zinci,
Thymol,
Muriate of cocaine āā gr. ss.
Camphor gr. ss.
Vaseline 3 ij.
M. ft. ung.

—North American Practitioner.

Hypodermatic Treatment of Tuberculosis.—

℞ Beechwood creosote 25 gm.
Camphor 15 gm.
Aristol 10 gm.
Eucalyptol 30 gm.
Sterilized neat-foot oil ad 250 cc.
For hypodermatic injection.

One cubic centimetre (sixteen minims) of this solution contains one-tenth gram (one and one-half grain) of creosote.—V. GILBERT, *Medical Week*.

Creamy Emulsion of Cod-Liver Oil.—

℞ Cod-liver oil 500 parts.
Finely sifted sugar 190 "
Pulv. gum arabic,
Pulv. gum tragacanth āā 5 "
Infusion of coffee 200 "
Rum 100 "

Mix the sugar and gums in a mortar, and in the bottle which is to contain the emulsion shake together the oil and cold infusion of coffee. Pour a sufficient quantity of this liquid into the mortar to make a paste. While stirring, add to the portion remaining in the bottle the rum, and then gradually incorporate it with the emulsion.—*Therapeutic Gazette*.

Night Sweats of Phthisis.—

℞ Liq. potass. arsenit ℥ xv.
Tinct. belladon. ℥ xv.
Aque amygdal. amar 3 v.
M. S. Take from fifteen to twenty drops of the mixture about five o'clock in the evening.

—Pharmaceutische Zeitung.

Irritability of the Bladder after Delivery.—

℞ Salol,
Tincture of hyoscyamus āā 3 ij.
Infusion of buchu q.s. ad 3 vi.
M. S. Teaspoonful three times a day.

—FOTHERGILL, *Manual of Midwifery*.

Migraine.—

- R Pure chloroform, ... āā ʒ ij.
 Alcohol gr. xx.
 Morphine gr. iv.
 Syrup i.
 Water iv.
 M. S. Teaspoonful every half hour till pain is relieved.

—*Journal des Praticiens.*

- R Caffeine citrate gr. xx.
 Phenacetin gr. xxx.
 White sugar gr. xv.

Sufficient for ten capsules. One every three or four hours during the period of the attack.

—*Indian Lancet.*

Diminish the hyperæsthesia of the painful area by a spray of some local anæsthetic, and immediately afterward practise compression of both temporal arteries by means of rings of cork held in place by a gauze bandage. Administer the following in four doses at intervals of two hours:

- R Antipyrin gr. viiiss.
 Sparteine sulphate gr. ʒ/3.
 Caffeine citrate gr. iss.

If there is gastric derangement, the above may be administered by enema.—*ARITZMAN, Presse Médicale.*

Hay Fever.—Discard the use of sprays, and apply to the nostrils, on a cotton pledget, an unguent composed of six parts of cocaine muriate, ten of carbolic acid, twenty of menthol, one hundred and twenty of oil of sweet almonds, two hundred and forty of zinc ointment.—*American Medical Journal.*

Diabetes.—

- R Arsenate of sodium gr. ʒ/8.
 Carbonate of lithium gr. ij.
 Codeine gr. ʒ/8.
 Dry extract of cinchona gr. viij.

Make into one cachet. Prepare thirty such. One after breakfast and one after dinner.

—*ROBIN, Journal des Praticiens.***Flatulent Colic.—**

- R Spirit. chloroformi,
 Tr. cardamomi comp. āā ʒ ij.
 M. S. A teaspoonful every half-hour, in water.

—*BARTHOLOW.*

Quinine Mixture.—The following is advantageous in irritable stomach when quinine is to be given:

- R Sulphate of quinine gr. ij.
 Citric acid gr. vi.
 Simple syrup,
 Syrup of orange flowers āā ʒ ss.

This is to be placed in a wineglass containing bicarbonate of sodium (from three to five grains) in saturated solution, and drunk during effervescence.—*Journal de Médecine de Paris.*

Intestinal Worms.—

- R Oil of chenopodium ʒ ij.
 S. To be given on sugar three times daily, in doses of five drops, to a child of three years, and ten drops to one of ten years. A cathartic should be given every second or third day.

—*C. W. TOWNSEND.*

- R Santonin gr. ij.
 Mild chloride of mercury gr. ss.

M. S. Every night for two or three nights, to a child five or six years old, followed each morning by a purgative dose of castor oil.

—*EUSTACE SMITH.*

To Check Vomiting.—Powdered pimenta, five grains, repeated in ten or fifteen minutes; or pulverized pimenta, five grains, with calomel, one-tenth grain.—*A. S. DOLLOFF, Beverly Farms, Mass.*

Stomatitis in Small Children.—

- R Potassii chlorat. ʒ i.
 Tinct. myrrh. gtt. xx.
 Elixir calisayæ ʒ iiij.
 S. Teaspoonful in water every four hours.

This prescription should not be used if there is present a condition of acute nephritis.—*HARE, Medical Summary.*

Excessive Sweating of the Feet.—

- R Alumol,
 Aristol āā 4 parts.
 Starch 15 "
 Dust into the socks.

—*Therapeutische Wochenschrift.***Dusting Powder for Eczema.—**

- R Pulv. amyli ʒ i.
 Pulv. zinci oxidi ʒ ij.
 Pulv. camphoræ ʒ ss.
 M. S. For external use.

—*HYDE.***Powder for Genital Herpes.—**

- R Powdered alum,
 Powdered starch āā 10 gm.
 M. For external use.

The balano-preputial region is dusted over with this powder. Recovery is usually promptly obtained.—*E. GAUCHER.*

Dyspepsia.—For painful digestion with flatulence:

- R Sodii bromidi 16 parts.
 Pepsini concentrat. 12 "
 Pulv. carb. ligni 8 "
 Aquæ pur. 32 "
 Glycerini 96 "
 M. S. Teaspoonful after each meal.

—*LAMPHEAR, Am. Jour. of Surgery and Gynecology.***Hay Fever.—**

- R Eucalyptol,
 Glycerin āā ʒ i.
 Tinct. opii ʒ ij.
 Aquæ destil. ad ʒ vi.
 S. Use with atomizer three times a day.

—*American Medical Review.***Hemorrhoids.—**

- R Wood tar 3 parts.
 Extract belladonna 3 "
 Glycerin 30 "

—*Rev. de Thér. Méd. Chirurg.***Gastric Hyperacidity with Constipation.—**

- R Magnesia,
 Rhubarb āā 7.50 gm.
 Bicarbonate sodium,
 Carbonate sodium,
 Powd. sugar āā 15 gm.
 Oil peppermint q.s.
 S. Half to one teaspoonful in water two hours after each meal.

—*MAX EINHORN, Medical Weekly.***Erysipelas.—**

- R Tannin 2 parts.
 Camphor 3 "
 Ether 15 "
 S. Paint every hour or two over affected part and adjacent skin.

—*SPERNANDINO.***Chapped Skin.—**

- R Lanolin ʒ iiij.
 Glycerin ʒ iv.
 Boric acid ʒ iss.
 Salol ʒ i.
 Hoffman's anodyne ʒ v.
 Menthol gr. xv.
 Oil of citronella ʒ iiij.

—*Journal des Praticiens, February 22, 1896.*

Alcoholism.—

R Nit. strych. gr. viij.
 Acid. salicylic gr. iv.
 Alcohol i.
 Water iij.
 Make up antiseptically. ℥ xv. = $\frac{1}{8}$ of a grain of strychnine. S. ℥ 15 hypodermically two or three times daily.

—FLINT.

Rheinstadter's Ergot Mixture.—

R Ergotini dialyati spissi. 5 parts.
 Aquæ destillatæ 35 "
 Acidi salicylici 0.1 "
 Glycerini 10 "

A teaspoonful of this mixture, with two tablespoonfuls of lukewarm water, is injected by a rubber-ball syringe into the rectum, after the bowel has been emptied.—SCHAUTA, *Lehrbuch der gesamten Gynäkologie*.

Rectal Alimentation.—

R Cod-liver oil 3 v.
 Yolk of one egg, ...
 Lime water 3 x.
 M. As a nutritive enema.

—*Journal des Praticiens*, March 14, 1896.**Pruritus Vulvæ.**—

R Chloral camph. 3 ij.
 Bismuth subnit. 3 ij.
 Aquæ rosæ 3 iv.
 M. S. Apply to the parts.

Or,

R Argenti nitratis. 3 gr. xx.
 Aquæ 3 i.
 M. S. Paint over the affected parts.

—BARTHOLOW.

Mother's Milk does not quench an infant's thirst. Boiled water should be given freely and with regularity between the nursing periods.

Insomnia of Neurasthenia.—

R Paraldehyde. gr. xxxviij.
 Fluid extract of piscidia gr. lxxv.
 Syrup of wild cherry 3 iss.
 M. S. To be taken at once in a cup of orange-flower water.

—MONIN, *Indépendance Méd.*, July 1st.

Epilepsy.—We read in a foreign exchange that the only remedy of value in epilepsy is bromide of potassium, and the dose should not be stopped for a single day during the period of treatment. Give five grams the first week, six the second, seven the third, and repeat this order. Give bromide so that two-thirds of the dose are taken two or three hours before the customary time for an attack. Always give in a very dilute solution. Small doses of salol combined with the bromide are of value. The patient should not be allowed to sleep during the day. After a year and a half the dose of bromide may be diminished.—*Journal Pract. Med.*

Diagnosis in Laryngeal Disease.—Until Señor Manual Garcia, of London, in 1855, practised successfully auto-laryngoscopy and thus opened the way for Türk and Czerniak, of Vienna, to use successfully the laryngoscope on their patients, aphonia and dysphonia with certain associated symptoms were the only guides to the practitioner in making a diagnosis in laryngeal disease.—DR. MERRICK, *Maryland Medical Journal*.

Headaches from Eye Strain.—Dr. S. Weir Mitchell concludes in an article in the *Medical News*, April 28, 1894, that: 1. There are many headaches which are due directly to disorders of the refractive or accommodative apparatus of the eyes. 2. In some instances the brain symptom is often the most prominent and sometimes the sole prominent symptom of the eye troubles, so that, while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital or frontal head-

ache. 3. The long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea, and general failure of health. 4. In many cases the eye trouble becomes suddenly mischievous, owing to some failure of the general health, or to increased sensitiveness of the brain from moral or mental causes.

Taurocholate of Sodium, according to Sorrentino's experiments upon animals, is to be ranged among the cardiac remedies. Its action is marked by a slowing of the beats and lowering of the blood pressure. In large doses it always diminishes pressure, but produces a more or less noticeable acceleration of the beats. The slowing of the pulse is due to an excitation of the moderator ganglia. The acceleration which follows the use of toxic doses is due to paralysis of these ganglia. The diminution in pressure is in connection with excitation of the moderating apparatus of the heart and with the vascular dilatation. Toxic doses lower the pressure because they paralyze the myocardium. Vascular dilatation is a consequence of a peripheric action of the drug. Prolonged use of taurocholate of sodium alters the blood's composition in diminishing the number of red globules and the proportions of hæmoglobin.—*La Medicina Contemporanea*, January, 1896.

Membranous Sore Throat.—Lennox Brown states that twelve different varieties of membranous sore throat exist. They are as follows: (1) Contains nothing but the diphtheria bacillus. (2) The diphtheria bacillus associated with streptococci. (3) Diphtheria bacilli, streptococci, and staphylococci. (4) Diphtheria bacilli, streptococci, and diplococci. (5) Diphtheria bacilli and diplococci. (These are all varieties of true diphtheria.) (6) The sixth variety of membranous sore throat contains streptococci only. (7) Streptococci and diplococci. (8) Staphylococci only. (9) Staphylococci and diplococci. (10) Diplococci only. (11) Diplococci and a mycelium. (12) The twelfth is indeterminate. These last seven varieties are non-diphtheritic, or pseudo-diphtheritic in character.—DR. MERRITT, *Occidental Medical Times*, April, 1896.

Uterine Cancer.—Dr. Kessler believes that the diagnosis of cancer is not very difficult in the majority of cases. The text-books lead us to believe that it is always associated with cachexia; the suffering expression of the face, very frequent hemorrhages, fetid discharges, etc., are not always present. But a serous discharge, a bleeding between menstrual periods, and particularly a hemorrhage after the menopause, should make one very suspicious of malignant disease. He deprecates the practice of giving ergot or styptics in uterine hemorrhages when one suspects carcinoma, because while using these drugs the disease is progressing and valuable time is lost.—*St. Petersburg med. Woch.*, September 28, 1895.

Phthisis.—1. In early phthisis (catarrhal stage) to give comparative rest and relaxation to affected lung tissue. 2. In the stage of consolidation, to secure the same results, thereby limiting the risk of extension, and to promote elimination of the disease products by improving the circulation in and about the diseased area, and to facilitate expectoration. 3. In the stage of cavitation, to promote closing of cavities by directing healthy lung to encroach on the diseased area instead of relying on natural processes of cicatrization. 4. Diminished tendency to hemorrhage by reduced tension on vessels and cicatricial traction on vessel walls. 5. The ultimate object is to obtain a smaller thoracic cavity filled with healthy lung instead of an enlarged thoracic cavity partly filled with diseased lung.—DR. TIDEX, *British Medical Journal*.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOLIDAY AND LITERATURE—BLUE BOOKS—VACCINATION REPORT—INFANT - LIFE PROTECTION—POOR-LAW SUPERANNUATION ACT—IRISH WORKHOUSES—THE WATER FAMINE—DENTAL ASSOCIATION—VIVISECTION REPORT—SIR F. R. CRUISE—THE LATE P. Y. GOWLLAND.

LONDON, August 28, 1896.

WE are quite in the autumn holiday. All who can do so are either shooting or eating grouse. London is empty—says society. But there are still some four million of human beings in the metropolis, and an ample supply of doctors to attend them. When it is said all the doctors are out of town, no more is intended than when society so declares of every one. Amusement is looked for by those who remain, but there is plenty of work and the literature issued is not without a considerable proportion of the heavy kind. Reports and blue books are seldom light reading, but they have to be grappled with, even in holiday time.

I have furnished you already with a brief notice of the vaccination report, which "it is to be hoped," as the commissioners say, "will stimulate belief in the efficacy of vaccination." The report was completed on the 13th, since which time a number of statements have appeared as to its tenor, some difficult to reconcile with others, but you may accept what I have previously written as accurate. The distribution of the report to the public will probably be delayed for another week or ten days, but of course some of us have secured early copies. Some papers have been so early with their reports that complaint is made of improper or indiscreet revelations.

If all men were reasonable, this report, although expressed in terms so cold that some already stigmatize it as half-hearted, would put an end to agitation. But the antivacs take their defeat badly, and we have not yet done with them. The minority statement of those dissenting from some of the views of the majority is already held up, as showing that a royal commission cannot be convinced to the extent of unanimity. But this was, of course, expected when some of the most prejudiced antivacs were nominated on the commission. The minority claim that compulsion is neither expedient nor just, as there exists a sufficient amount of conscientious objection to making martyrs of recalcitrants, and they say it is unjust to override parental responsibility and disregard parental feeling. Yet those who sign this must be aware that the law does override such feelings for the good of the community. It is even necessary to restrain parents from cruelty, negligence, and other things, while they are compelled to educate their children and do other things, too, which are for the child's good. Law may be said to generally involve compulsion or restraint. As to the "conscientious objection," it must seem really funny to most people to couple conscience with vaccination. If it had not been a profitable game to set up agitation, no one would have heard of conscience in the matter, and when brought forward by agitators it is merely regarded as providing cranks with an excuse. But the rights of conscience are serious, and the commissioners have treated the objection seriously, though it is to be feared their logic will not convert recalcitrants.

The extreme moderation of the report should be more convincing than a stronger statement, and eventually will have full weight, though at present this influence is scarcely felt. But I will pass on to other

subjects, for this one is likely to demand attention later on.

The House of Lords committee on the infant-life protection bill has finished its report. The bill was among the "slaughtered innocents" of the session, but from this report we may augur well for its future. The committee sat seven days and examined nineteen witnesses. Some evidence went to show that a single infant is rarely taken with a view of profit, and is usually well looked after. The committee, therefore, do not propose to extend the act to the keeping of one, but the farming of two will bring the persons under its provisions, which in the main are satisfactory and will to a great extent protect the children who are put out.

The Lords, after all, rushed through the poor-law officers superannuation act, though it was so late that most of the newspapers reported its loss. However, "all's well that ends well," and the officers are expressing satisfaction. The act applies to a great army of poor-law officials, including the medical. A deduction of from two to three per cent. of the salaries is compulsory, and will secure a pension after sixty years of age. It is allowed for those in the service to exclude themselves from its operation by notice within the next three months. Those who do not contemplate remaining in the service will, of course, do this. I should think a great number of poor-law doctors do not take up the service with a view of spending their lives in it, and if they do not stay till they are sixty they will lose their premiums. To the great disappointment of the Irish service, the act does not extend to Ireland.

This reminds me of the question of reform in Irish workhouses, which has been demanded for some time past. A number of persons in London have been active in this movement, and now a circular letter, signed by Lord Monteagle, has been issued, inviting us to meet in Dublin on October 1st or 2d. As the date coincides with the opening of the winter session here, a number of medical men will be unable to accept.

The "water famine," as the scarcity at the East End of London has been dubbed by the newspapers, continues to cause great inconvenience and distress. Many diseases are attributed to this cause by the public, and the conduct of the water company will greatly strengthen the cry for the abolition of the water monopolies and the control of the supply by a single representative body.

The dentists succeeded the dermatologists with a week's meeting in London, where the British Dental Association held its annual meeting. Mr. Canton, the president, dealt in his address with dental education and politics. The great progress made since the dental act has shown how large is the majority of those who have shown themselves worthy professional colleagues, and how desirous they are to put down quackery in their department. A number of careful papers were submitted and discussed. There was a reception at the College of Surgeons, the buildings having been granted by the council for this purpose. Of course there were a dinner, a garden party, and an excursion, to none of which did I go. The most interesting part of the scientific proceedings was, perhaps, the demonstrations. Microscopic preparations, micro-photographs, skiagraphs, and diagrams abounded. The association numbers nine hundred and thirty members, but there are several other societies devoted to the cultivation of the dental art, the oldest being the Odontological, which dates from before the act of 1878, the mark of a new dental era in England. Next year the association is to meet in Dublin.

The report of the inspector under the vivisection

acts for 1895 has been issued. There were three hundred and seventy-five experiments performed under license, excluding hypodermic injections and inoculations, which numbered twenty-seven hundred and forty-four. These last have really no claim to the title of vivisection, and it seems absurd to subject to supervision practically painless proceedings which are daily undertaken on our patients without the faddists objecting.

Dr. F. R. Cruise, of Dublin, has received a knighthood, to the satisfaction of his brethren.

Yesterday—no, the day before—the Chemists' Exhibition offered a great number of articles of interest to medical men for inspection by all and sundry.

The death, on August 11th, of Mr. P. Y. Gowlland, F.R.C.S., removes a personality much respected among leaders of the profession. He left Finsbury Square, where he had practised some forty years, on his retirement two or three years ago. He was assistant surgeon and teacher of anatomy at the London Hospital for a few years in his early career, but became surgeon to St. Mark's Hospital for Fistula, from which circumstance he devoted his powers to the specialty of which he was for so long the chief ornament. As a teacher he was popular with students, and regret was felt when at quite an early age he resigned from the London Hospital. This step, however, was necessitated by his great success in practice and his devotion to his specialty, which prevented him giving to the work of teaching the time and energy which he felt were due. Mr. Gowlland was an artist and would rapidly sketch whatever he was demonstrating. He drew and painted his most interesting cases, and so accumulated an immense number of pathological illustrations of diseased conditions of the rectum and adjoining parts. I knew him well enough, and in looking over his collections discussed with him which would be best for publishing. Once I selected to illustrate some important points a certain set which he had shown me and which he acknowledged should be published. I arranged, too, for these to be lithographed for him while he committed to paper his comments upon them. But he was always too busy to do so, and the matter remained in abeyance. He was almost fastidious in this kind of work, and his efforts to combine accuracy with artistic finish often resulted in his dissatisfaction with work for which others had only admiration. He was a keen sportsman, and when he could take a holiday it was with gun or line that he passed his time. Circumstances separated us for some time, and he retired and took a house at the West End. And now at seventy-two years of age he has joined the majority, leaving a widow and a married daughter. His son died several years ago, to the lasting regret of his parents and sister.

THE MORPHOLOGY OF THE BLOOD IN TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In connection with the presentation of Dr. Holmes' and my papers in last week's issue of the MEDICAL RECORD, will you please announce the action of the Colorado State Medical Society in renewing the award and continuing the committee, of which I have the honor to be chairman, to give a prize of one hundred dollars for the best essay on the detection of tuberculosis by the microscopical examination of the blood. Of course, the award is altogether too small, considering the labor and skill required to accomplish this task, and should another society, or any individual wish to increase the amount, the committee will be only too glad to watch over the contribution and see that it be not unworthily bestowed. The task requires not only that the disease

shall be diagnosed by the blood examination alone (practically without the patient being seen), but that the various manifestations of tuberculosis shall be differentiated, and that the system of calculation as well as the technique of procedure shall be plainly elaborated, so that any skilled microscopist may arrive at a similar conclusion.

It is a gratification to have brought so nearly in sight the certainty of accomplishing what I have long thought a possibility. We shall be pleased to have others compete for the honor Dr. Holmes is striving for, and will gladly enter into correspondence with any such. Meantime, I will refer to Dr. Holmes' excellent paper for the reason for this enthusiasm. It is not only the diagnosis of tuberculosis in its various phases which is at hand, but a means to measure accurately the different methods of treatment, not excluding the equal of any yet advanced, that of the preferable climate.

CHARLES DENISON, M.D.

DENVER, COL.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 5, 1896:

	Cases.	Deaths.
Tuberculosis.....	199	88
Typhoid fever.....	28	8
Scarlet fever.....	22	4
Cerebro-spinal meningitis.....	1	1
Measles.....	26	4
Diphtheria.....	142	27
Small-pox.....	0	0

A Portable Crematory for incinerating the bodies of those who die in battle has been invented by a Polish engineer.

Progress.—"Medical science has made such progress," said the doctor, when speaking of his profession, "that it is almost impossible for anybody to be buried alive now." Then he wondered why everybody laughed.—*Boston Courier*.

Nature's Sarcasm.—People laughed a few years ago when the worst-diseased herd of cattle in a New England State were found on the farm of its agricultural college. The valuable animals were killed and the State stood the loss. So now people laugh when they read the reports of the ravages of the army worm here and there and notice that the greatest destruction it has caused in this State is on the farm of our State Agricultural College at Kingston.—*Providence Telegram*.

Sufficiency of Milk after Birth.—Dr. Buchmann (*British Medical Journal*) wished to ascertain the proportion of cases in which the mother was able to suckle her child. Out of the one hundred and twenty-six cases, eighty-three (or 65.9 per cent.) had sufficient milk when discharged between the tenth and twelfth day. The percentages recently reported from Basle and Stuttgart were much lower. More statistics of this kind are called for, as they throw much light on the health and strength of women in different regions.

Results and Methods of Surgical Operations.—Dr. Stimson (*Annals of Surgery*, vol. xxiii., No. 6) draws the following conclusions: (1) It may be confidently expected that, with the aid of assistants trained for and constantly exercised in the prepara-

tions for and the conduct of operations, and with special attention to the cleanliness of the hands, a clean surgical wound will escape infection and will heal without suppuration: but that without such skilled aid, and without the security given by the constant practice of the assistants in hospital, the same measure of success is not to be expected. (2) It is probable that a certain measure of infection by germs in the air, or in the patient himself, takes place in an unknown proportion of cases, but that it is habitually so slight that the resistant powers of the tissues are able to prevent its manifestation and spread. We are perhaps justified in offering the low vitality of the patient as an explanation of the occasional sporadic cases of suppuration that occur in long series of otherwise successful operations. (3) We have in large intravenous injections of salt solution, during or after an operation or a severe injury, a valuable means of averting an impending death by shock or hemorrhage. (4) Habitual immunity from infection creates an operative confidence that may lead to a neglect to give full weight to such warnings or contraindications as might be found in the probable severity of the operation or in the reduction of the patient's vitality, especially in malignant disease.

Puerperal Fever.—Dr. Montgomery (*Journal American Medical Association*, August 1, 1896) advises early curettement. If the condition is due to putrid intoxication this procedure, followed by irrigation and drainage, will give prompt relief. In streptococcus infection the germs are embedded in the mucous membrane, sinuses, and wall of the uterus, so that curettement would not accomplish their complete removal and would afford more surface for ptomain absorption. Hysterectomy has been advocated, but it is a question whether in this form of infection the tissues have not been invaded to such a degree that the removal of the uterus would be ineffectual. The first aim should be the establishment of immunity; then local manifestations should be treated as they make their appearance, with the assurance that farther spread will be avoided.

Gastric Ulcer.—Dr. Deale (*Maryland Medical Journal*) writes: "It was a surprising revelation to me that numerous autopsies have shown gastric ulcer to be present, either in the fresh state or as healed cicatrices, in from two to five per cent. of deaths from all causes, and it is only fair to add that the proportion approximates nearer the latter (five per cent.) than the former."

Death after Flooding.—Dr. Tarnier (*Asclepiad*), after pointing out that forceps are seldom or never used in accouchement except in uterine inertia, a source of hemorrhage, and giving an instance or two of the necropsy of women who have died after flooding which was not profuse enough to deplete the circulatory system, advises physicians to be slow in finding fault with a colleague for losing a patient after flooding, as it frequently happens that a healthy-appearing woman may have some radical organic affection coexistent with pregnancy, which may carry her off without the flooding being to blame.

Care of Premature Infants.—Dr. Gilbert, before the Kentucky State Medical Society, June, 1896, said that statistics show that twenty per cent. of infants born at sixth month have survived, thirty-five per cent. at seventh month, and at eighth month eighty-five per cent. It is too often the custom to turn premature infants over to old women, without any attention. A physician is inexcusable if he allows a premature infant to die from sheer neglect. To preserve life especial attention must be paid to the maintenance of bodily temperature, proper feeding, prevention of injury by handling. The temperature should be main-

tained at 100° F.; evaporation of moisture goes on from the body no matter how closely it is wrapped in cotton or clothing. Incubation is the best method of maintaining bodily temperature. The apparatus recommended consists of two tin boxes, with a two-inch space between for warm water. The water is heated by a coal-oil lamp placed under a small copper water box connecting with a water chamber by small pipes. The top of the box is open to allow the infant air and light. Any tight box may be improvised. Feeding is important, mothers' milk being the best food: lavage may be used. A mixture which has proved successful in the author's hands is as follows:

R Sweet milk, fresh	ij.	60.
Cream, fresh	iiij.	90.
Warm water, sterilized	x.	300.
Sugar of milk	℥i.	4.
Common salt	℥i.	1.30

This should be diluted for a premature infant. The infant after birth should be anointed with warm lard, the vernix having been wiped off; no water should be used at the first cleansing, nor should the infant be washed until it is three weeks of age.

Ectopic Pregnancy.—Dr. MacMonagle (*Southern California Practitioner*, May 26th), from a review of the literature on this subject and from his own experience, draws the following conclusions: 1. A large majority of ectopic gestations begin in some part of the tube. 2. Pain is an important and almost constant symptom. 3. A growing ovum must burst the tube. 4. Rupture must take place into either the peritoneal cavity or the broad ligament. 5. When discovered, ectopic pregnancy should be operated on as soon as arrangements can be made for a careful and perfectly aseptic operation. 6. An exploratory incision is justified when there is a reasonable assurance of ectopic pregnancy. 7. Rupture into the peritoneal cavity, with hemorrhage, demands operation at once. 8. The suprapubic operation is the best in a large majority of cases. 9. The vaginal operation should be chosen in the cases in which one feels sure the mass is well walled off from above and can be easily reached from the vagina. 10. In doing the vaginal operation one should be prepared to complete it from above in case of complications. 11. Early operation and removal of the tube, sac, and contents will give the best results.

Cocaine in Surgery.—1. The use of cocaine should not be abandoned because its irrational employment has produced deleterious results. 2. Always make a thorough physical examination of the patient before injecting the drug. 3. It should not be used in cases showing organic diseases of the brain, heart, lungs, or kidneys, or in persons of neurotic diathesis. 4. Children bear it fully as well as adults. 5. The patient should always be placed in a recumbent position prior to its employment. 6. Constriction should be used whenever possible to limit the action of the drug to a desired area. 7. Use a freshly prepared solution for each case. 8. Distilled water should always be employed, to which phenic, salicylic, or boric acid should be added. 9. A two-per-cent. solution has a better effect, and is safer than solutions of greater strength. 10. Never inject a larger quantity than one and one-eighth grains when no constriction is used. 11. About the head, face, and neck, one-third of a grain should never be exceeded. 12. When constriction is possible, the dose may be as large as two grains. 13. Every slight physiological effect is not necessarily to be taken as cause for alarm. 14. Cocaine does have effect upon inflamed tissues. 15. In case alarming symptoms occur, use amyl nitrite, strychnine, digitalis, ether, or ammonia.—*Codex Medicus*.

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Original Articles.

THE TREATMENT OF PNEUMONIA.

By W. N. MACARTNEY, M.D.,

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THE editor of the *MEDICAL RECORD*, in the issue of December 1, 1894, says that "many drugs have a reputed value in pneumonia, but none are yet accepted as in any sense standard remedies in the disease," and there can be no doubt of the truthfulness of this statement. During the past fifty years the treatment of pneumonia has passed through many phases, radical in their nature, from free venesection down through tartar emetic, veratrum viride, and a host of other "cures" to the more modern digitalis treatment, the supporting and expectant plan, or the germ-from-Germany sero-therapy.

Much has been written on this subject, and rightfully, since no disease merits more careful attention. Pneumonia is an extremely common disease; it is found in all countries and in all parts of our own country. Every practitioner is familiar with it—perhaps too familiar with it, for its prevalence and fatality are often taken as a matter of course, although the death rate from this malady is simply enormous.

The ravages made by this disease were forcibly brought home to me in looking up the statistics in my own locality, when I found to my surprise that pneumonia headed the list of fatal diseases during the previous decade, with consumption second, while diphtheria, then epidemic and causing from its severity much alarm, took a low third place. That our experience was not an isolated one was also apparent, for statistics from various localities, which it is unnecessary to dwell upon at length, showed this. Delafield, for instance, gives the proportion of deaths from pneumonia in the States above the thirty-ninth parallel as 61.43 per thousand deaths, while below that parallel it is 93.70. If this were not enough, Miller states that during the past ten years 15,544 deaths occurred from respiratory diseases in the Moscow Orphan Asylum, in a total of 155,459 deaths from all causes, and that of these 14,411, or 92 per cent., were from pneumonia. In the city of New York, to quote a more recent example, the mortality during the four weeks beginning March 1 and ending March 28, 1896, the reports being issued weekly, not by months, was 658, while the mortality from consumption, the next highest on the list, was but 409. The total fatality from small-pox, measles, scarlatina, diphtheria and croup, whooping-cough, typhoid fever, malarial and cerebro-spinal fever during this length of time was 363. It will be seen at a glance that the death rate in the great metropolis during these four weeks exceeded the sum total of the mortality from all zymotic diseases by more than eighty-one per cent., and that this is not an exceptional instance can be easily verified by a study of the records from month to month. March reports from Philadelphia show much the same death rates.

Walshe gives this affection the third place in the catalogue of fatal diseases. On what grounds this es-

timate is based I cannot say, but undoubtedly of late years it would stand much higher, owing to its greater prevalence in connection with the grippe. Certainly all records which I can find would go to show that at present pneumonia has the greatest fatality of all diseases in this broad land of ours. Have we become so accustomed to this appalling mortality that it excites no comment? It would seem so, for should one-tenth the number of people who die annually of pneumonia in the United States lose their lives from Asiatic cholera or in a Johnstown flood, the country would be wild with horror. True, the latter would be to some extent preventable deaths, but can nothing be done to diminish the enormous mortality from this one pulmonary disorder?

During the years 1890-1896 pneumonia prevailed to an unusual extent in northern New York, owing in a large measure to its association with epidemic influenza. Previous to 1892 I treated pneumonia after established methods, or at least after modern and popular methods. The keynote of the treatment was to support the patient until the crisis was passed. Poultices were applied, with cotton-batting jackets, absolute rest, nutritious fluid food, stimulants, etc. Various drugs were used, as seemed indicated—quinine, Dover's powder, aconite, digitalis, etc. Phenacetin, acetanilid, and other coal-tar derivatives were tried, but soon abandoned as decidedly injurious and unsafe. The fever went down under their use. The patient frequently followed.

Under this general supporting plan of treatment, based on the view that pneumonia was a self-limited disease, and the chief object of treatment was to keep the patient alive long enough to allow the disease to run its course and spend its energy—a plan of treatment which I was taught at college, a plan which I had afterward seen followed in the hospitals, a plan of treatment which most of our modern text-books commend, and which is generally endorsed by the profession at the present day—under this general method, based on the doctrine of self-limitation, my mortality was about sixteen per cent., as nearly as it could be estimated, for up to this time I had kept no very accurate record of my pneumonia cases.

On looking up statistics, I found the mortality estimated variously. "Hospital statistics show twenty to forty per cent." The Montreal General Hospital gave a mortality of 20.4 per cent. Of 3,969 cases at Charity Hospital, New Orleans, 28.01 per cent. died. The Massachusetts General Hospital records, according to Drs. Townsend and Coolidge, showed a mortality of 28 per cent. of late years. These statistics should have comforted me, and they did to some degree afford consolation; but the mortality in the Massachusetts General Hospital from 1822 to 1832 was shown to be but 10 per cent., while the reasons advanced for the increased fatality in the later years seemed to me unsatisfactory. According to the report, when the intemperate, the aged, and the complicated cases were excluded, the mortality was reduced from 28 per cent. to 10 per cent., which, if an inherent feature of the disease, was still a high mortality.

The closer my scrutiny of all available records the more dissatisfied did I become, and my own death rate,

though averaging well, seemed unnecessarily large. For these reasons and others, my confidence in the etiology and treatment of this disease was so shaken that for a time I followed no definite mode of treatment, but tried various methods or treated the cases symptomatically, while eventually the result of this state of uncertainty and skepticism was a radical and sweeping change in my general manner of treating this affection.

The central idea of the modern management of pneumonia is, if I judge correctly, that this being a self-limited disease, due to germ infection, the treatment in accordance with this theory should be to place the patient under the most favorable conditions, keeping up his strength until the disease runs its course. In other words, the treatment is purely expectant or symptomatic, as the case may require. This view is in marked contrast to that held years ago, when pneumonia was considered an inflammation of the lung tissue, venesection and depletion being in vogue. Which is right? Statistics certainly do not prove very much for our later-day methods, and between the two extremes there may be some truth.

What is the specific cause of pneumonia? It is perhaps safest to say, *sub judice lis est*. The pneumococcus of Fraenkel is given as the immediate and direct originator of croupous pneumonia; but the pneumococcus also occurs in catarrhal pneumonia, in middle-ear disease, in endocarditis, in cerebro-spinal fever, in pleuritis unconnected with pneumonia. It seems to be normally found in the human mouth. The bacillus of Friedländer, bacillus of influenza, streptococcus pyogenes, and staphylococcus also "cause" pneumonia. Certain cases also have been reported as due to the proteus vulgaris and the bacterium coli commune. The microscope and the culture tube have so far given us nothing we can rely on, and the evidence we have is altogether too vague, too indefinite, to be accepted as absolute proof of the microbic origin of this malady.

Clinically, also, there are many things which require explanation if pneumonia is to be regarded as essentially of microbic origin. Why does it occur so commonly in the later stages of exhausting diseases, in old age, in connection with cardiac disorders? In 1888 I treated a case of dilatation of the heart through four attacks of pneumonia within a period of three months. Why should one attack predispose to others? Why should it occur so often after fracture of the neck of the femur? What is its mode of infection, its period of incubation?

Why can it be aborted or jugulated if it is a germ disease? But some say pneumonia cannot be aborted. Osler, for instance, says, in his "Practice," p. 529: "Pneumonia is a self-limited disease and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any known means at our command." This is a very strong declaration for even a man of his reputation to make. It is a statement, moreover, which is opposed to the assertions of men such as Austin Flint the elder, and others, who say that pneumonia can be aborted and that they do abort pneumonias. "We must never assume that which is incapable of proof," says Lewes, in "The Physiology of Common Life," and the position which Osler takes is untenable. "There is a difference between assertion and demonstration," as Macauley remarks, and the assertion that pneumonia cannot be cut short is, on the face of it, too sweeping and practically insusceptible of proof, for in order to establish this it would be necessary to show that no case of pneumonia ever has been or could be aborted, a thing manifestly impossible to demonstrate, requiring as it would an accurate knowledge of every case since Adam and Eve left paradise. *Per contra*, proof that a single

case has been jugulated by medicine or other means is amply sufficient to disprove Osler's assertion.

Many authors there are who uphold the theory of jugulation. All are not so conservative as Flint, who says: "The disease is self-aborting or may be aborted in some cases." I venture to say that there are few physicians who have not seen pneumonia cut short in its early stage. Within the last three years I have treated one hundred and twenty cases of pneumonia, and of this number sixty-seven, or 55.8 per cent., were cut short, not running their full course. Many of these were already well marked at my first visit, with all the physical signs and symptoms, and to say that in 55.8 per cent. of the cases there was a mistake in diagnosis could hardly be called argument.

Some practitioners may never have seen pneumonia cut short, and dead-house statistics will probably substantiate them. There are individuals who have never seen partridges "drumming." They don't drum much in confinement, nor would one readily discover how they do it by examining them ever so carefully as they hang by their legs, heads down, in the market. So, too, it is not easy to demonstrate by post-mortem examinations that pneumonia is ever jugulated, for these patients, unfortunately for dead-house statisticians, get well when the pneumonia aborts. Yet this does not prove that partridges never drum or that pneumonia never aborts, some of our modern authors to the contrary notwithstanding. Too large a number of able diagnosticians, careful observers, logical reasoners, have seen pneumonia cut short, to allow us to give such assertions as that of Osler's credence.

If, on the other hand, pneumonia can be jugulated, how reconcile this with the orthodox doctrine of the pneumococcus of Fraenkel *et al.*? Can we sweat out small-pox or typhoid in a few hours, or have we a new-style, unique, law-unto-itself sort of a germ to deal with—a germ forever sitting in our outside gates, a germ which threatens the very citadels of life when once admitted, which defies antiseptics, eludes inoculation, laughs at "trinity pills," but subsides quietly and at once when the circulation is equalized? Surely a strange germ and an outlaw from its kind.

Is pneumonia infectious, contagious, or both? Probably it is in the pathological laboratory; it has hardly been satisfactorily proven by clinical records. Certain instances are given in which several in the same family or closely associated have developed the disease about the same time. I have a case in point. Three persons—a man, his wife, and an adopted daughter—living in a farmhouse some distance from the road, were taken with influenza. There were but two beds in the house, one of which was usually occupied by the old couple, the girl sleeping in the other. A neighbor calling in found all three sick, and I was summoned. The woman was then suffering from pneumonia of two days' standing, while the man had pneumonia also of more recent origin, and on the following day the girl developed the same malady. The woman died, the other two recovering. It seemed a clear case of pneumonic infection, possibly of contagion; yet on closer scrutiny it appeared that in the beginning the wife as nurse had put the husband and daughter in the two beds, and she herself, the subject of the grippe, had slept on a lounge. She then developed pneumonia, took the bed occupied by her husband, he assuming charge. Then the husband came down with pneumonia while reclining on the lounge, and the girl arose, gave him her room, took the lounge—and pneumonia. It was ascertained that all three of them had developed the pneumonic process while lying, with lungs irritated and congested by the grippe and their systems depressed by it, on the couch next an outside wall, in rough February weather, with the thermometer many degrees below zero, and with a wide crack in the wall just below

the level of the lounge, through which the cold wind was freely blowing. Were these people the victims of infection by the diplococcus pneumoniae? They may have been. Equally true, Mars may be inhabited. But the crack in the wall was there; it did not require a high-power objective for demonstration.

Then there are instances of epidemics of pneumonia in barracks and prisons. These require more thorough investigation before they can be accepted as proof positive of its infectiousness, especially in view of the possibility that some other infective agent may have been at work. In some epidemics of scarlatina nearly every case develops nephritis, yet we are hardly warranted in considering nephritis either infectious or contagious.

Pneumonia may be an infective disease with a period of incubation extremely short and a specific organism as a causative agent. I am too thorough a believer in the germ theory in general to deny this, but a safe assertion would be that at the present day we do not know its cause. This certainly is safer than assuming a knowledge which we do not possess. More light is needed before we accept theory as fact. Theory is all well enough as theory, but it is well to remember that it is not proof, and while the theory of the bacterial origin of this disease has been furnished, the proof is still incomplete, the obstacles in the way of the unqualified acceptance of it being many and troublesome.

What is the cause of the great mortality in pneumonia? Is it an inherent and essential feature of the disease? Is it that the disease is necessarily fatal in about one out of four average cases? Are our methods of treatment faulty? Because of the enormous mortality solely from this one disease, this is a subject well worthy of careful and lucid consideration. To one who keeps an eye on the obituary column in our medical journals, it would seem to be a disease peculiarly fatal to physicians, and that, verily, when we have pneumonia,

"To our graves we walk
In the thick footprints of departed men."

Austin Flint says: "The treatment is in the main supporting; . . . support the powers of life." According to Loomis: "The success of modern methods of treatment based on this belief bears evidence to its being a general self-limiting acute febrile disease." The success of modern methods has been shown as a mortality of one out of every four cases. Loomis himself fell a victim to the disease, and the "evidence" which the "treatment based on this belief" bears is like the handwriting on the wall.

"And we shall feed like oxen at a stall,
The better cherish'd still the nearer death."

Why should the treatment be supporting? Practically all authors are agreed that the usual cause of death is cardiac failure. Is this heart failure due to exhaustion? It is a matter of common observation even among the laity that robust people are often seemingly overwhelmed with the disease; that it attacks the vigorous as well as the delicate. Does a strong, robust, well-nourished man die of exhaustion on the fifth or sixth day of a typhoid fever? Does he not, on the contrary, usually live through four weeks of high fever on a liquid diet (or something lighter still if the fasting treatment of Dr. Page be followed), and eventually recover? I have seen patients dying of pneumonia when their muscular strength was at the time greater than that of their medical attendant, as evidenced by the force required to restrain them in their delirium; in whom the pulse was full and strong up to the time of the superaddition of congestion and œdema. In com-

parison with that other acute febrile disease, typhoid, does it seem that they died of exhaustion on the fourth or fifth day? Is this common sense?

On the other hand, if the high temperature disorganizes the heart muscle, why does it act so rapidly in pneumonia and so slowly in typhoid and other febrile disorders? When a pneumonia patient is *in extremis*, due to a temperature of 103° F. for four or five days, if phenacetin or acetanilid is given and his temperature is thus reduced, will that lessen his tendency to cardiac failure or increase it? Pepper says the cardiac exhaustion is due to the poison of bacteria. But what leucomain is produced by the pneumococcus which is so prompt and powerful a cardiac poison as to produce these rapid effects? Has this morbid agent, this powerful toxin, toxalbumin, or pneumotoxin been demonstrated? Theory is not proof. Speculation and conjecture are not evidence.

The patient certainly does not die of pulmonary or respiratory failure. Pleurisy gives us no such mortality, nor does it cause death by respiratory exhaustion, even though one lung is compressed by fluid effusion into a small space the size of a hand. Empyema does not kill in five days, though the fever may be high and an entire lung rendered useless, with septic intoxication added. In New York City, during the week ending March 28, 1896 (the latest available report), to contrast the deaths from pneumonia with those from pleurisy, there were one hundred and eighty-two deaths from the former, one from pleurisy, none from empyema. Phthisical patients do not die of respiratory failure, though the lungs may be extensively disorganized. Careful observations at the bedside show that respiratory failure is not the cause of death in pneumonia in the vast majority of cases.

What kind of heart failure is it that kills off the robust and the weak in such appalling numbers? Much has been written of the morbid anatomy of pneumonia, of the consolidation of lung, the fibrinous exudate into the air vesicles being minutely described and dwelt upon, while the vascular changes are dismissed with a few words descriptive of the hyperæmic condition. Prior to hepatization many of the air vesicles are collapsed from the pressure of the swollen and tortuous vessels. The exudation occurs with the stage of hepatization. Is the exudate the cause of the hyperæmia or the effect? Virchow has proved that pneumonic processes can be established when large branches of the pulmonary artery are plugged. It is thoroughly understood also that passive pulmonary hyperæmia of long standing, due either to cardiac affections or to hypostasis, leads to the establishment of pneumonic processes. Sudden chilling of the surface, driving the blood to the internal organs, is the commonest exciting cause under which slowing of the pulmonary circulation from congestion results; the lungs, being spongy, elastic organs, furnish a point of small resistance. Stasis should be followed by exudation into the alveoli. Exudates occur in thrombosis and in circulatory disturbances in general; the exudates are dependent upon the circulatory changes, and absorption is rapidly resultant when the circulation is re-established on normal lines. How else but in some similar way can we explain the quick clearing up of a lung consolidated by pneumonia? The inflammatory theory will not explain it, for this is not the course of an inflammation. It is an open question, therefore, if too much attention has not been paid to the exudate into the air sacs and not enough to the vascular changes. Certain it is that we have a coagulative process resembling in some respects venous thrombosis in the suddenness of its occurrence, in the vascular changes resulting, in the fact that we have venous blood in the pulmonary artery as a circulatory medium. We do not understand the pathology of phlebitis. Neither

do we understand that of pneumonia. Let us be as candid in the one case as in the other.

It seems to me that Ribbert, of Bonn, makes a centre shot when he states that "pneumonic processes are attended with coagula within the blood-vessels in the form of fibrous thrombi, and within the capillaries." Osler says: "If the lung has been removed before the heart, it is not uncommon to find solid moulds of clot filling the blood-vessels. . . . The heart is distended with firm, tenacious coagula, which can be withdrawn from the vessels as dendritic moulds. In no other acute disease do we meet with coagula of such solidity and firmness." Other authors have it that the pulmonary vessels may contain thrombi with fibrin formations in the capillaries of the portion of lung affected with the pneumonic process. The enormous increase in the fibrin factors has long been known. Given this condition referred to, and the exudate must follow. Which is the primary process and therefore the more important?

Delafield says: "The pressure of exudate on the blood-vessels may cause necrosis of the pulmonary tissue with resulting gangrene." It seems difficult to prove that the necrosis is brought about in this way. Plugging of the pulmonary vessels may occur and the exudate may follow; and the pressure of this exudate on the bronchial vessels which furnish the remaining blood supply might be sufficient to cause gangrene. Looking at it in this way, it would be a logical sequence.

Pneumonia is largely fatal in proportion to the extent of lung structure involved. Some authors deny this. Perhaps they prefer double pneumonias to one-sided—most of us do not. Why this fatality when much lung is involved? The answer is, obstruction to the pulmonary circulation. If the primary trouble in pneumonia were circulatory, it would explain many things otherwise difficult of comprehension. It would make manifest Loomis' statements that "most sudden deaths in the old are from acute lobar pneumonia," and that "nine-tenths of all deaths after the sixty-fifth year are caused by lobar pneumonia." One author asserts that "pneumonia is the natural death of the old man." It would account for the suddenness of onset of pneumonia, its occurrence after exposure, in connection with cardiac diseases, in long-continued fevers, in cases of fracture, of debility; it would render intelligible the almost miraculous way in which resolution of the consolidation takes place in so short a time; it would make plain the cyanosis and the heart failure; it would make clear much which under accepted views is difficult of elucidation.

It is far from the purpose of the writer of this paper to formulate a new theory of the essential and specific cause of pneumonia. The etiology of this affection is still involved in obscurity and the various theories offered are far in advance of the facts so far established. We need more painstaking investigations and less airing of individual opinions, but there is good reason to believe that the morbid process, whatever its origin, is more a circulatory than a strictly febrile or inflammatory disturbance and the view that the primary seat of the pathological process will be found eventually in the vascular mechanism of the lung, rather than in the air vesicles, commends itself to a sober judgment. In the absence of further knowledge of the various pathogenic bacteria of pneumonia and the precise rôle they play, they may be for the present disregarded as not essential to the purpose of this paper. From the point of view that the disease process is circulatory the fibrinous exudate in the air-cells is of small importance. See how quickly it will disappear by absorption when the circulation is re-established. Take the ligature from around your finger and watch the swelling subside. Cardiac failure, not

respiratory failure, is to be feared, and we need to study the circulatory changes, not the fibrinous exudate.

Given stasis from fibrous thrombi in the vessels of a portion of the lung, and what would occur in natural sequence? Increased labor thrown on the heart. Not on the heart as a whole, but on the right heart, the light horse in the team. Ordinarily its work is not difficult, its circuit being short and easy. It pumps blood through the pulmonary artery, through spongy lungs, back into the left heart. There is little necessity for thick muscular walls: therefore its walls are thin. The left heart on the contrary is strong and muscular, for it has a long difficult circuit, up-hill, down-hill, and back again. It must be thick and strong. But the right heart has comparatively little lifting to do ordinarily. Then, if with pneumonia we have fibrin formations or other obstructions in the capillaries and pulmonary vessels of an extensive area of lung tissue, congestion perhaps of the remaining portion, possibly thrombi in the pulmonary vessels, or perchance pressure on the vessels from the exudate, insufficient, however, to cause necrosis, but enough with the rest seriously to embarrass the lesser circulation and heavily to tax the right heart, then what naturally follows in severe cases? Circulatory disturbances from pulmonary obstruction, collateral hyperæmia and œdema, fulness of the pulmonary artery from the obstruction, and—the beginning of the end—dilatation of the right heart, which labors and struggles. The natural outcome of this is fulness and damming-up in the vena cava superior and inferior, the right heart being unable to force the blood through the obstructed lungs as freely as usual, while the left heart, unhampered, is filling the veins and sending more blood to the right. Then comes the increased enlargement of the liver and spleen: the brain is congested, engorged, and delirium occurs. The right heart dilates further until possibly the valves no longer are competent; the heart, distended and choked with its own blood, is failing rapidly. We may now have a dicrotic pulse from insufficient filling of the vessels on the farther side of the barrier. General venous congestion with increased hyperæmia of the lungs, cyanosis from the venous accumulation, is next in order, while, the blue blood acting on the respiratory centres in the medulla, the breathing is more rapid, labored, and irregular. The fibrin factors being increased four hundred per cent., the struggling heart whips up the slowed blood current until, as a natural result, heart clot may follow.

Death is due to heart failure—not to heart failure as a whole, but essentially and specifically to failure of the right heart, and this right-heart failure is not due to fever, exhaustion, lack of oxygen, nor to septic poisoning, but is the legitimate result of a blockade in the pulmonary circulation. In other words, the right-heart failure is due directly to interference with the work of the right heart. When it is remembered that the right and left hearts are to a large degree separate pieces of mechanism, that the obstruction in pneumonia is in the lesser circulation, and that the right heart is the weaker, it seems almost trite to say that the cardiac failure is a right-heart failure; but when this doctrine is more fully established, its importance more generally recognized, and when the treatment is remodelled on this central idea, the mortality from pneumonia will be much reduced and phenacetin and acetanilid will be discarded in pneumonic cases.

As I have previously stated, the mortality in the first series of cases was about sixteen per cent. In the second series of one hundred and twenty consecutive cases, treated after the general method which is about to be described, the mortality was two, or 1.66 per cent. This list includes all cases, treated since

the time referred to, in my general practice. Cases seen in consultation, but under other plans of treatment by their attending physicians, cannot properly be included among my own cases and are therefore omitted. The cases constituting this series occurred in the same locality, under practically identical conditions, with the same nursing and hygienic surroundings, and so far as I can judge were of the same general severity as those previously mentioned. The sole difference was in the treatment. Certainly many of them were severe enough, so severe that I frequently gave an unfavorable prognosis, in the light of previous experience, and yet they recovered. Many of the patients were aged, a number being in their eighties. Some were feeble: some were alcoholic. A large number had double pneumonia. There were two cases of contusion pneumonia complicating fracture of the ribs. Some had typhoid pneumonia. Some pleuro-pneumonia. Several cases followed whooping-cough, others measles. Three cases occurred in asthmatics. Two were followed by pulmonary abscess. Acute or chronic cardiac diseases occurred in connection with many cases. Two were complicated with jaundice; in each instance the jaundice appeared on the fifth day of the pneumonia and was followed by a sudden and unexpected drop in the temperature with rapid disappearance of the pneumonic consolidation. Contrary to the opinion of some authors, that jaundice is always a fatal complication, both of these patients recovered. Of the one hundred and twenty cases relapse occurred in one abortive case and in one which ran its full course.

Of the two fatal cases, the first was that of a child two years old, whom I had treated the year previously through a run of pneumonia. In her second year, while suffering from whooping-cough, she developed measles of a severe type, an epidemic of the latter disease prevailing. With the measles she had a general bronchitis and then a double pneumonia. This little patient lived six miles away, at a time when the roads were almost impassable, and daily visits were sometimes out of the question. She struggled on to the ninth day of her pneumonia and died. I sincerely believe that had she had good nursing and constant medical attendance she might have recovered.

The second fatal case was that of an old lady, seventy-nine years of age, with a feeble dilated heart, rheumatic endocarditis, and general dropsy. I saw her some weeks previously to her pneumonic attack and sent for the priest at the time, as her pulse was feeble, irregular, and intermittent. She would not take medicine for her cardiac trouble, as she said she wanted to die, having outlived her usefulness. She would not have a nurse. She took the pneumonic chill one Sunday several weeks later. I saw her for the first time in this trouble on the Wednesday following. When I arrived the patient was dying. This patient died really of cardiac disease which ran on to its legitimate conclusion, owing to the fact that neither threats nor persuasion could induce her to take her medicine or any reasonable precautions.

In the whole series the plan of treatment was fairly uniform and it had at least the merit of simplicity. Comparatively few drugs were used, and the chief reliance was placed on free and long-continued diaphoresis. The history of an ordinary attack of pneumonia is that of a sudden chill with internal congestion, the chill being more constant and severe than in any other acute disease, and a rational treatment is to bring the blood again to the surface and equalize the circulation. The routine treatment was as follows: the patient was put to bed: four or five bricks were heated hot, dipped in hot water, wrapped in dry cloths, and placed around him: he was then covered with blankets and kept in a profuse perspiration for from four to forty-eight hours, depending upon the effect of the

treatment. If the temperature went down to normal, he was allowed to dry off slowly. He was not dried off with a towel nor permitted a change of linen. I considered it wiser that the patient should lie in the wet clothing until the temperature was normal, not only to guard against exposure to the air, but because the wet clothing assisted in reducing the fever by evaporation and conduction. The principal reduction in temperature was, however, undoubtedly effected by the diaphoresis, for with the occurrence of the latter the fever fell, the patient breathed easily, and the pneumonic process subsided.

As mentioned in a preceding paragraph, sixty-seven of these cases were aborted. A large proportion were seen reasonably early, with the result that they had a normal temperature, freedom from pain and cough, and easy respiration in a few hours; others yielded only after two days of sweating and a mercurial purge. I am fully convinced that many cases which ran their full course would have been jugulated had the treatment been instituted early enough and faithfully adhered to. In the absence of a nurse it was often difficult, at times impossible, to have the treatment properly carried out with young children and with refractory patients. Human nature seems prone to attach more importance to the administration of drugs than to the other equally necessary measures, and frequently the sweating was not thoroughly done though the medicine was given exactly on time.

If treatment was begun early enough, say within twenty-four hours after the inception, the disease was usually aborted readily. Occasionally it could be cut short when the lungs were completely consolidated and the brick-dust sputum copious. Typhoid pneumonias and pleuro-pneumonias alike yielded.

Free diaphoresis counteracts the effect of the chill by its action on the vasomotor system, bringing the blood to the surface. The cutaneous vessels dilate; internal congestion is thereby relieved; effete matter is thrown out; the volume of the blood is diminished by the water poured out through the skin, amounting to a very considerable quantity, as a rule; and the normal circulation is restored. In internal congestions the action of diaphoresis is in many respects similar to that of venesection.

More than this, diaphoresis is pre-eminently *the* antipyretic in pneumonia. In these days, when coal-tar antipyresis is being condemned and hydrotherapy lauded, we are in danger of overlooking nature's great antipyretic—not cold baths, but free perspiration. A moment's reflection, particularly on a warm July afternoon, will convince any one of this. Dalton, in his "Physiology," says "the most direct and simplest means of moderating the temperature of the body is that by the cutaneous perspiration." Michael Foster also states that "the great regulator (of animal heat) is the skin; . . . any action of the vasomotor mechanism which by causing dilatation of the cutaneous vascular areas leads to a larger flow of blood through the skin will tend to cool the body." Theoretically it is unnecessary to elaborate this idea. We are all familiar with it; in this all physiologists are agreed; but in practice many of us overlook it. When we induce perspiration in pneumonia we do much more than reduce the temperature in nature's own way, and, important though this be, the good effect is largely due to the circulatory changes induced.

Drugs played but a small part in the treatment. Quinine was given at times; also Dover's powder, to assist in promoting perspiration and for the moral effect; occasionally hot drinks until diaphoresis was established. So far as my observations go, simple diaphoresis by vapor baths was as effectual as when resultant from the use of drugs, and in my judgment quinine did not produce antipyresis except by the

diaphoresis induced. In other words, the temperature was reduced in proportion to the amount of perspiration it caused, not in proportion to the dose, and the statement of Bartholow, that in acute febrile disorders quinine reduces temperature by depression of the heart and arterial tension, by suspension of the oxidizing power of the blood, and by the inhibition of the white corpuscles, was not borne out.

I think this general law holds true, and explains the action of Dover's powder, veratrum viride, aconite, acetanilid, phenacetin, and many other drugs used in pneumonia, including carbonate and muriate of ammonium, which according to the older writers are good diaphoretics. Even tartar emetic is a powerful sweater under favorable conditions (W. H. Thomson, Pereira, etc.). We have most contradictory reports regarding some of these agents. Some physicians obtain remarkably good results from them; others say they are useless or injurious. Conscientious observers do not knowingly misrepresent these matters. It is altogether probable that the good effects of veratrum and aconite, for instance, are not due to the reduction in pulse so much as to their diaphoretic action. Acetanilid and phenacetin seem to have been used successfully at times. It is possible that the profuse sweating characteristic of the action of the latter drugs in fevers may be beneficial in the early stage of pneumonia, when the heart is still vigorous, but they are treacherous agents.

All these remedies, it will be remembered, are diaphoretics, vigorous diaphoretics. Ellis says, in regard to pneumonia, "when perspiration occurs and the pyrexia is manifestly less, I discontinue the aconite;" and Ringer states, in speaking of this drug, that "if the aconite is given at the earliest stage, when the chill is still on the patient, the dry, hot, and burning skin becomes in a few hours comfortably moist, and then in a little while is bathed in a profuse perspiration, often to the extent that drops of sweat run down the face and chest. With the sweating comes speedy relief from many of the distressing symptoms." If one physician gives aconite for pneumonia, or veratrum in full doses, keeps his patient lightly covered in an airy apartment, while another with the same drug and identical dosage keeps his patient hot-poulticed, wadded with oil-silk jackets, and swathed in blankets with the room at 75° F., it would be absurd to expect similar results. The drug administration would be the same, but the methods of treatment would differ radically.

Poultices I do not use as a routine treatment, believing that the benefit resulting from their use is largely on account of the local dilatation of the cutaneous vessels and the diaphoresis promoted by their application. That they do good is not denied, but I believe that the general application of moist heat is infinitely superior to the local. Poultices also necessitate in their renewal more or less exposure of the patient while in a profuse sweat, a matter certainly troublesome to the patient, possibly hazardous. Moreover, the use of poultices for days at a time all through a pneumonia, until the skin over the chest is soggy and sodden, while the circulation becomes sluggish and the skin water-logged, is certainly illogical and injurious. As a local application for the relief of pain I use them occasionally, but this is seldom necessary, since the pain is usually assuaged as soon as free sweating is established.

In regard to the prostrating effects of the sweating, so far as my experience goes, I can testify that this prostration has never been sufficient to cause the least anxiety. In no case was there collapse. The patient sometimes complained that he felt weak, but also "complained" that he was much better. A weakness from sweating is a form of depression from which recovery is astonishingly rapid, and is surely less seri-

ous than a weakness from fever or from an obstructed pulmonary circulation. It is obvious that the elimination of effete material from the system is not harmful and the loss of water is replaced in a few hours. In this connection it is well to note that the natural way for a pneumonia to terminate is by a critical sweat. Critical sweats are common, too, in intermittent fever, typhus, relapsing fever, and other diseases, and with these crises comes a marked improvement. If nature's method of regulating the body heat is by the sudoriparous glands, surely this treatment is not irrational.

When the pneumonia did not abort, the patient was kept in a moderate perspiration all the way through the pneumonic attack; fluid diet of a light nature and moderate in amount was given as the patient required it; no opiates, as a rule. Calomel, if the liver was inactive, was occasionally given in the ordinary doses and free purgation favored, not losing sight of the fact that certain cases of pneumonia naturally end by a critical diarrhœa.

Strychnine was often used and proved extremely efficacious in the later stages. Some maintain that strychnine acts directly on the right side of the heart, and if this is so it seems strongly indicated. Certainly this drug is a most useful remedy in pneumonia as a reliable cardiac stimulant.

Digitalis was given also in certain cases when it seemed to be indicated. With the mammoth doses now advocated by some writers, I have had little experience. In two cases in which this remedy was pushed vigorously alarming symptoms appeared, and its general use in large doses was discontinued.

The ammonium salts, carbonate and muriate, were frequently given in the cases which were not aborted, in small doses frequently repeated. These ammonium salts moisten the skin, promote expectoration, are claimed to prevent fibrin formations, but more than all are excellent cardiac stimulants; and I have found them useful and reliable agents in this disease. Iodide of ammonium was usually prescribed if resolution was slow.

Alcoholic stimulants were not used, as a rule, but when necessary were given freely. When the first sound of the heart resembled the second in character they were given, and in alcoholic subjects full stimulation was resorted to. In the case of the aged, alcohol was also employed.

Loomis states that pneumonia in the aged is usually fatal. "After sixty, the prognosis is always unfavorable." Of my cases twenty-four were sixty years of age or over, while ten ranged from seventy-five years up. Of these aged patients the one referred to died. In the old, circulatory disturbances are more serious; the vessels being inelastic, collateral and compensatory circulation is not so readily adjusted, and disturbances of the vascular mechanism not so easily equalized. In pneumonia, too, the rule holds good that "a man is as old as his arteries."

In treating these cases, the condition of the circulation was shown by the pulse, and the heart sounds were carefully watched and taken as a guide; the temperature range was considered of minor importance except as indicating the necessity for free diaphoresis if it rose too high. The diagnosis having been carefully made in the beginning, frequent examinations of the chest were avoided, as productive of evil and of slight benefit in furnishing indications for treatment. The heart and the pulse can be readily watched in pneumonia without changing the patient's position, without exposure to the air, and they furnish indications of more value than the pulmonary physical signs.

When cyanosis appeared, even vigorous stimulation usually failed to relieve it. The blueness of the finger nails and general duskiness are evidences of the

right heart's choking from overdistention, and since in this condition it is full to overflowing and the left is comparatively empty, the reason for the comparative failure of general cardiac stimulants is fairly clear. Stimulation is not required for the left heart, but the right has been laboring hard and is overburdened. It needs relief from its load more than the use of the whip. When cyanosis occurred, I bled if possible, then gave cardiac stimulants.

This opens up the question of blood-letting in pneumonia, one that is of late being revived by several earnest advocates of venesection in this disease. Is bleeding ever nature's method of treatment, and if so are we ever justified in following nature's lead? I have frequently heard old physicians, men of ripe judgment, say that they never saw a remedy so prompt and effectual in full-blooded patients with pneumonia as bleeding. I have heard an eminent professor of practice in a medical college, a distinguished clinician, state that he would bleed for pneumonia if he dared. If bleeding is indicated in a pneumonic case, if epistaxis occurs in a full-blooded man in the early stage of the disease, why not dare to bleed? Should we follow public opinion or lead it?

I resorted to venesection in a case of pneumonia for the first time when a hospital interne. The patient was a thick-necked, red-faced, plethoric young fellow. The diagnosis was confirmed by admittedly competent men. I bled him and the next day he was walking about the ward. Since that time phlebotomy has been employed by me on numerous occasions in the early stage of the disease. All cases are not adapted for this practice; there are prejudices to overcome, and free diaphoresis is amply sufficient in the average case to accomplish the same results; but my success with venesection in the congestive stage has always been highly satisfactory.

For nearly a dozen centuries blood-letting was in vogue, the old doctors maintaining steadily, with a perseverance and consistency during all these years which was certainly remarkable, and which in these days of rapidly shifting medical fads must excite our admiration, that venesection relieved pain, reduced fever, moderated the force and slowed the action of the heart, removed morbid material from the blood, lessened its volume, and reduced inflammation. Today a few of us still apply leeches and use dry or wet cups occasionally to accomplish the same ends. Is Hahnemann such a bugbear at the present day that we should feel our courage oozing out at our finger tips? If blood loss were so fraught with evil consequences, our surgical operations would have a higher mortality and each full moon would fill our churchyards.

The old writers maintained also that of all diseases in which phlebotomy was indicated, and in which the most positive results could be expected, pneumonia stood undeniably first. Are we professionally the descendants of a lot of fools? Were our grandfathers deluded and deceived, going on day after day, year after year, century after century, letting blood with a foolish and germless idea that they were doing good, without ever seeing any beneficial results from venesection? Is it possible that all the clear-headed thinkers, all the good observers, all the logical reasoners which ever adorned the medical profession, were born in the latter half of the nineteenth century, or may it not have been that the occasional good effect was so prompt, so marked, as to be beyond dispute, misleading those of the older generation into using the lancet too often? Blood-letting, like all great heresies, was founded on a half truth, and the men who wrote the constitution were not dunces, if the Monroe doctrine was as yet unknown; so, too, their medical contemporaries may have been able to give us some

pointers in the absence of all knowledge of antirabic inoculation.

The MEDICAL RECORD, of September 28, 1895, in commenting on the treatment of this disease by Dr. De Duplaa de Garat, who bleeds in his pneumonia cases, says: "Instead of burying all his pneumonia patients, the writer claims that he cures them all without exception." Can we afford with a mortality of twenty to forty per cent. in so commonly prevalent an affection as this to be even mildly sarcastic about the "claims" of one who advocates some other practice? Would it not be wise to investigate the matter, and ascertain if his claims are true to fact on the one hand or mere impudent effrontery on the other?

It is the common opinion of common people, most of them reasonably familiar with this malady and some of them possessed of fair powers of observation, that "pneumonia goes hard with big, strong, healthy men." The old family doctor, too, will tell you that such a person is "a bad subject" for pneumonia. He may not explain just why, but he has learned it by experience. Anæmia is common enough in these days, but is plethora never encountered? Frequently a deficiency, but never an excess? Bleed these patients, the full-blooded ones, in the early stage and they are no longer bad subjects for a pneumonic attack. Fail to do this, nourish them well, give them a full "supporting" treatment for a few days and a liberal proportion will die with blueness of the nails and general cyanosis.

There comes a time, too, when certain other cases require venesection, some plethoric, some not. When cyanosis develops during the course of the disease it is usually considered a very unfavorable symptom. Upon its appearance many physicians make it a rule to warn the friends that a fatal termination is to be expected. It is an indication of insufficient oxygenation and approaching venous stasis. The patient is practically beyond the reach of medicine, and yet is his case really hopeless? Is there no relief?

In this condition, when the "swelling of the veins of the hands," which Trousseau noted as dangerous, may occur; when the portal and hepatic veins, the vena cava superior and inferior are distended; when the sound over the pulmonary valve becomes indistinct; when the right heart is choked and dilated, open a vein and bleed freely or the chest will get "rattly," despite resort to drugs and stimulants, the blueness will increase slowly but progressively, and paralysis of the right ventricle will result. Bleed until the congestion under the nails perceptibly diminishes. Then give cardiac stimulants, and the right heart, relieved of its distention, able once more to approximate its valves, goes to work with renewed energy and the danger is for the time over. The pneumonia is not cured, but the pressure has been taken off the weak point.

Phlebotomy has been a pronounced success according to my experience in what were otherwise apparently hopeless cases. "Tying off" the limbs has failed with me as a substitute in the few cases in which it was tried. Cyanosis usually develops on the fifth or sixth day and even a temporary relief will often tide the patient over the critical point. Undoubtedly, it weakens him, but it is better to be hydræmic and living than full of coagulated blood and cold. We frequently meet with epistaxis at the crisis of a pneumonia. Can we not take a lesson from nature? It is evident that the letting of blood must diminish the congestion of the part of the lungs not affected by the pneumonic process. It also seems clear that lessening of the accumulation of blood in the right heart must diminish the labor of the lungs, since all the blood must pass through the lungs after leaving the heart, before it can be distributed to the remainder of the body.

Venesection is often necessary when cyanosis is present, even though the pulse is small and weak, for, the pulmonary circulation being obstructed, the left ventricle with the arteries is practically empty, and I have seen a pulse, weak and fluttering, come up strong and full while the blood was still flowing from the arm. This is explained by the lightening of the load of the right heart.

In the Massachusetts General Hospital Report it is shown that in the decade following 1822 the mortality was only ten per cent. This was the period when blood-letting was practised. It is now twenty-eight per cent. The difference is attributed to greater age, intemperance, complications, and a larger proportion of foreigners. How much influence the greater age may have had I cannot determine, as the original report is not at hand. It seems difficult, however, to prove that complications were really more frequent, and if this were true it might be attributed with some show of reason to difference in treatment as well as to other causes. Were there no alcoholics in 1822-32? Are foreigners so peculiarly liable to develop and to succumb to this disease that the fatality should be increased nearly threefold? Osler maintains that, "contrary to the general rule in infectious diseases, newcomers and immigrants seem less susceptible than the native inhabitants." Are these factors, even if proven, sufficient to account for the difference? Those old doctors must have had a marvellous streak of luck in their favor if blood-letting is so injurious. They certainly had no oxygen cylinders and no knowledge of the pneumococcus of Fraenkel.

Beverly Robinson in the *MEDICAL RECORD*, June 2, 1894, says: "Cases still occur where bleeding is the only resource." Dr. William Watt Kerr and Dr. Washington Ayer, of San Francisco, advocate venesection in the third stage (*MEDICAL RECORD*, June 23, 1894). Osler strongly endorses bleeding in the early stage, and while his results with venesection in the later stage (twelve cases) have not been wholly satisfactory, he considers it "a rational practice." Numerous other writers endorse this view, and last, but not least, Dr. Jacobi, in that much-quoted paper, "Non Nocere," says: "The pneumonia which, when delirium, cyanosis, and dilatation of the right heart became urgent dangers, was not relieved by a venesection . . . must be a load on the practitioner's conscience." This is well put. Is the pendulum on the return swing?

In conclusion, I would enter an urgent plea for a reconsideration of the etiology and treatment of pneumonia: for a more careful and systematic study of the changes which occur in the lesser circulation, pulmonary artery, capillaries, and veins, including also the bronchial vessels: for the use of diaphoresis as a rational and conservative mode of treatment, as a safe and powerful agent for the purpose of aborting pneumonias, and as an antipyretic of remarkable efficacy: for a more general recognition of the fact that failure of the right heart is the usual cause of death: and for venesection in certain cases of pneumonia in the early stage; also in the late stage when it becomes imperative, or as a *dernier ressort*.

Urination after Labor.—1. Urination after labor, in the majority of cases, follows spontaneously. 2. Catheterization is but exceptionally required: if it be necessary, it should be deferred as long as possible. 3. It is only indicated when the bladder assumes abnormal proportions, or if retention occurs. 4. Catheterization is liable to occasion two evils—cystitis, in spite of all precautions, and dependence of the bladder for a time upon the catheter.—*Rev. International d' Bibliog. Méd.*

COLONIES FOR EPILEPTICS.¹

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THE moral treatment of epilepsy has scarcely as yet found its way into the text-books. In the most recent works on neurology we are informed that the disease is almost incurable, and a bewildering array of drugs, which may or may not be of benefit in some cases, is presented in considerable detail. But the enormous progress of therapeutics of epilepsy in the direction of moral treatment has found as yet no place in such works, even though the importance of this treatment is in the present state of our knowledge vastly more significant as regards the welfare of the patients than the pages devoted to medicinal agents.

Epilepsy is one of the most common of nervous disorders. It afflicts one to two in a thousand of the population. It is also a malady not at all new to the profession, for it was undergoing therapeutic experiment at least three thousand years ago in India and elsewhere to our certain knowledge.

Possibly ten per cent. of all cases of epilepsy become insane, so that they require the custody of an asylum. The remaining ninety per cent. are the cases under consideration in the present paper. This disease differs from other diseases in that it consists of periodic attacks of loss of consciousness, with or without convulsions, lasting, as a rule, for but a brief space of time—a few seconds to a few minutes. Before and after these short seizures the patient is in as normal a condition, and quite as capable of pursuing the ordinary vocations of daily life, as other people. In some the attacks recur frequently, several times daily, but these are uncommon; in others they recur several times a week; and again in others occasionally during a month or several months. But, however infrequently such seizures take place, the unfortunate sufferer from epilepsy cannot be permitted to attend school, go to church or entertainments, or play with other children, and as he advances in age he finds himself debarred by his malady from following any occupation, for no one will employ him. Naturally, a life of this kind closes to him the usual avenues for mental and moral development, and it is not surprising that many an epileptic who under other conditions might acquire a good education, be able to sustain himself by his own efforts, and even bring out talents of a high order (such as have distinguished a number of epileptics familiar in history and literature), should grow up feeble-minded and ignorant and an easy prey to all of the degenerative tendencies which are prone to show themselves when a mind is left to follow, unguided and uncared-for, its own instincts, appetites, and emotions. It is because of their neglect and ill treatment by communities that such large numbers of epileptics have been forced to seek a refuge from their woes in the almshouses and insane asylums. There has been nowhere else for them to go.

It is nearly fifty years ago since John Bost began near Bordeaux the system of caring for a variety of chronic cases, inclusive of epileptics, in cottages, grouping them in little families, feeling that the true home for such dependents is in the country, where they may occupy themselves in the gardens and fields, breathe the pure air, drink in the sunshine, and have before them always the works of their Creator. The little families grew into a prosperous and happy community, or, in other words, a colony.

¹ Read before the American Academy of Medicine, Atlanta, May, 1896.

About thirty years ago Pastor von Bodelschwingh began with four epileptic patients a similar family life in the suburbs of Bielefeld, Westphalia, Germany; and year by year the families have increased in number, until now the Bethel Colonie is a village of two or three thousand inhabitants, pursuing all the occupations and enjoying all the recreations of a thriving and prosperous settlement. In the winter of 1886 and 1887, while physician at the Hudson River State Hospital for the Insane, where I had become familiar with many of the troubles and misfortunes of epileptics, I made a tour of Europe for the purpose of examining various institutions;¹ and in the course of my journey I visited the colony for epileptics at Bielefeld, which made so deep an impression upon me that immediately upon my return home I wrote a description of it for a medical periodical in New York. I had never seen an eleemosynary conception so nobly and so successfully carried out. The good pastor of the Lutheran church who inaugurated this work will never be forgotten, so long as there are unfortunates to profit by his wisdom and benevolence. Here he created an ideal refuge for a multitude of sufferers, a home for such as were homeless or neglected, a hospital for the best treatment of their distressing malady, a school in which the education denied them in the outside world could be achieved, an industrial settlement for all who were able to acquire a knowledge of any trade or calling.

Since my visit many travellers have been there and have borne witness to the marvellous success and prosperity of this inspiring colony. I need refer to the testimony of but one of them, for in the deservedly popular volume entitled "A Colony of Mercy,"² Julie Sutter has described it in full with a felicitous pen.

One of my early papers on the subject of the colonization of epileptics was reprinted in England some years ago, and a knowledge of the subject diffused there by Miss Louisa Twining, and in Great Britain there are now two or three homes for epileptics, small beginnings of what are destined to be, no doubt, in future time, institutions or colonies of considerable size and importance.

France, Holland, Belgium, and other continental countries have also turned their attention to this class of patients, and are following more or less closely the good example of Germany, which has now a number of colonies for epileptics, in addition to the model settlement in Bielefeld.

In this country, Ohio, New York, Pennsylvania, Maryland, Massachusetts, Michigan, Wisconsin, Iowa, Illinois, New Jersey, California, Minnesota, Texas, and Virginia have either already established special institutions for epileptics or are actively preparing for it, to judge from the amount of correspondence I have had with physicians and others in these States interested in provision of this kind. The tendency with most of them is to follow as far as possible some more or less efficient scheme of colonization. But it is not always easy to establish and develop an institution, according to the most approved model, under the authority and at the expense of a State. Legislatures are only too apt to encourage, on the ground of economy, the housing of as many patients as possible in large barrack-like buildings, while the communities in which State institutions are about to be established are too frequently misled by local pride to demand something so colossal and monumental as to strike at once the beholder's eye. While it is true of many public institutions that it is more economical to house a large number of patients in one building than in cottages, it is perhaps less so in respect to epileptics,

since they are for the most part able-bodied and efficient workers, and their labor tends to more than make up for the increase in the complexity of administrative detail. But even were this not true, it is as much the duty of the State to lighten the burden of misery for a class afflicted with one of the most dreadful diseases, as it is to provide for their mere sustenance and protection from the elements.

I believe that in most States it will be found advisable to begin such provision in a moderate way with a large farm and two or three buildings, and to permit the colony to follow a natural course of evolution, as justified by its success and by the number of available patients.

A great deal of interest, both in this country and abroad, has been manifested in the undertaking of the State of New York to provide an industrial village for its dependent epileptics, not only because Craig Colony has become well known as the first real colonization plan begun on this side of the Atlantic, but because of the magnitude of the enterprise. It was necessary that provision should be made for a large number of patients, for the epileptic population of the State is great indeed, as will be seen from the following statistics: According to the admirable report of Dr. Charles S. Hoyt, superintendent of the State and alien poor, published December 31, 1895, there are in the county and city almshouses, 427; in institutions for the feeble-minded, 152; in other charitable institutions, 109; and in family care, receiving public outdoor relief, 83 epileptics. But besides these, there are in the State asylums for the insane about 1,000 epileptics, of whom, at the least estimate, fifteen per cent. are perfectly able to live in the freedom of colony life. I make this assertion based upon the statements of several of the superintendents of the said asylums. Not only have many sane epileptics been sent to asylums in the past, because there was nowhere else for them to go (except to the county almshouse), but the recent passage of the State care act led to the transfer to asylums of many epileptics, who had previously lived for a long period in the almshouses without any difficulty. This transfer was economical for the counties, and commitment for insanity in the case of epileptics is not a difficult matter, while the State was thus made to bear the burden of their care. Moreover, letters have been received by the managers of Craig Colony from over one hundred epileptics, not in institutions, but eking out some sort of pitiable existence in the outside world, among poverty-stricken relatives or on the support of charitable friends. Thus the number of epileptics immediately available for the purposes of colonization are: Epileptics in poorhouses and other institutions, and receiving public outdoor poor relief, 771; fifteen per cent. of the epileptic population of the State hospitals for the insane, 150; dependent epileptics without means, but not in institutions, 100. Whole number, 1,021.

This total of ten hundred and twenty-one epileptics falls short of the actual number in the State of New York who will ultimately become residents of the colony, and who are truly deserving of being beneficiaries of the State. In my service of eight years in the nervous department of the Vanderbilt clinic of the College of Physicians and Surgeons, nearly nine hundred epileptics have been under treatment there, the most of them without occupation, unable to gain a living, and supported by hard-working and struggling relatives. This is an experience in but one out of the thirty or more dispensaries of the city of New York, and in but one of the large cities of the State. It seems to me safe to say, therefore, that the number of indigent epileptics throughout the State who merit the care of Craig Colony is not overstated when it is placed at one thousand, making a total of over two

¹ "Some European Asylums," American Journal of Insanity, July, 1887.

² Published by Dodd, Mead & Co., New York.

thousand. Such statistics proved the need of projecting the scheme of colonization in New York on a large scale. The plan was favored, too, by the circumstances which led to the acquisition of a great tract of land. Not even Bielefeld has so extensive a property, and there is probably no eleemosynary institute of any kind anywhere in the world with landed possessions so magnificent. The Craig Colony had, in fact, already been a colony for fifty years or more, for the sect of so-called Shakers selected, with their customary sagacity, nearly nineteen hundred acres in the garden valley of the State (the Genesee Valley), and made it a remunerative property, with well-cultivated fields, fine orchards, and pastures and productive market gardens. They constructed here numerous substantial buildings (thirty or more), residences, barns, and shops; for they were not only thrifty agriculturists, but did a good business in broom making, canning fruits and vegetables, and other industries. On the grounds are good quarries of building stone, fine deposits of brick clay, and acres of good timber, from which they obtained materials for their houses. Two streams pass through it; one of them, rushing swiftly through a picturesque gorge and dividing the property into two nearly equal halves, ran the colony's saw-mill and flourmill.

But the Shakers, being celibates and failing to recruit their organization as in past times by proselytism and by the acquisition of orphan children, gradually diminished in numbers; and in 1892, at the time that the State was seeking a site for a colony for epileptics, the ten or twelve old Shakers left upon the place offered the entire tract with all its buildings for the purpose, at a sum (\$115,000) about equal to the value of the improvements alone. The State purchased the property, and the little band of Shakers went away to join the mother colony at Watervliet, N. Y.

Oscar Craig, of Rochester, then president of the State board of charities, was one of the commissioners engaged in the selection of the site. He died soon afterward, and at the instance of Governor Flower the colony is known by his name.

As soon as possible after the passage of the law establishing Craig Colony, the board of managers appointed by the governor began the work of adapting the old Shaker colony to its new purposes. Buildings had to be remodelled, renovated, and furnished, and systems of heating, lighting, water supply, and sewage had to be installed. In the neighborhood of ten or twelve buildings are at present occupied for the different purposes of the colony, cottages for the residences of the superintendent, farmer, engineer, steward, and other employees, three houses for patients, and several others for store, industries, and the like. In order to avoid any semblance to an institution on the pavilion plan, where doubtless the buildings would be designated as No. 1, No. 2, No. 3, or "A," "B," "C," and so on, each separate structure at Craig Colony has its own name. For instance, the superintendent's cottage is called "Sonojowa," an Indian word signifying hospitality. One of the first resolutions passed by the board of managers was to name the largest building in Craig Colony, used for administrative purposes as well as for patients, "Letchworth House," in honor of the Hon. William P. Letchworth of the State board of charities, who has been identified with charitable work for many years, who took an especial interest with Mr. Craig in selecting the site for the epileptic colony, and who has shown a keen sympathy with the work of its development. The old chapel of the Shakers, for so many years the centre for the gatherings of the elders and their brethren, now metamorphosed into a villa with a solarium for men patients, has been named in honor of its former

owners, "The House of the Elders." The farmer's house is designated as "The Grange." The steward's cottage, occupied by the steward's family and several officers and employees, was named "Tall Chief Cottage" after the Indian chieftain who in the old time called this particular tract "Sonyea," meaning the warm or sunny place. Sonyea is now the name of the post office of the colony and of the station of the W. N. Y. & P. R. R. on the grounds of Craig Colony. The colony has its own post, express and telegraph offices, and, besides the railway station already mentioned, the Erie Railroad has a station on the grounds, and the Delaware & Lackawanna trunk line passes within a quarter of a mile of the colony. Other buildings have been named "The Elms," "The Store," "The School," and so on. The present legislature is expected to give us an appropriation for a hospital of twenty beds, a mortuary, farmhouse, and funds for remodelling, renovating, and furnishing a half-dozen of the old buildings already on the tract, for the use of another hundred patients. The group of buildings now occupied is lighted by electricity, and the system of intermittent filtration was adopted for sewage. The water supply is excellent, springs being made use of for drinking and culinary purposes, the creek water for toilet, fire protection, etc. Rain baths have been introduced.

Very soon after the managers took charge of the property, the Messrs. Olmstead, Olmstead & Eliot, of Brookline, Mass., were engaged as landscape architects to prepare a general design of the grounds, in accordance with the organic law requiring the adoption of a general design and the arrangement of the property on the village plan, to which all new and old buildings must conform. Such a plan takes two or three years to perfect, but the main features, such as the village green, streets, lanes, paths, sites for shops, residences, chapel, dairy and farm buildings, schools, and the like, have now been designed upon the best principles, in order to take advantage of the natural beauty of the land, its gorge, lake, streams, hills, meadows, and woodlands, and at the same time to subserve as far as possible economy of administration and general utility. The details in the execution of such general design are to be worked out under proper guidance by the patients themselves.

Craig Colony was informally opened nearly four months ago. It has a present capacity for two hundred patients, and the provision for new patients will be gradually increased year by year. The present residents of the colony have been taken from the almshouses of the various counties in proportion to the epileptic population, and as fast as they have been received they have been put at some occupation compatible with their conditions and in accordance with their wishes and abilities. It is the aim of the management to provide out-of-door employment as far as possible for both men and women, feeling that great benefit in the treatment of the disease will be derived from work in the sunshine and open air. Therefore, agriculture, horticulture, floriculture, and market gardening will form a large proportion of the labor of the inhabitants for at least six months of the year. The women will gain great good from employment in raising small fruits, flowers, and vegetables.

The deposits of excellent clay are to be utilized by the patients for making brick to be used in the construction of new cottages and of walks throughout the village lanes.

The dietary for patients afflicted with epilepsy is simpler than that needed for other classes of patients, so that almost everything in the way of food stuffs required by a large population can be produced from the land itself by the labor of the colonists. During the year previous to the opening of the colony, the

managers by renting out tracts of land on shares cleared seven or eight thousand dollars, which is evidence of its productiveness and of what may be expected of it when each acre is made to yield its treasures to the unremitting care and attention of the colonists. There is already a large flock of sheep, a goodly herd of cows, and other stock of various kinds under the care of the patients.

But in addition to these features which characterize it to a great degree as an agricultural and stock-raising settlement, numerous other trades and callings will need to be summoned into being with the gradual evolution of a self-supporting and independent colony. There must of necessity be masons, painters, carpenters, cabinetmakers, printers, bookbinders, smiths, tailors, shoemakers, and the like; and there will be plenty of indoor work for women in the way of sewing, tailoring, knitting, fancy work, illumination of mottoes, bookbinding, the preserving of fruits, vegetables, seeds, etc. Indeed, the aim is to diversify occupation in every possible way, to consult the patient's own wishes as to his or her special proclivities and abilities, and to make the labor not only of value from the economical standpoint, but also from the standpoint of therapeutics, for we feel that the exercise, the life out of doors, the manual and industrial training, and the mental occupation will best bring about the bodily and psychic conditions which conduce to improvement and recovery.

It has been found by actual experience in other colonies, and this is already borne out by observations at Craig Colony, that the number of attacks in most patients diminishes after entering upon such colony life; that the patients do not affect each other detrimentally, but that on the contrary each feels that he is on an equality with his associates and no longer isolated, for he is bound together with them by the ties of a common affliction and a common purpose. Out of the negligence, monotony, hopelessness, and often squalor of an almshouse or a wretched home, he comes into the brightness of this new existence. He gains fresh interests, and new hopes and ambitions rouse him from his long apathy. He is made to feel that he may follow the bent of his nature as regards education and occupation, and no longer be debarred from the opportunities for progress in mental development, for recreations and enjoyment, and for social intercourse, so abundantly offered his more fortunate brethren of the outer world.

In addition to the moral therapeutics thus outlined, it is the object of Craig Colony to make every effort to treat each case of epilepsy entrusted to its charge in the best manner possible, in accordance with the latest researches of science in this field, and to carry on original investigations, clinical, chemical, pathological, and therapeutical with the object constantly in view of discovering the causes of and best remedies for the malady. For this purpose chemico-physiological and pathological laboratories are in course of construction.

The colony is designed essentially for State patients, that is, patients upon public charge, but as soon as these have been provided for, private patients will be received whenever there are accommodations for them. There is no restriction as regards admission, except the single one of insanity. Insane epileptics are excluded. It is probable that in the course of time some sort of provision will be made in the colony for epileptics who become temporarily insane while residents, but that is a matter which has not as yet been given careful attention.

In closing I wish to outline briefly the main points which need to be considered in planning and organizing a colony of this kind. In the first place such a scheme aims to provide:

(a) A home for a class of individuals cut off all their lives from ordinary pursuits and social pleasures by a malady which robs them of their faculties in most instances for but a few moments each day, or week, or month, or once in a period of several months.

(b) A school. Debarred from the public schools, the epileptic should be given precisely the same opportunities of acquiring an education as he would enjoy if well and living in the outside world.

(c) An industrial education. The usual trades and callings of a village should be introduced, and each colonist should be permitted to take up any pursuit for which he seems best fitted.

(d) Treatment for epilepsy. Every case should be carefully studied and treated according to the best scientific methods.

Having in mind the aims of the colony, the following points should be kept in view in establishing it:

1. There should be an abundance of land, for the community is to be given largely to agriculture and kindred pursuits, and there is economy in securing a large and productive tract.

2. The site selected should be near the centre of population and convenient of access to the managers and patients and their friends.

3. The country-village idea should never be lost sight of, and everything savoring in any degree of "institution," "asylum," "pavilion plan," etc., should be avoided. A general design should be adopted, with system in the arrangement of the buildings, but no such symmetry as would in any way suggest a public institution. The cottages, villas, and shops should be simple, independent, and homelike, with their own little gardens, hedges, etc.

4. As far as possible, each home circle should be limited to ten or fifteen patients; much greater aggregations than this are apt to destroy the family character of colony life.

5. The houses need not be especially planned to meet the wants of a particular class of patients, but should be as much as possible like ordinary village houses, though fireproof.

6. A small hospital, say with twenty beds, will be needed to serve as an observation station for new cases admitted and for such as are bed-ridden from intercurrent illness or accident.

7. In addition to hospital, cottages, villas, shops, schools, etc., a chapel, library, museum, reading-room, gymnasium, swimming-bath, rain bath, lecture hall, and well-equipped laboratories should be provided. Some of these, being luxuries, may doubtless be obtained by private foundation as memorials.

8. In developing the industries of the colony, the first object is to establish such as will subserve economy. The aim should be to produce most of the food stuffs required, to make the wearing-apparel, to carry on domestic work, to make all ordinary repairs, and to lay out the grounds. As the industrial side of the colony increases in usefulness, the trained workers should plan, construct, and furnish completely all new buildings needed, and other industries should be undertaken which will lead to a profit to be expended in the interests of the colonists.

9. The educational features should never be lost sight of, and in addition to the schools and industrial training, everything that can in any way be helpful in furthering such purpose should be encouraged. The trees and flowers should be labelled with their names whenever possible, and a botanical and zoölogical garden be established, as far as commensurate with the means at command. The collection of objects in natural history for preservation in the museum should be a part of the recreation of the inhabitants, and there are many other features too numerous to mention.

here which will conduce to the success and prosperity of the colony.

10. Finally I would caution the promoters of such plans for the various States not to hurry their development, but from small beginnings gradually to evolve an institution which shall reflect credit upon themselves and their undertaking.

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60 WEST FIFTIETH STREET, NEW YORK.

ACCIDENTAL GUNSHOT WOUNDS: A MEDICO-LEGAL STUDY.

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IN order that one may properly interpret certain signs that may be found in the investigation of deaths from gunshot wounds, he should be familiar with the common causes of accidents in handling firearms. I shall omit any consideration of the fractures, bruises, and other injuries, many of which I have observed, caused by the recoil of the weapon, although this is by far the most fruitful source of injuries from firearms, because, obviously, they are not gunshot wounds. Many of the cases I shall quote would scarcely call for a medico-legal examination, because of the circumstances under which they occurred; but the study of them will none the less be profitable.

It is pretty well known that most of the accidents from the use of firearms occur from ignorance or carelessness in handling them. At times a gun bursts from a defect in the metal or from imperfect workmanship, but such an accident is rare after the rigid tests to which the barrels are subjected at the factory, or, in many countries, at the government proof house. Old weapons burst from becoming "burnt out" from long and hard shooting, occasionally, but probably not without the use of an excessive charge. Many guns are burst by the use of new powders, the effects of which, under different climatic and other conditions, have not been thoroughly studied. I have seen the head of a brass shell separated from the rim in using a new nitro-powder, apparently because the powder was subjected to prolonged heating, having been left in the left-hand barrel of a double gun on a hot Au-

gust day, while many charges were fired from the other barrel. An increased action in the same direction might well burst the barrel. I have several times seen a similar accident from the use of black powder so fine that its initial pressure was too great for the kind of weapon in which it was used, although the danger of bursting the arm from this cause is certainly much less than from the nitro-powders, which produce a much more sudden explosion. I have never seen an unobstructed barrel burst by a charge of black powder of reasonable size, although I have known many shotguns and one rifle of excellent make either burst or loosened at the breech by some of the nitro-powders.

The cases of injury to the shooter by the bursting of a barrel obstructed by sand, mud, or snow, or by pressure against the earth or a fallen animal in giving it its death-blow, are generally obvious enough, so that no question could arise as to their being accidental or otherwise. In one such case, in which a young man attempted to shoot a skunk which had taken refuge in a burrow, four persons were injured besides the shooter by the flying parts of the weapon, as reported to me by Dr. Hawes, of Colorado. It is notable in these cases that the charge itself does little damage, its force being dissipated in the act of bursting the barrel. The flying parts, chiefly of the ribs and barrel, are the effective missiles in such accidents. When the arm bursts from too great a load, the charge is more likely to be effective. In a recent case of mine, the boy who supported the muzzle of a gun which burst from this cause was nearly as much injured as the one at the breech, from the fragments of the barrel, but I could not learn what force the load had exerted in its proper direction, for both the boys were too badly hurt to note this point.

It should be noted that even the lightest snow in the muzzle will endanger the gun from the cause mentioned. The tompon used to stop the muzzle of the army rifle occasionally makes trouble, because of the soldier's having forgotten to remove it. With the heavy rifles used in hunting, there seems to be more danger of blowing parts of the breech mechanism back into or just over the head of the shooter. Thus, a companion fired a twelve-pound Sharp's rifle at a deer, after having by accident filled the muzzle with sand. The firing pin passed through his hat, but the barrel, which I afterward examined, was uninjured and was in use for years afterward. The shotgun generally gives way at the thinner parts near the muzzle or in the middle, although I have seen several burst near the breech by nitro-powders. About a dozen examples of bursting in shotguns from the various causes mentioned have come under my observation.

It should be noted that after a misfire, and especially after the shot escapes from a shell from the dislodgment of the top wad, as occasionally occurs, portions of the load, and especially the wadding, may remain in the barrel and may cause an otherwise inexplicable explosion of the weapon. The bullet itself may stick in old and foul weapons, the gases of combustion escaping at the rear, through ill-fitting breech parts. I have known several bullets to accumulate in the same barrel from this cause, both in a small rifle and an old revolver.

It is somewhat dangerous to discharge very old guns, because of the fact that repeated jarring may cause the molecules of metal to rearrange themselves in crystalline form, when they will stand much less strain than before. One of the old guns in the Tower of London, subjected for a long time to the jarring incident to testing arms in the same building, broke merely from falling to the floor. The tendency to such crystallization is well known to be one of the faults of cast-iron ordnance.

Slight obstacles and especially "leading" or accumulation of lead and dirt in the grooves of the rifle, often cause the gun to shoot "wild." This is especially true if the trouble is just within the muzzle. One might easily meet with an accident if shooting such a weapon, provided any one stood near the line of fire. Accidents in the shooting of the apple from the head, *à la* William Tell, several of which have been reported, probably occur at times from this cause, although in at least one instance the fatal result was attributed to faulty ammunition. A physician of my acquaintance informed me that he nearly killed a negro who insisted upon marking for him when trying a new rifle, because the sights were misplaced, the weapon shooting nearly five yards to the right at one hundred yards' distance. I have known many narrow escapes from injury from the various causes mentioned in this paragraph.

Many injuries occur in using breech-loading weapons from having the breech chamber so foul that the shell sticks, and the pressure of the lever causes it to explode. This happens easily if the firing pin does not work freely or if the primer be not seated well down in the cavity prepared for it in the head of the shell. Shells swollen from repeated reloading give rise to the same accident even more frequently, and especially when, in the presence of game, the shooter is especially anxious to shoot rapidly. I have recently seen three accidents occurring under such circumstances, and all giving the more or less characteristic staining of the face, especially of the right side, with a few grains of powder blown into the conjunctiva, a result commonly associated with this form of accident.

I have known the five loads in the magazine of a repeating shotgun to be discharged through the end of the tube, without damage to the shooter, from the accidental admission of sand to the rear end of the magazine. Probably the spring which forces the shells backward in reloading forced the primer of the rear one against a bit of gravel in the bottom of the magazine, causing it to discharge its shell, and then each shell exploded the one in front of it. Similar accidents formerly happened in the use of magazine rifles, from the temporary sticking of the spring from rust or other cause; becoming suddenly loosened, the spring pushed the cartridges backward over a greater distance than normal, because of the removal of one or two shells previously, and hence with unusual force, and the primer of one shell being struck by the tip of the bullet of the one behind it, an explosion occurred. This danger has been, I believe, entirely obviated by flattening the tip of the bullet, sinking the primer about a thirty-second of an inch into the head of the shell, and using brass instead of the softer copper for the primers of rifle shells, these primers requiring a stronger blow for discharge.

Accidents to the shooter are more common when the barrel is unusually short, for the reason that in event of a fall or slip such a weapon is brought to bear more easily upon the person of the one carrying it. I have known several injuries, chiefly to the feet and legs, from this cause. In two cases the great toe was shot off.

A great number of accidents arise from the slipping of the finger upon the trigger, or, more commonly even, upon the hammer, in attempting to cock the weapon or to let the hammer down. If the weather is cold, the fingers often become benumbed, so that the shooter is not aware of the contact with the part or else is unable to properly estimate the amount of force applied. If the fingers are wet or if a glove be worn, and especially if the latter become wet, the hammer often slips out from under the finger or thumb in handling it. If a hair trigger be used, as upon many

rifles, such accidents are very common, for the least touch fires the weapon. If any one be in range, or parts of the shooter's person, a wound results. Many shots at game are missed from the causes mentioned—I have missed several myself.

In wing shooting, I have known several narrow escapes from serious injury from swinging the shotgun, in following a bird, directly upon another shooter; and I have twice known dogs to be killed, once in this manner and once because the dog suddenly raised his head into the line of fire as the trigger was pulled. It is unsafe to hold the rein of one's horse when shooting, because a sudden pull may deflect one's aim and injure either the horse or another shooter. I treated one wound caused in this manner.

The foreman of a gang of cowboys, driving cattle from Texas years ago, took a violent dislike to a friend of mine, and rode up alongside of him on horseback, with a loaded shotgun across the saddle, the muzzle toward the latter. Suddenly the weapon was discharged, the load passing between the rider and the horn of the saddle. The foreman had previously killed a rider near Abilene, Kan., and undoubtedly intended to kill this one and have it attributed to accident. The rider took the hint that he was not agreeable, and left the outfit. I have no doubt that many so-called accidents have some such origin as this one had.

It is not uncommon for one to be injured in cleaning up an old gun supposedly empty. Thus, I know of one accident from inserting such a weapon into the fire to clean it more effectually, the owner holding it by the muzzle meanwhile. Attempts at removal of a "stuck" cartridge in a breech loader are often followed by explosion of the shell and injury by the bullet. The latter has but little penetrative force, however, if the shell be not firmly supported in the rear; and it is not commonly well supported in these cases, because the breech of the weapon is open. In one such case of mine, the ball from a small pistol did not penetrate the skin of the left thumb, the force of the powder being expended apparently in blowing the shell backward, and dissipated in the air about the open breech. I have seen many accidents from careless handling of loaded shells, as, for example, from the attempt to remove the primer of the shell before removing the powder, or setting the bullet in a rifle shell without placing the head upon a proper base, so that some solid substance came against the primer; but these cases are sufficiently obvious to the examiner.

The left hand of the shooter is at times injured in supporting a revolving weapon in front of the chamber, from the running of the fire from one chamber of the arm to the next. I have never known of such an accident in a weapon using fixed ammunition. Occasionally the old "pepper-box" pistol blew the hammer back and revolved the cylinder, as a result of the escape of gas through the nipple, so that two or three shots were discharged instead of one, as intended. Weapons of the kind mentioned here, however, have become nearly obsolete in this country.

Many accidents have happened from the use of set or trap guns, either for protection against burglars or in killing game. I have quoted elsewhere¹ a case in which a dog ran against a gun as it lay across a log, causing it to shoot the hunter, several feet away. Several cases are quoted in English works bearing upon this subject. In one case a fowl trod upon the trigger of a cocked gun, which the owner had left standing against a corn bin, and the man was struck by the load at a distance of several yards. In another case a dog ran against a gun lying upon the ground, and shot the brother of his master. Taylor mentions

¹ *Medico-Legal Journal*, December, 1893.

a case in which, in the attempt to put the cap on to the nipple of the second barrel, the first was fired, and the gun, from the recoil, jumped out of the hand of the shooter and flew back in such a manner as to fire the second barrel, the contents striking the man's body.

If either sight of a weapon becomes displaced, the bullet may easily strike one marking at the target, as previously mentioned, or supporting an object shot at. Near-sighted individuals, and even those with fair vision, at times mistake objects through the sights, and in that way shoot at the wrong mark. I have quoted elsewhere the case of an acquaintance who from this error shot through the clothing of the marker at the target.

I have read of three accidental shootings in this State, during my residence here, from mistaking a hunter for a deer. In two of them the injured man wore buckskin clothing, so that the color approached that of the game in question. It is needless to say that it is utterly unjustifiable to shoot at anything until its character is known. I have known a man to kill a donkey on the supposition that it was a mountain sheep which he had been following.

In the use of the rifle accidents often occur from the deflection of the ball by some hard substance with which it comes in contact. I have known a bullet to glance from the limb of a tree and become so much deflected upward that it went over the hill which was used as a butt for target shooting, and almost struck a man three-fourths of a mile away. A town marshal near this city shot at a dog across a city square, and the ball, glancing on the stone sidewalk, struck a passerby on the opposite sidewalk. The dog escaped. I have known a policeman to shoot at a dog tied to a stone wall, with the result that the ball glanced and struck the man in the foot. In another case the pistol ball glanced from the head of a dog and struck a young lady in the back of the neck, with serious but not fatal result. She stood some sixty feet from the dog. The latter animal was finished with a club. At Fort Russell, Wyom., about six years ago, a ball struck a nail head in the target, a part of it glanced downward, and the marker, being in the pit directly under the target, received this portion in the chest, dying shortly afterward. An instance was reported some time ago of a man who shot into an iron pot with a rounded bottom, with a pistol. It was stated that the ball glanced in such a way as to return and strike the shooter. Small bullets fired at a hardwood target from a revolver, with a very small powder charge, may rebound and strike the shooter, not penetrating the wood sufficiently to stick. Such rebounds may be entirely harmless, as I have experienced them on two or three occasions in making experiments, the ball not having force enough in rebounding to carry it more than the length of an ordinary room.

Hunters, in dispatching a fallen animal, occasionally in their excitement place the muzzle of the gun directly against it, and thus cause the barrel to burst. The effect of the shot in such a case is often nearly lost. Many suicides, from making a similar mistake, fail to accomplish their object, placing the pistol directly in contact with the body, with the result that the ball bruises the flesh but does not penetrate. At times it may fall almost harmlessly to the floor. I have quoted one such case in the *Boston Medical and Surgical Journal*, May, 1895, although not in the attempt at suicide.

The self-cocking revolver is the source of many accidental shootings. In one's excitement the trigger is almost involuntarily pulled, and, the weapon being short, it may be pointed either at the person of the shooter or at a bystander. One patient of mine shot himself in the foot through such an accident. Another,

carrying in his right-hand trousers' pocket a small revolver of the pattern mentioned, with his hand upon the trigger and apparently studying over the matter of how he would punish the man whom he was pursuing, unconsciously grasped the weapon too tightly and shot the bullet out through his clothing into the sidewalk, the powder burning his genital organs. A year or two later, the very man he was then pursuing and who owed his escape in part to this accident, in the attempt to strike an assailant over the head with a similar revolver, accidentally killed him, and was the subject of the case reported in the *Boston Medical and Surgical Journal*, August 14, 1890.

With cannon, and especially with the small ones used in celebrations, accidents frequently occur from the forgetfulness or carelessness of the person designated to "thumb the vent" in reloading. If the thumb stall be thin, the hot metal burns his thumb, and he withdraws it while the rammer is inserting the powder charge, causing an instantaneous discharge in certain cases. I have known of two serious accidents of this nature, one causing a death and the other injuring two men severely; while in a third, which occurred under my own eye, the rammer was but slightly burned.

It is not uncommon to have accidental injury from attempts to perform tricks with the revolver. I treated a man some years since, who, in trying to whirl his 45-calibre weapon around his finger, after tying the trigger back, and fire it at each revolution by catching the hammer with his thumb, succeeded in shooting himself in the leg. I knew of another similar accident which happened in the same region.

Where pistols are carried habitually, many persons are injured from the dropping of the weapon from the holster or pocket in mounting a horse or getting into a wagon, or in the attempt to draw the weapon quickly. One friend of mine shot his horse, on which he was sitting, from the latter cause. A friend reported to me an accident from the catching, upon the counter of a store, of the hammer of a revolver carried in the pocket, when the owner tried to lift himself up backward to sit upon the counter. The ball entered his clothing, but did no serious harm. A case has been recently reported, in which a man was kicked by a horse in the region of the hip pocket, in which he had a revolver. It was discharged and the bullet entered his leg. All of the injuries from catching the hammer which have come to my notice have been in the lower extremities, while those from the dropping of the weapon in mounting a horse or entering a wagon have been generally in a direction upward, and hence have been in the trunk at times as well as in the legs.

I have known of one case in which a man shot his great toe off, firing at a target at long range, having assumed the position so common in this sport, in which the barrel is rested between the knees as one lies upon his back. He had unconsciously stretched his feet out until one was in front of the muzzle. In another instance the shooter burned the toe of his boot in similar manner.

Many boys are wounded in the left hand with small revolvers and toy pistols, while holding the barrel in the left hand and attempting to dislodge a cartridge stuck in the breech chamber or to close the weapon under such circumstances. Many such cases show a pebble in the hand, this having been used in lieu of a bullet in a small pistol, over a blank cartridge. At the Massachusetts General Hospital, on the morning of June 18, 1880, following the celebration of the anniversary of the battle of Bunker Hill, I saw six such cases, and during the following two years many such cases presented themselves at the Boston City Hospital. At that time a particular variety of toy pistol, using a blank cartridge, was greatly in vogue among

the boys of that region. Five deaths from tetanus following such wounds occurred in one month during my service as house officer.

Many men have been injured in taking a loaded gun through a fence, or from a wagon, or out from under a tent or bedding in camp. It is commonly supposed to be empty or else the person handling it carelessly gets in front of the muzzle. Many accidents occur from riding behind a loaded gun in a wagon or buggy. Three fatal accidents and one non-fatal of these varieties occurred in a few years within a radius of fifty miles of the town in which I practised. One patient of mine shot himself through the body with a government rifle, in the attempt to draw it toward him as he sat upon the seat of his wagon. Many fingers are lost by holding them over the muzzle, or having them in contact with the cleaning-stick or ramrod when a shell sticks or a load misses fire and an investigation is being made. One patient of mine shot off his right forefinger, having held it over the muzzle while trying to shut the lever of his shotgun.

Many accidents have happened to poachers from carrying short weapons, which for concealment are carried in the pockets after being detached. A relative of an Irishman with whom I hunted one fall was killed in crossing a stone wall, by the charge from the barrels of a double gun which he had concealed in his coat-tail pocket. As he raised the tails of the coat to step over the wall, the barrels, which were muzzle down in the long pocket, fell downward, and the cap of one barrel striking on the wall, the charge passed upward into his abdomen. Several similar accidents are on record in English works.

In the struggle for a weapon with which one person has assaulted another, many injuries take origin. In one of my cases the revolver was discharged when held over the shoulder of the owner, and a fatal wound resulted, the ball passing through the heart. In a case which I saw with Dr. Parkhill, of Colorado, the bullet passed in a similar case through the left lung, and the patient recovered. The history given by the patient was that, in the attempt to shoot a highwayman in the night, the latter seized the weapon and pointed it at the chest of the owner, and it was discharged while in that position. In a Denver case, which I did not see, the pistol ball cut off two fingers of the woman who was trying to use the weapon upon a man employed about the ranch. One can easily see that any variety of wound might come from the very unusual positions in which a pistol might be placed in such a struggle. There can be little doubt, however, that at times suicide is attempted with an unsuccessful result, and that the intending suicide then tells a story of an attack upon himself by another, of his attempt to shoot the attacking party, and of a consequent wound from his own weapon. I feel sure that I know of one such case, for the injured man was known to be despondent over a love affair; but one shot was heard instead of three as he stated, and but one chamber of his pistol was empty. He claimed to have fired twice at the retreating highwayman after being himself shot in the scuffle; but there was no evidence outside of his statement that he had done so, nor was there evidence that any other person had been near him at the time of the shooting. In another case reported to the Denver police, a man claimed to have shot himself by accident. He had a wound of entrance on the rear aspect of his leg, and some bystanders had heard three reports, so that it was thought that his story was not true, but that for some reason he did not wish to have it known that another had been concerned in the shooting.

I have quoted elsewhere¹ the case of a man who drilled a vent hole in the end of the cast-iron sleeve which fits over the wooden axle of a wagon. When he

filled it with powder and fired it, it burst, and he lost his thigh as a result, being struck by one of the fragments, as reported to me by Dr. Hawes, of Colorado. In a recently reported case, a turntable bolt burst with fatal effect in a similar manner. These cases are, however, so common and so obvious, even to one not especially familiar with the subject, that I need not quote other cases.

Perhaps the most prolific cause of accidental shootings is to be found in the habit of pointing a weapon at another in fun, under the impression that it is not loaded. These cases are reported in every community with great frequency. In one case reported from Pocatello, Id., a Bannock Indian withdrew the charge from his muzzle-loading gun, and then tried it upon a brother Indian brave. Apparently a second load remained in the barrel, for he killed the object of his sport. Witnesses had seen him remove one load from the barrel in question. In the town in which I first practised, a cowboy showed his revolver to his sweetheart and shot her through the body through some unaccountable accident. Children learn to shoot toy pistols and are permitted to fire them at one another with impunity. Then, obtaining a revolver in some manner, they use it in similar fashion. In one of my cases, a boy of only three years shot an older one through the knee in this way.

Sheer foolhardiness is responsible for an enormous number of accidents. A friend of mine had his forearm shot full of bird shot as the result of his companion's trying a gun, which had missed fire many times, upon him. In one case I knew a boy to allow such a weapon to be fired at him at forty yards for twenty-five cents. Curiously, it failed to shoot—the only instance I have known in which a gun failed to do its work in such a case.

An acquaintance of mine followed a hunter through some thick brush, the latter's shotgun being over his shoulder. The trigger caught upon a branch, and the load passed over my friend's head. Many fatal accidents have resulted from just such causes.

One of the most frequent sources of accidental injury from firearms has been done away with very largely by the introduction of breech-loading weapons. With the muzzle loader, many people were hurt from ignorantly using an enormous load or from placing two loads in the same barrel. In one of the cases I have already quoted, two boys placed four inches of powder and thirteen leaden bullets in a shotgun, and were both injured by the explosion. The left hand is the one commonly hurt by the flying parts, from the position in which it is held.

If the shooter put the cap in position before loading, at times the powder flask or shot pouch would be dropped, and, striking the hammer, carry it backward far enough to allow it to strike the cap with force sufficient to fire the weapon, the charge often striking the head of the man loading it. Occasionally after the removal of the cap from the nipple, the gun being considered perfectly harmless, it was snapped at another person, and caused death. The explanation is that the white substance seen in the bottom of the inverted percussion cap, the fulminate of mercury, became detached and remained upon the nipple, being still just as effective as when contained in the cap. Accidents continually happened on loading the empty barrel with the other at full cock. In one case the hunter stood upon a log, after killing a rabbit, that he might watch for others while reloading. His foot slipped, the hammer of the loaded barrel struck the log, and the charge entered the man's abdomen. The jarring off of the second barrel in badly worn guns from the shock of the first commonly harms only the shooter, and then only by the recoil. The "hangfires" commonly do no further harm than to cause a miss, but obviously

¹ *Medico-Legal Journal*, December, 1895.

might be serious if one had changed his aim sufficiently to bring some one in range. Many accidents are quoted from the attempt to withdraw the charge of a double gun before removing the cap, or after removing it but leaving the fulminate in place.

Finally, I have known several accidental discharges of weapons from attempts of amateurs to change the action of the lock of the arm, and especially from filing away the notch holding the hammer in position at full cock, to make the trigger pull of the gun lighter.

Progress of Medical Science.

Corrigan's Pulse, it seems, should be called Vieussen's pulse, as he described it in 1715. According to Huchard, Corrigan's pulse is the "jerking," water-hammer pulse due to aortic regurgitation.—*Medical Examiner*.

Chorea.—Sir Dyce Duckworth (*Wiener medizinische Blätter*, xvii., 1894) says chorea is simply another variety of rheumatism, in which the brain is affected instead of the joints. He considers that the definition of Andrew Clark, "rheumatism of the brain," is very appropriate.

Dysmenorrhœa.—Dr. H. Talley (*Philadelphia Poly-clinic*) states that a mixture of caffeine, potassium bromide, and tincture of gelsemium is of much value in the treatment of dysmenorrhœa. This should be administered for a few days before menstruation.

Vomiting of Pregnancy.—The *Canada Medical Record* advises putting a blister over the fourth and fifth dorsal vertebra. Some writer is quoted as saying, "By a single vesication I have never failed to put an end at once to the sickness of pregnancy for the whole remaining period of gestation, no matter at what stage I was consulted."

Treatment of the Funis.—Dr. Abraham Jacobi (*New York Medical Journal*) states that in wrapping up the end of the cord oil must not be used, as moisture and the exclusion of air favor gangrene, while warmth and dryness favor mummification. Powdered bismuth subnitrate, zinc oxide, iodoform, or salicylic acid, one part with ten of starch, may be dusted around the stump daily. The latter is not useless as an antiseptic. The normal process of separation usually occupies from twelve to fifteen days, but careless handling, local irritation, and infectious influences may prolong the process for weeks. Under such circumstances local treatment is required. Carbolic acid should be avoided, as infants are easily affected by its toxic properties. Solution of lead, zinc, or alum answers quite as well. Dr. Jacobi recommends powders of zinc oxide, bismuth subnitrate, alum with starch, and salicylic acid with starch or iodoform. Neither iron perchloride nor iron sulphate should be used, as secretions will accumulate under the coagulum formed by its application.

The Arrest of Rheumatic Endocarditis.—Dr. Caton, in a paper read before the British Medical Association, urges the importance of a more active treatment of rheumatic endocarditis than is usually employed, with the view of arresting the disease if possible in its initial stages. As soon as any bruit is detected, a series of small blisters, each the size of a florin, is applied along the course of the third, fourth, fifth, and sixth intercostal nerves in front and at the sides. Only one is applied at a time, and the different exit points are covered consecutively. In this way the blisters give rise to no pain or inconvenience. At the same time sodium or potassium iodide, in eight or ten grain doses, thrice daily, is administered, and the

ordinary salicylate treatment is continued. Lastly, the patient is kept in hospital for six weeks, most of the time in bed. Under this treatment most of the writer's cases (twenty-nine out of forty) in which symptoms of acute endocarditis had supervened left the hospital with, so far as could be detected, a perfectly normal heart.

Effects of Lactation on Menstruation and Impregnation.—Dr. L. Remfrey, in a paper read before the Obstetrical Society, London, concludes as follows: 1. Of nursing women, fifty-seven per cent. only have absolute amenorrhœa. 2. Forty-three per cent. menstruate more or less, but twenty per cent. have absolute regularity. 3. Impregnation does not take place so readily during lactation as at other times, but this is not true to such an extent as has been imagined. 4. If absolute amenorrhœa is present during lactation, the chances of impregnation occurring are only six out of one hundred. 5. If menstruation occurs during lactation, the chances are sixty in one hundred. 6. The more regular a woman is during lactation the more likely is she to become pregnant. 7. During a menstruating lactation the changes in the uterus are presumably similar to those connected with the ordinary monthly periods, and the mucous membrane forms a nidus for the ovum. 8. In the woman who does not suckle at all, the menses appear, as a rule, some time in the first six weeks after delivery.

Acute Gout.—Dr. Jaccoud (*La Semaine Médicale*) divides this subject into three parts, according as one has to deal with the acute attack proper, the subacute attack, or the recurrent disease. In the acute attack proper he does nothing during the first five days except to promote diuresis by the most simple means, as the administration of a litre or so of Evian or Vittel water daily, perhaps adding a little acetate of potassium. He refrains from giving milk, as he prefers that the "explosive energy" of the disease be expended on the organic tissues themselves. He applies anodyne embrocations to the joints and covers with a thick coat of wadding. If at the end of five days the fever and pains have subsided, the attack is nearing its end and no further treatment is necessary. Now, milk should always be given. If there is no improvement, Dr. Jaccoud gives one and a half grains of hydrobromate of quinine with three-quarters of a grain of digitalis powder in pill form five or six times a day: this nearly always produces the desired effect in two days. If the pains are worse at the fifth day than at the onset, salicylate of sodium in thirty to forty grain doses should be given if the urine is free from albumin; after the second dose the urine is to be tested with ferric chloride, and, if the salicylate reaction is either feeble or wanting, the drug should be stopped. The subacute form of the disease is characterized mainly by its prolonged duration. If the above treatment does not cut short the attack on the ninth or tenth day, we must resort to colchicum. The author gives this in the form of pills. He uses Becquerel's formula, each pill containing one-half grain of extract of digitalis, two grains of sulphate, or, better, hydrobromate of quinine, and one-half grain of colchicum seed. In order to avoid excessive purgation, not more than two pills should be given a day. No special antigout medication is to be employed between the attacks. Recurrent gout is treated in about the same way as the subacute form. Visceral gout unassociated with articular symptoms is a late complication, coming on only after years of typical gout. If there is no joint affection within twenty-four hours, colchicum is to be given at once. The joints usually affected are to be covered with powerful revulsants and vigorously blistered.

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THE PARALYSES OF TOXIC ORIGIN.

THE so-called toxic paralyzes are characterized especially by their peripheral localization and symmetry of distribution. They involve particularly the extensor muscles and exceptionally also the optic, phrenic, and pneumogastric nerves. The affected muscles undergo atrophy and lose their contractility, while the invaded members become fixed in partial flexion from unopposed action of the unparalyzed muscles. The paralysis extends, as a rule, from below upward, and may be designated "ascending." The motor manifestations are usually preceded by subjective disturbances of general sensibility, such as pricking, numbness, tingling, symmetrical in distribution and localized especially in the extremities of the members. In addition, there are objective disturbances of general sensibility, of similar distribution, with almost constant integrity of special sensibility. Finally, there occur vasomotor and trophic disturbances, also symmetrical in distribution, and, as a rule, of maximum severity in the lower extremities, though occasionally found in the upper.

Among the intoxications in connection with which the paralyzes under consideration have been observed are those due to lead, arsenic, mercury, alcohol, and the infectious diseases generally. The source and origin of these intoxications are sometimes so obscure and the symptoms to which they give rise occasionally so anomalous, that one must constantly be on his guard lest he go astray in diagnosis and, as a result, fail in his treatment. So like the symptoms of posterior spinal sclerosis are the manifestations of some of these cases, that they have been injudiciously designated "pseudo-tabes."

It has been observed by Lancereaux¹ that arsenical paralysis may be attended with febrile symptoms, thus simulating typhoid fever or acute miliary tuberculosis, or other continued fever, and he reports two illustrative cases. A girl, thirteen years old, previously in good health, was seized with vomiting, vague pains, a sense of fatigue and backache, to which soon was added elevation of temperature, at times reaching as high as 104° F. The pulse was accelerated, but there was no headache and sleep was fairly good, and there was no evidence of organic disease. The symptoms thus continued for four or five weeks, when numbness at

the tips of the fingers and toes was complained of. Next the feet became painful and movement difficult. The nutrition, which had hitherto been maintained, now began to fail and the patient was disturbed by dreams. The skin became dry and rough, and the complexion assumed a leaden aspect. The legs were partially flexed upon the thighs and the toes upon the feet, from weakness and wasting of the extensor muscles. At this time, more than three months after the beginning of the illness, the possibility of a toxic paralysis suggested itself, and on inquiry it was learned that the patient had been under treatment with arsenic for three years, for the relief of a generalized psoriasis. Under appropriate treatment, especially of a symptomatic character, improvement at once set in and progressed favorably.

In the second case, which occurred in a woman thirty-eight years old, who had been taking daily for ten months from ten to fifteen drops of Fowler's solution for the dissipation of enlarged cervical and axillary lymphatic glands, it was decided without a knowledge of this fact to prescribe the same medicament, in doses of from ten to thirty drops in the twenty-four hours. In the course of three weeks fever manifested itself, with vomiting and looseness of the bowels. There was also complaint of dryness of the throat and of the inner surface of the cheeks, with difficulty in mastication; also of headache, with a sense of constriction about the forehead; and, finally, of numbness, tingling, prickling, and burning in the fingers, especially at night. Later there was actual impairment of sensibility and of motility as well, with abolition of the reflexes and œdema of the lower extremities, followed by desquamation. Upon the withdrawal of the medicament the temperature declined, although the pulse remained accelerated. When the drug was resumed, however, the previous symptoms also were renewed.

These two observations not only confirm the knowledge that small doses of arsenic taken for long periods are capable of exerting a toxic influence upon the nervous system rather than upon the gastro-intestinal apparatus, but they also show that they may give rise to febrile symptoms whose origin is likely to escape detection unless the clinician be on the alert. They further enjoin especial care in the administration of arsenic for therapeutic purposes. It remains to be seen if similar manifestations attend other forms of toxic paralysis.

THE COURSE OF TYPHOID FEVER.

IN comparison with some cases of typhoid fever, few other diseases cause the physician greater hesitancy in diagnosis or greater anxiety as to final outcome. When the nature of the affection is not perfectly clear, he hesitates to say that the case is not one of typhoid fever for reasons some of which urge him as strongly to withhold that diagnosis—long days of vigilance, search for the source of infection, disinfection and disposal of passages, and protracted dietary and course of treatment, etc. In a study of the evolution of typhoid fever by Bernheim, of France, some light is

¹ Bulletin de l'Académie de Médecine, 1896, No. 28, p. 41.

thrown on the cause of the irregular course and varying symptom complex of this disease.

Bernheim says that the so-called normal type of typhoid, such as described by Wunderlich (period of augmentation of three to four days; stationary period, twelfth to fourteenth day; and period of decline, five to six days), is not the most common. While this may be retained as a schema, alongside of it should be mentioned typhoid with shortening of the stationary period, or abortive typhoid; and typhoid with prolongation of the stationary period, or prolonged typhoid. In the first the microbic evolution is aborted and the lesions in Peyer's patches resolve without ulceration. In the second the microbic evolution is not continuous, but occurs by steps. Pathological anatomy shows that the lesions are not all contemporaneous, some being in a state of ulceration or cicatrization, while others are in the stage of hyperplasia.

According to whether the first microbic evolution is only in a state of regression or whether convalescence has actually begun when a second evolution sets in, would he call it a recrudescence or a relapse. In both instances, however, the cause is the same—successive evolutions of the typhoid germs. He found relapses in one-fourth of the cases, and, adding together the cases with recrudescence and those with relapse, the number amounted to one-third of the whole. The recurrences may be abortive, but at other times they are long continued and grave. The persistence of the typhoid bacillus in the economy for several months after convalescence, as shown by Orloff, Dupré, and others, goes to confirm this view, based on the clinical history. The relapses may cause no other symptoms than rise of temperature, which may continue for weeks or for only a few days. An irregular fever may follow and be due to secondary infection from staphylococci or attenuated streptococci. Hemorrhages, pneumonia, myocarditis, etc., may alter the regular course of typhoid.

While this theory of the development of typhoid fever by successive stages of microbic infection, giving rise to a varying clinical picture and influencing the prognosis, may be new to the general profession, yet we presume that Bernheim would not disclaim the possibility of its having occurred to others during the twenty years that he has himself entertained it, especially since it might be suggested by what seems to be a more or less analogous condition seen in pneumonia, diphtheria, and perhaps other infectious diseases.

THE COMMISSIONERS OF PUBLIC CHARITIES AND THE PUBLIC HOSPITALS.

WITH the return of physicians to town and the advent of autumn, the vexed question which, during the past winter, has troubled the medical profession with regard to the appointment of physicians to the various medical positions in the gift of the commissioners will come up again for consideration, for the matter is by no means settled, nor can it ever be settled to the satisfaction of the medical profession of this city until its rights are fully recognized both by the commissioners and by the medical colleges.

The question underlying this subject is not with re-

gard to the reappointment of the men who lost their positions, for it is fully recognized that the commissioners had the undoubted right to declare their positions vacant if they saw fit; but that the right of nomination, and it may almost be said that of appointment, should rest with the colleges, to the debarment of the general profession, unless the candidates have the stamp of the colleges, is a matter of such gross injustice that until this wrong is righted no rest will come to either the commissioners, the medical profession, or the colleges. But were the right of nomination taken away from the colleges, upon any vacancy occurring the commissioners would at once be besieged by requests from medical men for appointment, and their lives would be made more or less of a burden in trying to adjudicate this question upon equitable grounds. To the non-political mind it seems extraordinary that the commissioners should voluntarily place this burden upon their backs, when it can so easily be gotten rid of with comfort to themselves, benefit to the hospitals in their care, and advantage to the public as well as to the medical profession. If the commissioners should make the service a continuous one, appointing one man to each division of the hospitals, and make the positions salaried ones, the method of appointment would be much simplified; for the moment these positions are made salaried ones, they come under the action of the civil-service law, and the commissioners could at once refer all applicants to the civil service examining board, which would pass upon their capacity and fitness to hold the positions to which they desired to be appointed. Nor is this an impossibility or without precedent. The New York Dispensary, after trying the old plan of appointment, has now made its medical and surgical positions salaried ones, with advantage both to the men holding the positions and to the dispensary under their control. The same is believed to be true also of the Good Samaritan Dispensary (the old Eastern Dispensary); and in order to supply funds for the payment of its medical officers—for the medical laborer is worthy of his hire—the schools should be required to pay a stated sum for each student who enjoys the hospital facilities furnished by the city. At the McGill University of Montreal, we understand, the students are charged for a hospital ticket, and there is no reason why the medical schools here should not be required to pay for these advantages to their students. This would at once raise the position held to one of dignity and honor to the profession, and prevent the unseemly scramble and intrigue which goes on to obtain hospital appointments in the municipal service. It is difficult to see what reasonable objection there could be to this plan, and certainly, so far as the commissioners themselves are concerned, it would free them from this annoying feature of their labors and give them more time for the study of the duties with which they are entrusted and the proper study of which would fully occupy their time.

"All Kinds of Hot and Cold X-Rays now on Exhibition" is the mysterious legend over a booth at one of the popular seashore resorts near this city.

News of the Week.

The Hack Tuke Memorial.—It has been suggested that the memory of the late Dr. D. Hack Tuke should be perpetuated in connection with the work to which he devoted his life, viz., the amelioration of the condition of the insane and the advancement of neurological and psychological medicine. With the view of carrying out this object, a committee has been appointed to solicit subscriptions in the United States and Canada. The fund obtained will probably be used to found a library in connection with the British Medico-Psychological Association, to which Dr. Tuke's personal library has already been given. Subscriptions may be sent to Dr. Charles W. Pilgrim, Poughkeepsie, N. Y.; Dr. Charles G. Hill, 317 North Charles Street, Baltimore, Md.; or Dr. Frank C. Hoyt, Clarinda, Ia.

The Death Rate in New York during the hot week ending August 15th, was 48.65. The number of deaths was 1,810, of which 615 were from heatstroke.

A Ladies' Quarrel.—The life of a British army surgeon is not a pleasant one. The commander-in-chief of the army treats the members of the medical corps as menials and snubs them at every opportunity; and now it is said that their wives are treated as inferiors by the wives of the combatants, and unhappiness reigns.

The Dirty Sponge.—Professor Lang, of Vienna, declares that sponges, owing to the impossibility of destroying germs in them, have long since been banished from the surgeon's table, and should also be excluded from the bathroom and washstand.

Sewage Farms.—In Paris one-fifth of the sewage is utilized for sewage-farm purposes. For some twenty years the municipality at Gennevilliers, outside Paris, has had several hundreds of acres (once waste land) irrigated, and they now bear magnificent crops of roots and kitchen-garden products. The sewage, after percolating the soil, exudes as pure water. The municipal council, after local opposition, acquired two thousand acres of a Sahara-sandy lightness in the forest of Saint Germain. For two years this district has been irrigated with sewage, and is now covered with luxuriant agricultural and gardening crops.—*Medical Press*.

Suggestion in the Prevention of Seasickness.—Dr. Gorodichze recently reported to the Paris Society for Hypnology that he had succeeded, by means of hypnotic suggestion, in preventing seasickness, even in the case of persons who had always been violently affected by it.

Theses de Paris.—A proposal was recently made, and we believe considered by the authorities of the Paris Faculty, that the thesis which forms the final act in the process of examinational evolution of the doctor of medicine should be abolished. Whether this ancient institution is seriously threatened we cannot say, but there is certainly no sign of its immediate

suppression. During July no fewer than two hundred and thirty-six theses were presented, making a total for the past academic year of five hundred and ninety-four. This is the largest number ever presented in one year. The total number presented since 1798, from which the faculty in its present form dates its existence, up to the end of July, 1896, is thirty thousand nine hundred and fifteen.—*British Medical Journal*.

Dr. John B. Hamilton, the able editor of the *Journal of the American Medical Association*, and also surgeon in the Marine Hospital Service, has been ordered, in the latter capacity, to leave Chicago and proceed to the station at San Francisco. The association can ill afford to lose Dr. Hamilton's services, for he has done much to make the *Journal* what it is, and we trust a way may be found to reconcile his present conflicting duties. The *Journal*, under Dr. Hamilton's editorial management, has been an active opponent of the project to entrust to the Marine Hospital Service the duties of the proposed department of public health.

Match-Making by Machinery.—The French government has been endeavoring to prevent the use of white phosphorus in the making of matches, but finds that to forbid it would be practically the same as prohibiting the making of matches. It has, therefore, sent an engineer to this country to report upon the machines used here for making matches, with a view to their adoption in the French factories, so as to do away with the making of matches by hand.

The Jenner Centenary in Russia will be celebrated in St. Petersburg, on October 24th. The Russian correspondent of the *British Medical Journal* says that the preparations of the Russian National Health Society for this commemoration are proceeding apace. The centenary edition of the society's publication, containing a life of Jenner and translations of all his works, as well as a historical notice of the development of vaccination in Russia and other European countries, will be a worthy memorial of the occasion. It will contain considerably over a hundred illustrations, many of them most admirable reproductions of Jenner's original drawings; it will also contain portraits of Jenner, views of the Berkeley neighborhood, and a host of other Jenneriana, which should make the volume one well worth possessing, notwithstanding that the letterpress will be in Russian. The subscription for the edition is the small one of 3 roubles, or rather over 6s., which will probably be less than the cost of production. Already the society has received a large number of loans and gifts for the exhibition, which it is proposed to hold in connection with the commemoration. These objects have come from almost every part of the world; there are contributors from such distant countries as Japan, the Cape of Good Hope, the East Indies, and Brazil.

Port Physician of Wilmington, Del.—Dr. M. J. Hughes has been appointed by Governor Watson port physician of Wilmington, in succession to Dr. Willard Springer, resigned. The port physician is also *ex-officio* a member of the city board of health.

Vital Statistics of Philadelphia.—For the week ending September 5th there were reported in the city of Philadelphia 362 deaths, as compared with 356 for the preceding week and 355 for the corresponding period of last year. The deaths were distributed among 200 adults and 162 minors; 196 males and 170 females. Ninety-six occurred in children under one year of age; 38 in adults between sixty and seventy; 36 between fifty and sixty; 35 between thirty and forty; 30 between twenty and thirty; 25 in children between one and two; 23 in adults between forty and fifty; 22 between seventy and eighty. The most conspicuous causes of death were: Pulmonary tuberculosis, 44; marasmus, 33; cholera infantum, 22; senility, 19.

Pathological Society of Philadelphia.—At the stated meeting of the Pathological Society of Philadelphia, on September 10th, Dr. C. W. Burr exhibited a diffuse meningeal tumor from the left frontal region, probably a round-cell sarcoma, in association with syringomyelia, in a case of chronic nephritis presenting during life right hemiplegia and immediately before death general convulsions followed by coma. Dr. J. Dutton Steele presented tuberculous suprarenal glands from a case exhibiting also tuberculosis of the lungs, intestines, and mesenteric glands, but free from obtrusive symptoms of Addison's disease. Dr. Joseph McFarland presented a specimen of extensive neoplastic involvement of the abdominal cavity, matting together stomach, transverse colon, spleen, liver, and omentum above, and the uterus and the pelvic contents below. The interior of the stomach was free. The growth was believed to be an endothelioma, but the point of origin remained obscure. Dr. A. E. Taylor made some remarks on the epithelium and the lymphatic tissues of the foetal vermiform appendix, and exhibited sections stained by differential methods. Dr. H. W. Cattell presented a fresh specimen of aneurism of the arch of the aorta without rupture, and also one of multiple sacculi of the bladder.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States Navy for the week ending September 12, 1896: September 10th.—Passed Assistant Surgeon C. F. Stokes, orders of July 21st modified, detached from duty as member of the naval and medical examining boards, New York, and ordered to continue as recorder.

Philadelphia County Medical Society.—At the stated meeting of the Philadelphia County Medical Society, held on September 9th, Dr. G. Betton Massey read a paper entitled "Electricity in Gynecology at the Howard Hospital; Report of Cases." One hundred and two cases treated by these means were analyzed, the results reported being in the majority of a most favorable character. The largest number were cases of fibroid tumor of the uterus. Dr. John Lindsay made a "Report of a Case of Prostatic Abscess," which presented symptoms resembling those of influenza and terminated by spontaneous rupture into the urethra. The condition was recognized by the detection

through the rectum of enlargement of the prostate gland. Dr. J. B. Roberts referred to a similar case, in which rupture took place through the urethra and through the rectum as well; an abscess also formed in the scrotum.

Obituary Notes.—DR. ALEXANDER H. MCADAM, a well-known and successful practitioner, died at Philadelphia, on September 9th, in his fifty-seventh year. He was graduated from the University of Pennsylvania in 1863, and he was for a number of years a member of the select council. At the time of his death he was a member of the board of education.—DR. EDOUARD NICAISE, of Paris, died of pneumonia in that city, in the latter part of August. He was born in 1838, and was graduated in medicine in 1866. He was surgeon to the Hôpital Laënnec, and for a number of years was editor of the *Revue de Chirurgie*.—DR. WILLIAM T. TURNER died at Philadelphia on September 9th, at the age of twenty-two years. He was graduated from the University of Pennsylvania in 1895.—DR. WILLIAM CRANCH BOND FIFIELD died at his home in Boston, Mass., on September 9th, aged seventy-eight. He was a graduate of Harvard Medical School in 1851, and of the Royal College of Surgeons in England.—DR. NICHOLAS RUDINGER, professor of anatomy at Munich University, died on August 24th, at Tutzing, in Bavaria. He was born in 1832, at Büdesheim, in Hesse. After studying medicine at Heidelberg and Giessen, he was appointed prosecutor at the anatomical institute at Munich in 1855, and in 1880 was made professor of anatomy at the university.—DR. HENRY K. PUSEV died at Garnettsville, Ky., on September 2d, at the age of seventy years. He was graduated from the medical department of the University of Louisville in 1849. He was for a number of years superintendent of the Lakeland Insane Asylum.—DR. HARRY HODGEN, of St. Louis, died at Alma, Mich., on August 28th. He was a son of the late Dr. John T. Hodgen, and was born in 1855. He was graduated from the St. Louis Medical College in 1883, and was professor of orthopedic surgery in the same institution at the time of his death.—DR. JOHN LOUIS HOPKINS, of New York, died August 21st, from heart disease. He was born at Carthage, N. Y., in 1861, was educated in the Carthage Academy, and was graduated in medicine from the New York University in 1887. He soon acquired a remunerative practice, and, like many physicians, he was himself the last to receive his consideration. So far, indeed, had he carried this self-abnegation, that his fatal illness seized him while in the midst of his work and he died two days after taking to bed.

An Association of Nurses.—A number of nurses, representing training-schools and alumnae associations, met at Manhattan Beach Hotel, on September 2d, to organize an association of nurses which shall cover the United States and Canada. A constitution was drafted, which will be submitted for ratification to the different bodies represented. The object of the proposed association is to bring the nurses of the country into closer union, to protect them in their rights, and to elevate the profession of nursing.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF VIRGINIA.

Twenty-Seventh Annual Session, Held at Rockbridge Alum Springs, September 8, 9, and 10, 1896.

(Special Report for the MEDICAL RECORD).

First Day—Tuesday, September 8th.

THE meeting was called to order at 8 P.M. After a prayer and the report of the committee on applicants for fellowship, MR. ALEXANDER H. GRAHAM, of Austin, Tex., delivered an address of welcome to the assembled doctors.

Moderation an Aim in Education was the subject of the address to the public and profession by DR. ELLIOTT E. BRADY, of Chatham Hill, Va. In this he claimed that moderation is a natural law, and that the violation of the law brings with it appropriate penalties. He denied the theory of the inheritance of evil propensities, and advocated the early education of children, beginning in absolute infancy. He claimed that at the age of five years, the time usually chosen for beginning educational methods, the tempers and temperaments of children were almost unalterably formed. He called attention to the fact that the theory of non-accountability of criminals and drunkards, on the ground of hereditary tendency, has a tendency to affect injuriously our criminal laws. He styled the theory as the greatest social and moral error of the century, saying, in the course of his remarks, that "the theory invented by experts in excess to shield a criminal behind the mythical scapegoat of parentage, has saved many a neck which laws inaugurated by common sense had prepared ropes to stretch."

Second Day—Wednesday, September 9th.

The Progress of Medicine in Relation to the Prevention of Infectious Diseases.—DR. W. L. ROBINSON, of Danville, the president-elect, delivered an address with this title. The points discussed were the evidence of the bacterial origin of disease and the prophylactic value of orrhoterapy; the special modes of infection of typhoid fever and tuberculosis and the means to be employed in stamping out these diseases; the establishment of a department of public health of the central government, the chief of which should be a member of the President's cabinet.

Intestinal Indigestion.—DR. L. G. PEDIGO, of Crockett Springs, Shawsville, opened the discussion on this subject with a paper on the treatment of this condition. He said that the subject illustrates most forcibly the notion of the interdependence of the various organs. It teaches us how impracticable it is to divide up the various organs and assign them to the corresponding specialists for treatment, as a mere machine might be repaired. He set forth the indications of treatment as follows: (1) To see that gastric digestion is as nearly normal as possible; (2) to attend to the removal of all obstruction from the colon; (3) to endeavor to restore muscular tone to the entire alimentary canal and to promote regular peristalsis; (4) to obtain a careful regulation of the liver in all its functions; (5) to see to it that the pancreatic and salivary secretions are normal in quality and quantity; (6) to promote intestinal antisepsis, or the prevention of the abnormal fermentation; (7) to do all possible to favor certain of those forms of so-called "fermentation" (diastasic action) on which intestinal digestion depends; (8) to prevent the absorption of the toxins from the intestines; (9) to secure the elimination of these

toxins through various channels, chiefly the kidneys; (10) to prevent and remedy the depressant and destructive effects of the toxins upon the nerve centres; and (11) in the after-treatment to build up the blood, which has been impoverished. These indications, the speaker said, are to be met by physical, dietetic, hygienic, and medicinal measures. Antisepsis was approved, but the difficulties in the way of its accomplishment were pointed out, and the reasons shown why it was disappointing in its effects when employed without due preparation of the patient. Great stress was laid upon flushing the colon, washing out the stomach, regulating the functions of the liver, a careful line of diet, and systematic exercise "from the hips up." Among special intestinal antiseptics, subgallate of bismuth was highly spoken of, the practice of the author being to combine it with large doses of subnitrate of bismuth. Salol was also praised for selected cases, and beta-naphthol-bismuth was favorably mentioned. Of diastasic agents, a well-prepared pancreatin should be used.

DR. UPSHUR, of Richmond, called attention to the necessity of a more careful analysis of cases and a consideration of the underlying physiological principles. He divided the cases into functional and organic, and discussed the various causes, whether located in the intestine, stomach, liver, pancreas, or kidney, or nervous in character. He called attention to the trouble in children from mental strain at school. The effect of taking more food than the system requires, dress, and habitual faulty positions of the body were considered, and a correction of these causative conditions was urged as essential. Dr. Upshur also called attention to the ill-effect of tobacco in its physiological action on the salivary glands and pancreas. He reviewed the symptoms fully from every standpoint, calling attention to the significant fact of pain in the right hypochondrium coming on, in the chronic form, from one to three hours after eating. The neurasthenic symptoms were also discussed. The prognosis, he said, depends upon the acuteness of the case and the nature of the complications, functional or organic.

DR. JACOB MICHAUX, of Richmond, expressed surprise at the general misconception as to the cause and management of the disease. He believed in the employment of muscular exercise, but did not believe walking sufficient, and urged his patients to employ all the exercise possible in the open air. A very successful remedy in his hands had been a brine sponge bath upon rising in the morning. Tepid water was employed in cold weather. He also was in the habit of rubbing a saturated solution of salt into the skin. In the form of chronic diarrhoea he gave his patients milk, either alone or with lime water or salt. When they could not stand milk, he gave animal broths. He adhered strictly to a liquid diet. As regards drugs, he had found the digestive ferments of the greatest service. Tonics were rather hurtful. Iron would do more harm than good until substantial food could be digested. Quinine had been shown to be an irritant in most cases. He had been in the habit of relying largely upon pepsin and lactic and hydrochloric acids after meals, or a solution of the chloride of arsenic in minute doses. In some cases he gave from twenty to sixty grains of bismuth, with five grains of salicin, two hours before meals: and two hours after meals he used the extract of opium. Active medicines he regarded as dangerous. He had found the keynote of success to consist in strict attention to diet.

DR. I. S. STONE, of Washington, D. C., said that he did not regard such fine distinctions between cases of intestinal indigestion as at all essential. While he most heartily approved the views of the gentlemen who had spoken, he thought a more practical method of diagnosis and treatment could be devised and prac-

tised. Intestinal indigestion was due to either functional or organic disease. The organic cases were not necessarily difficult to treat. The functional were often due to nervous causes. Treatment addressed to the general condition of the patient would cure, while remedies generally given for dyspepsia would fail. Lavage, used before breakfast, or the use of a pint of hot water sipped slowly, would wash out the collection of mucus sometimes found in the stomach. Hydrochloric acid, in addition to this, would also prove useful. Massage, proper exercise, and a suitable environment were often necessary, and without these the usual remedies, especially the so-called digestive ferments, were useless.

DR. W. S. GORDON, of Richmond, thought that most cases of biliousness begin in the stomach. He laid great stress upon the influence of the nervous system in intestinal disturbance. Functional diseases of the alimentary tract do not show post mortem. Gas in the stomach is not always due to intestinal indigestion. He had seen cases of periodic flatulence well marked in children, which he was sure were due to a nervous condition of the stomach. He had found asafœtida a most invaluable remedy in such cases. Hysterical women often suffer greatly from flatulence, which he was convinced was due to exosmosis of gas from the blood into the intestinal canal.

The presence of oxalate of lime in the urine does not possess much diagnostic value. When it develops in the duodenum it is always present in the urine. He had relieved this condition temporarily by the use of muriatic acid. He gave mercury for its sialogogue action on the pancreas. Pancreatin does not act with much power upon the stomach.

DR. R. M. SLAUGHTER, of Theological Seminary, Fairfax County, had obtained the most uniform benefit from the employment of the stomach pump. He also used copious enemata with a two-foot colon tube. He thought the pancreatic solvents did good. Vegetable pepsin had cured a case of ten years' standing. For washing out the stomach he used plain boiled water. He used the stomach tube three or four hours after meals, but gave enemata only once a day.

DR. UPSHUR thought that Dr. Stone was right as far as he went, but did not go far enough. The condition begins in the stomach and reflex action is from there set up. A hard-worked doctor who suffers from intestinal dyspepsia wants rest and not exercise. Very often a faulty condition of the kidneys forces the stomach to act vicariously as an excretory organ. He used nitroglycerin to relieve vascular tension and so enable the kidneys to resume their proper function. He was opposed to the employment of intestinal ferments. He sometimes used pepsin as a base mixed with phosphoric acid or strychnine. When any digestive was indicated, he used pancreatin pure and simple. He was opposed to the indiscriminate employment of medical preparations of unknown composition.

DR. PEDIGO said that exercise, to be useful, must be of the proper kind. He did not regard anæmia in these cases as due to lack of nourishment, but to the presence of toxins in the intestinal canal. It is the function of the kidneys to eliminate this poison from the blood. This toxic wave of elimination is always passing through the system. If it stops, sickness or death supervenes. In cases of suggestive intestinal indigestion the nervous condition is due to the action of these poisons on the nervous system and so to reflex symptoms. The speaker was very cautious in the administration of tonics. He thought that Dr. Michaux's suggestion of brine baths was excellent. He usually regarded diarrhœa in intestinal indigestion as incidental and did not combat it actively. He had excellent results with hot-water injections in this diarrhœa.

Cold enemata following the hot were also useful when it was necessary to check it. He used quinine only in cases in which he suspected a malarial element.

Typho-Malarial Fever.—DR. WILLIAM S. GORDON, of Richmond, read a paper on the nature of this fever, taking the ground that there was doubt as to the existence of such a disease. He claimed that it is a typical typhoid and adduced arguments to prove his position from a clinical standpoint. He denied that the existence of a new disease with a specific germ has been proven. He also denied the existence of a hybrid disease, and was inclined to regard it as doubtful whether two specific fever germs could be present and active at the same time in the same body and produce a modified disease. The history of these cases proves that they cannot be distinguished in many instances from a group of cases resulting from typhoid poison, and the speaker held that it is more reasonable to prove them typical typhoid than to assume them typho-malarial. He would not absolutely deny that there is such a disease as typho-malarial fever until the point has been settled by bacteriological investigation. He denied the existence of catarrhal and gastric fever as distinct diseases. The history of malarial fevers as ordinarily described, especially from the standpoint of epidemics, shows them to be of typhoid nature. From the patient's standpoint, therefore, it is far better to suspect and treat the case as one of typical typhoid fever than to let the patient walk about in a disease supposed to be of small moment. The paper presented the question from both an argumentative and a clinical standpoint. It was discussed by a number of the members, but no new arguments bearing upon the existence or non-existence of such a condition as that under discussion were brought forward.

Hysterectomy.—DR. I. S. STONE, of Washington, D. C., read a short paper on "Extirpation of the Uterus for Pelvic Suppurative Disease." The author gave his reasons for abandoning the vaginal operation save in exceptional instances. He was struck with the admirable reports of Jacobs and others, and had made an effort to apply the new or vaginal method in his practice, but he had returned to the abdominal method, by which he had obtained most satisfactory results. A brief allusion was made to the technique of the method employed in order to show its reasonable superiority over the former method. The pus sac is removed if possible without rupture. The peritoneum is not soiled. The cornua of the uterus are excised and if necessary all of the uterus is removed. The uterus, if it is to be left in the pelvis, may be sutured to the abdominal wall. No ligatures *en masse* are used, the vessels being tied with small silk, a needle being used which permits fixation of ligatures, preventing any possibility of slipping.

The wound is not infected, the scar remaining is a mere pin scratch, and the patient does not think much about its presence. The vaginal method will never be adopted by any one having perfect results from the abdominal operation. The surgeon's imperfect work may be to some extent hidden from view when the vaginal method is selected, and it is possible that in some cases the mutilation is excessive and unnecessary, as the sacrifice of the uterus is absolutely guaranteed from the start. It is obviously true that when the abdominal method is chosen, the uterus may possibly be left and the appendages on one side at least. Many cases could be cited in which pregnancy followed the removal of the adnexa of one side only for pyosalpingitis.

DR. GEORGE TUCKER HARRISON, of New York, thought it was all important in young women to spare the ovaries. He objected to the suprapubic method because by the vaginal route conservation was practised

and no wound of the abdominal cavity was made. There is always danger from hemorrhage by the abdominal route. The tendency of modern surgeons is to take the vaginal route.

DR. GEORGE BENJAMIN JOHNSTON, of Richmond, thought it was difficult to operate in this way when the vagina was small and the perineum rigid. He preferred the suprapubic route. The operation can thus be done without rupture of tubes. There is also no special danger of infection.

DR. J. MCFADDEN GASTON, of Atlanta, thought the tendency of modern gynecology was to go through the abdomen. It is especially unnecessary to extirpate the uterus. He urged conservatism.

DR. WILLIAM L. ROBINSON, of Danville, said we could not see so well in the vaginal operation. There are adhesions and suppuration in most cases. The cleaner and better mode is by abdomen, as these adhesions have to be removed.

DR. STONE thought that he and Dr. Harrison were considering a different class of cases. The vaginal operation will not do when the case is severe. The vaginal way is a good one for preliminary investigation.

Third Day—Thursday, September 10th.

DR. R. J. PRESTON, superintendent of the State Asylum for the Insane at Marion, Va., offered a resolution that a commission be appointed to consider the recommendations and suggestions contained in the president's address, especially in reference to State and national hygiene, and that said commission recommend such action as it might think advisable.

Election of President.—DR. GEORGE BENJAMIN JOHNSON, of Richmond, was elected *President*.

Surgical Immunization.—DR. J. MCFADDEN GASTON, of Atlanta, read a paper on "Surgical Immunization Compared with Susceptibility and Predisposition to Infection," in which he reached the following conclusions:

"1. Various agencies are at work in rendering the human organism to a greater or less extent free from the injurious impressions of surgical procedures.

"2. Local and constitutional influences operate in conferring immunity, and the environments of individuals, with their habits and customs of life, exert great control over the vital powers.

"3. Certain marked changes in the conditions of the nervous system, constituting shock, in course of surgical operations, may be averted by proper measures in advance; and in default of such precautions should be corrected by rigorous means of treatment.

"4. The immunity for normal structures in operative work, which was supposed to be given by germicidal solutions, has proved to be a delusion and a snare, and that they are only admissible in septic contamination of the tissues.

"5. That a preliminary examination of all the functions of vital organs should precede surgical operations of every kind, and that efficient correctives should be resorted to for their derangements. The issue of the case depends materially upon proper means of preparation for an operation.

"6. It is not essential for the management of a surgical case that the patient be placed in a hospital, but cleanliness in private quarters with proper nursing may secure entirely satisfactory results, by conforming to the ordinary surroundings of the patient.

"7. A thorough comprehension of the reciprocal relations of immunity and susceptibility should lead to the adoption of conservative measures in the practice of general surgery, and the use of the most radical and aggressive measures when indicated by the nature of the case.

"8. Those appliances which may promote surgical immunization should be adopted, and those measures which lessen susceptibility and predisposition to infection are warranted in all cases of surgical interference."

DR. EDWARD MAGUIRE, of Richmond, took strong grounds against the practical possibilities of asepsis. Patients brought in with crushed or mangled limbs cannot be treated aseptically. The germs are already in the wounds. The unbroken skin or mucous membrane is proof against the entrance of germs.

Oxygen in Anæsthesia.—DR. T. L. PEDIGO referred to the use of oxygen in ether or chloroform narcosis. The use of oxygen is frequently impracticable. Recently, efforts have been made to use oxygen continuously through the period of anæsthesia, with a view to preventing failure of respiration and heart's action. High professional authorities differ as to the measure of success. Some are pleased with the results; others equally eminent condemn the method because of the delay in the effect of the anæsthetic. He referred to the use of nitrite of amyl to revive a patient from ether or chloroform narcosis (originally suggested by the late Dr. Dabney, of Virginia). He spoke of having saved at least two lives by this treatment. This method has something in common with the use of oxygen, since it promotes oxygenation of the blood by stimulating the respiratory function. He referred in some detail to the effect of amyl nitrite on the blood, as observed in experiments of his own on the antagonism between amyl nitrite and prussic acid, made some years ago. He was now engaged on a series of additional laboratory experiments, the results of which he hoped to present to this society twelve months hence.

Treatment of Epilepsy, Medical and Surgical.—

DR. J. ALLISON HODGES, of Richmond, read a paper with this title. As there is no known anatomical basis of this disease, its treatment must be empirical. We should exclude all causes of organic disease, and treat the affection as a neurosis. It was most important to look to the diet and to proper exercise as adjuvants in the treatment. The speaker recommended a periodical change of treatment, and also an occasional change of location. He insisted upon the advantages of the sanatorium or colonization plan. He had given with benefit the bromides in small doses during the day, and trional at night. Other measures which he had found useful were Flechsig's opium-bromide treatment, nitroglycerin hypodermatically to abort attacks, and intestinal antiseptics and laxatives for putrefactive fermentations and autotoxæmias. Regarding surgical treatment, he reported nine patients operated upon, with two seemingly cured after eighteen months' interval; but he doubted the permanency of the results in these cases. For relief of reflex epilepsy, the remedying of defects in his experience served but to effect a temporary amelioration; yet he invariably removed the exciting causes if the disease appeared indubitably referable to them.

Chronic Diarrhœa.—DR. JACOB MICHAUX, of Richmond, read a paper on this subject. He briefly discussed the etiology, symptomatology, and pathology of the disease, and devoted considerable time to the treatment. The greatest importance was attached to the absolute enforcement of his rules as to diet. These were based upon the physiology of digestion. He insisted upon the exclusion of fatty and amylaceous articles of diet, the substances allowed being in every case liquid or semi-liquid and such as experience has shown to be most easy of digestion. To milk was given the first place. This could be taken without any addition or change, but if it were not well borne it should be boiled; this failing, a little salt might be added, just sufficient to impart an agreeably salt taste.

If these measures failed the milk might be predigested. Broths of beef or chicken should be used when milk was not tolerated. These, if made properly and not too poor (though without grease), he regarded as exceedingly valuable. Soft-boiled eggs and raw oysters or carefully stewed ones might be used. The speaker strongly deprecated the use of any but the mildest and most uniritating drugs, confining his drug treatment to pepsin and nitro-muriatic acid and lactic acid for the aid of gastric digestion and to malt extract for the intestinal. He gave bismuth subnitrate in full doses to control the diarrhœa, with five grains of salicin to each dose, say, three, four, five, or six times a day. In severe cases of long standing in which there is inflammation of the mucosæ, opium, lead, and camphor should be given as required, but he insisted that opiates be not used except for the purpose of moderating the diarrhœa and relieving pain.

Orrhotherapy of Tuberculosis.—DR. PAUL PAQUIN, of St. Louis, Mo., read a paper on this subject. His system of producing antitubercle serum consists of injections of tuberculin and tubercle toxalbumins in the horse daily for from three to six months and then using the serum of the horse's blood (thus rendered antagonistic to the germ of tuberculosis) by hypodermic or rectal injections in doses of from five to one hundred and twenty minims, daily or on alternate days. He reported two hundred and twenty-six cases of pulmonary consumption of various stages, among which not ten were in an early stage. The results were as follows: Recoveries (apparently complete), 40; improvement (to the point of the patient returning to his usual duties), 110; unimproved or remained stationary, 76.

DR. LANDON B. EDWARDS reported fourteen cases treated with serum. Two patients who were in the throes of death when treatment began died. Three of them, one an acute case (galloping consumption), recovered completely. Three are no longer declining and six are improved.

The society was then adjourned to meet next year at White Sulphur Springs.

THIRD FRENCH MEDICAL CONGRESS.

Held at Nancy, August 6-12, 1896.

The Application of Blood Serums in the Treatment of Diseases.—This was the first of the subjects for set discussion. DR. G. H. ROGER opened the discussion by giving an historical review of this subject. Héricourt and Richet first showed that a fatal dose of the staphylococcus for the rabbit could sometimes be offset by a subsequent injection of the blood of a dog, but the treatment failed three times in four. They then observed the important fact that all the rabbits recovered if the blood were taken from a dog which had itself previously been inoculated. In 1890 Bouchard made known that blood could be replaced by serum in the treatment of infectious diseases. Meanwhile, the bactericidal action of normal blood, and especially of the vaccinated subject, was studied. Behring and Kitasato demonstrated the highly important fact that the blood of animals vaccinated against the bacilli of diphtheria or of tetanus possessed the property of neutralizing the poisons produced by these microbes in proportions truly extraordinary. But it was to Roux, Martin, and Chaillou that honor was due for having rendered orrthotherapy practical.

It was necessary to choose an animal, such as the horse, capable of furnishing the serum in large quantity and free from toxic properties. The vaccination could be effected either by inoculation of living microbes, the injection of toxins obtained from artificial

cultures, or by injection of toxins taken from the sick. The first method would expose the patient to great danger. The second and third were employed according to the case. As to the organic liquids which could be utilized, serum had been used above all others, being injected under the skin. Milk was ten times less active.

Regarding the application of serum therapy, it could be said to have been tried in all known microbic diseases, and also in most of those in which the pathogenic agent had not yet been discovered, although supposed to be infectious: likewise in intoxication with venoms, alcohol, etc.

Taking up the infectious diseases of which the pathogenic agent was known, Selano and Marchoux had produced immunity from charbon or anthrax by sheep's serum, and it was expected to be applicable in the treatment of malignant pustule in man. Speaking of the serums against cholera, the most that he said by way of encouragement for this form of treatment was that it could be tried in man.

The serum of rabbits vaccinated against the pneumococcus had been tried by various physicians in thirty-nine cases of pneumonia in man, with encouraging results. Roger thought meningitis of pneumococcic origin deserved a trial of this method.

Regarding the streptococcus, in 1895 Marmorek succeeded in preparing a serum by means of cultures of incredible virulence; a rabbit succumbed to a dose of one-ten-millionth part of a cubic centimetre. He easily immunized animals and obtained a most active antistreptococcus serum. Antistreptococcic serum was first applied to the treatment of erysipelas by Roger in 1895. Since then many trials had been made, but the results given had been so diverse that a definite opinion could not yet be formulated; still one could say that antistreptococcus serum was a useful adjuvant in the treatment of puerperal fever and grave erysipelas. The diverse results might depend upon mixed infection, and perhaps upon different varieties of the streptococci being unequally sensitive to the serum.

Experiments of all sorts had been made with regard to tuberculosis. The researches of Maragliano were very encouraging. The serum which he had prepared was bactericidal and antitoxic, curing tuberculous animals in the proportion of 16.26 per 100, and causing amelioration in 48.05 per 100. In man the serum rendered the tuberculous patient insusceptible to the action of large doses of tuberculin.

The treatment of variola with the serum produced by Béchère, Chambon, and Bénard, used in large doses, deserved trial. The serum therapy of several other diseases was mentioned, but that of diphtheria and tetanus was left for other authors. Among intoxicants, Phisalix and Contejean had shown that curare was deprived of its effects by the blood of the terrestrial salamander, which was almost insusceptible to this toxic agent.

In brief, vaccination by the serums possessed the advantage of vaccination by attenuation of microbes or their soluble products, in that its action was immediate. Being preventive, it could be used for prophylaxis, but the immunity which it produced was only passing.

Accidents of Orrhotherapy.—These were: abscess (from want of antiseptics), exanthems and passing arthropathies, fever, polyuria. The author thought nephritis could not be attributed to the serum, for it was not produced in experiments. Regarding death, it was possible that, like other therapeutic agents, serums might prove fatal under special conditions of susceptibility.

Speaking of the mode of action of the serums, the author thought serum-therapy was only a variety of an-

tidotal medication. When it concerned an antibacterial serum, there was introduced into the organism a specific antiseptic which influenced unfavorably the growth or function of the microbe. When it concerned an antitoxic serum, a substance was introduced which produced its effects upon the cells, augmenting their resistance or hindering their impregnation. Were we to believe that serum therapy was to become a panacea? Not at all. Diseased man was not comparable to an inoculated animal. A series of influences of diverse nature intervened in the evolution of the malady, the auto-intoxications, for example, and sometimes the employment of an artificial physiological serum might be indicated concurrently with a specific antitoxic serum.

The Application of the Serums to the Treatment of Diphtheria and Tetanus.—In a paper on this subject, DR. HAUSHALTER said the action of normal horse serum was only slightly toxic compared with other serums. But the injection of therapeutic doses of antitoxic serum in healthy rabbits was far from being innocuous, producing, according to Kossoroff, hyperæmia of the liver and kidneys, parenchymatous degeneration, etc.

Mode of action: All serums (normal, antitoxic, or artificial) possessed in virtue of their salts power to influence dialysis by modifying the constitution of the plasma; of acting dynamically upon the nervous system, favoring the development of local lesions; of fixing in part the bacterial secretions; of exciting and stimulating the phagocytes. Aside from these common properties, serums possessed toxic properties due to the albumins and ferments which they contained. The serums of the immunized also had germicidal and antitoxic properties, for the most part specific (Charin and Desgrez).

Mortality: Collective statistics showed that since the introduction of serum therapy there had been a general diminution of mortality in diphtheria, croup had become less frequent, recovery after tracheotomy and intubation had been much more frequent.

As to tetanus, the work of Roux and Vaillard had shown that serum could be preventive, but that it possessed no therapeutic property in cases of confirmed tetanus.

Mechanism of Immunity in the Rabbit against the Pneumococcus, and the Action of Antipneumococcic Serum of the Horse upon the Rabbit.—DR. DENYS, of Louvain, concluded from experiments on rabbits made in his laboratory by Mennes, that the immunity against the pneumococcus in rabbits was identical, in the action of the serum upon the leucocytes, with that observed in the same animal for the streptococcus, for the bacillus of diphtheria, and for the colon bacillus. In the course of four months, Mennes had produced a serum by hypervaccination of the horse which gave most excellent results when injected into rabbits experimented upon with the pneumococcus. The serum had a preventive and a curative action, and also the property of neutralizing the toxin produced by the pneumococcus. The opportunity had not yet presented itself for trying it upon man.

DR. RONDOT, in using Marmorek's serum for erysipelas, had observed rapid improvement of the general condition, with fall of the fever and diminution in the gravity and duration of the disease.

Immunizing Power of Normal Horse Serum against Diphtheria.—DR. FÉRE, of Bordeaux, had found that normal horse serum injected into guinea-pigs in some cases produced no immunizing effects against diphtheria, in others slight effects, and in others again marked effects. This would explain certain favorable results in the treatment of diphtheria in man with normal horse serum.

Contribution to the Experimental Study of Post-Orrhothropic Accidents.—DRS. BÉCLÈRE, CHAMBON,

and MÉNARD in some experiments injected the normal serum of the horse into heifers, with the result of producing fever and polymorphous eruptions simulating urticaria and rubeola, and even arthropathies—accidents similar to those frequently seen in man during serum therapy. On the other hand, heifers injected with serum of the same species and with that of the ass showed no such lesions. In the first-named experiments no microbe was found in the heifers to account for the symptoms, which it was concluded were of toxic origin. The authors concluded that the accidents attending the use of horse serum in man as well as in animals are not due to anything pertaining to the antitoxin, for which property it is administered, but to the serum itself, which serves as a vehicle.

A. TRELLE had not succeeded in some attempts at treating quartan ague with serum therapy—serum of Roux.

Significance of Phenomena Consecutive to Injections of Antidiphtheritic Serum.—BOSE, of Montpellier, in this paper considered the value or significance of fever, circulatory disturbances, and albuminuria, after injecting antidiphtheritic serum. These were normal reactions to the injection of sodium chloride and certain other agents in healthy animals, and in disease might, according to their characteristics, be beneficial. The same could be said of injection of antidiphtheritic serum—according to the characteristics of the reactions named might they be inferred to be beneficial or injurious in the case under treatment.

Serum Diagnosis of Typhoid Fever.—DR. F. WIDAL gave his further experience in the diagnosis of typhoid by the action of the serum of the individual (sick or convalescent) upon cultures of Eberth's bacillus. His study, pertaining to the serum of nearly a hundred persons, enabled him to affirm that the serum of typhoid patients, like that of patients convalescent from the disease, amassed the bacilli of Eberth suspended in bouillon, and agglutinated them in masses visible under the microscope. This action was so powerful that it could be observed in certain cases in which the mixture was in the proportion of one of the serum to sixty of the bouillon. The serum of persons never having had typhoid possessed no such agglutinating influence upon the bacilli of Eberth. Others had confirmed these observations. In actual study the proportion used should be one of serum to ten of bouillon culture, and the more recent the latter the better, although an older culture could be rejuvenated for the purpose. The agglutinative influence was manifest not only during convalescence, but also during the typhoidal attack. It was, therefore, of value in differential diagnosis. In twelve persons who had had typhoid fever from a year to nineteen years previously, it was manifest in only two, and of these one had had typhoid three years before, one seven years before. The phenomenon, therefore, seldom showed itself longer than a year after recovery. It could be relied upon in diagnosis by the sixth or seventh day of typhoid. The serum in producing the phenomenon did not sterilize the culture.

DR. VEDEL, of Montpellier, insisted upon similar agglutinating property for the serum of persons affected with coli-bacillary infections when introduced in cultures of Eberth bacilli.

Thyroid Medication.—DR. BOURNEVILLE gave recent results with thyroid medication. Four patients with myxedema, two of whom he had presented before, had continued to advance intellectually under the treatment, and the other two had increased in size, particularly in height. The oldest was fifteen years of age. The treatment had also been efficacious in four cases of obesity in patients under fifteen years and had caused slight growth in four cases of retarded develop-

ment in patients from eighteen to twenty-five years of age. For the most part he used the fresh gland, giving half a lobe every second or every day.

Pathogenesis of Intravascular Blood Coagulation.

—DR. MAYET read a paper in which he discussed the following conditions: 1, coagulation produced by vascular changes from causes outside the vein (contusions, etc.); 2, coagulations caused primarily by pathological changes within the vein (aneurism, etc.); 3, coagulations from modifications of the blood acting upon the nutrition of the walls of the vessels (chlorosis); 4, coagulation from blood changes aided by local circulatory trouble; 5, infectious coagulation (puerperal fever, etc.).

Pathogenesis of Intravenous Coagulation.—MAUREL in a paper on this subject drew certain conclusions, two of which were: (1) in most cases the thrombi were at their commencement leucocytic; (2) thrombi may be fibrinous or non-fibrinous, the former usually being of microbic origin.

DRS. SABRAZÈS and MONGOUR had found along the thrombic veins in phlegmasia alba dolens of cancerous and tuberculous patients chains of glands, which pointed to an infectious origin of the phlebitis. In some the tubercle bacillus was found.

DR. VIDAL then reported a case of slow obliteration of the right primary iliac vein, the process extending over years.

Infection and Symmetry: Pathogenesis of Bilateral Lesions.—DR. CHARRIN said that as to nephritis occurring during the course of infection, it was symmetry of function which caused symmetry of lesion. Certain viruses produced microbic infarctions on the right as well as on the left side, the calibre of the obliterated capillaries being previously diminished by paralysis of the vasodilators through action of the toxins upon the nervous centres. The action upon the centres—vasoconstrictor for the microbe of blue pus, vasodilator for others—was capable of modifying homologous areas, as in the members, and in those homologous areas symmetrical infection might take place through germs of the skin or those carried by the circulation. A lesion primarily local might secondarily become bilateral by analogous process. The influence of the nervous system was shown in paralysis, in which bilateral vaccination produced a greater lesion on the paralyzed side.

Difference in Virulence of the Tubercle Bacilli.

—DR. LOUIS DUBOIS said that grave general tuberculosis always corresponded to extremely virulent bacilli.

Orrhotherapy in Diphtheria at Marseilles.—DR.

D'ASTROS, between January 1, 1895, and July 1, 1896, had treated diphtheria in six hundred and sixty-eight cases out of one thousand and sixty-four bacteriological examinations, three hundred and ninety-nine not associated with other bacilli. The total mortality of cases treated with serum was 17.7 per cent.

Orrhotherapy in Variola.—DR. A. BÉCLÈRE had used the serum of the vaccinated heifer against variola in two infants, both of which recovered. A large quantity of serum, the twentieth part of the infant's weight, was introduced under the skin. Sometimes an eruption occurred six or ten days after the injection, but he regarded the treatment as inoffensive and rational. The serum of the heifer was better supported by the human organism than the serum of the horse.

DRS. BOUREAU and CHAUMIER reported some studies upon the microbes of vaccin, and SAINT YVES-MÉNARD stated that he had some very old vaccin which was at the disposition of the members, which had been shown to be sterile to culture, yet it retained perfectly its virulence.

Rheumatic Phlebitis with Autopsy.—DRS. VIDAL and SICARD reported the case, that of a woman, aged

twenty-eight, who had once before had polyarticular rheumatism. On the present occasion the rheumatism involved the four limbs, had lasted ten days, was improving under hospital treatment, when phlebitis developed in the arm. The heart became arrhythmic and death took place in asphyxia ten days after the occurrence of the œdema due to the phlebitis. The lesion localized in the axilla presented nothing histologically except the changes of phlebitis. Bacteriological study showed absence of secondary infection. The phlebitis could only be attributed to the rheumatism in this instance. There was endocarditis. The authors stated that only sixteen cases of rheumatic phlebitis had been authenticated: in only two had autopsy been made, in only one with both histological and bacteriological study.

DR. G. ÉTIENNE reported a case of death during the course of typhoid fever in a man aged eighteen, in which autopsy showed thrombosis of the large coronary vein, histological study leaving no doubt as to the nature of the lesion.

Thrombosis of the Inferior Vena Cava.—DRS.

HAUSHALTER and ÉTIENNE reported three cases of thrombosis of the inferior vena cava producing only slight symptoms. The explanation was, as proven by autopsy, that the peripheral veins remained free to carry the blood back to the general circulation. In cases in which the peripheral veins are involved one sees œdema, and involvement of the small veins of the nerves causes pain, the case then showing the syndrome phlegmasia alba dolens. These three patients were tuberculous, a condition which sometimes led to phlebitis and venous coagulation by proximity of infected and enlarged glands.

A Case of Enderteritis Obliterans.—DR. A. HEYDENREICH described a case of obliterating endarteritis which first involved the toes, then the fingers, causing the nails to fall, producing pain, dry and humid gangrene, disappearance of the pulse. The disease continued to extend for five years and a half, involving the femorals, etc., and finally proving fatal by occlusion of the coronary arteries.

Meningism and Mental Confusion.—DRS. J. SÉGLAS and E. DUPRÉ made such a classification of cases of mental confusion frequently seen in infections, intoxications, etc., presenting some of the symptoms of meningitis, but without the lesions of this disease.

Trophic Changes in the Teeth in Hysterical Subjects.—DR. PAUL SOLLIER reported two cases of trophic changes in the teeth with rapid erosion and pain, in hysterical persons.

Hysterical Hemiplegia and Mutism.—DR. FERRIER related the case, which occurred in a soldier, and stated that it was not exceptional for hysteria, like other hereditary taints, to manifest itself in young soldiers subjected to change of habit, to fatigue, and to homesickness. In the present case the man had served two years and a half.

Changes in the Cord and Nerve Roots in Typhoid Fever.—DR. VOINOT, of Nancy, had examined the spinal cord and roots of the nerves in ten cases of typhoid fever, and in all had found pathological changes in the myelin, in the axis cylinder, and in the nerve cells, but never in the connective tissue, neuroglia, nor blood-vessels.

Antistaphylococcic Immunization and Orrhotherapy.—DR. CAPMAN, of Montpellier, gave an account of his experiments in this direction on dogs, rabbits, and other animals. He had been only moderately successful.

Addison's Disease with Congenital Absence of the Suprarenal Capsules.—DR. A. RISPAL reported a case of Addison's disease in which autopsy revealed congenital absence of the suprarenal capsules. No other lesions were found. Only two similar cases had

been reported. The patient was twenty-four years of age, the symptoms of Addison's disease—melanoderma, pains, wasting, cachexia, progressive asthenia, gastro-intestinal disturbance—proved fatal in ten months.

Nail Favus.—ROSE and GALAVIELLE reported some studies of trichophytic onychomycosis, which led SABRAZÈS to say that he was first to demonstrate by cultures and inoculation the causal diagnosis of the affection. In two cases of favus of the nails he had made cultures which, when inoculated into mice, caused death.

Diagnostic Value of the Cerebro-Spinal Fluid.—DR. G. DENIGÈS and J. SABRAZÈS, of Bordeaux. Out of fourteen cases of lumbar puncture the result was positive in eight. Of the eight cases six were acute tuberculous meningitis, one epilepsy, one hydrophobia. The fluid was never clear, sometimes bloody in meningitis, while in other cases, as hydrophobia, it might come out clear. Three times in tuberculosis Koch's bacillus was very numerous in the fluid. In the case of hydrophobia the fluid injected under the dura mater of the dog caused violent rabies after two months. Chemically the fluids differed in the several cases, and the authors thought further study might result in the discovery of a formula corresponding to each type of meningeal infection.

Thyroid Treatment of Myxœdema.—DR. SIMON presented a child, aged five years, with congenital myxœdema, which had increased perceptibly in height and shown general improvement during two months' thyroid medication.

Auscultatory Sounds in Pleurisy.—DR. HERVOUEX expressed the view in this paper that the pleuritic souffle and egophony informed us of the state of the lung, not of the pleura and pleuritic effusion. If compression of the lung by fluid were the cause, these sounds should always be present in pleuritic effusion, but they were not.

Simulation of Pulmonary Tuberculosis by Certain Acute Bronchial Infections.—DR. E. CASSAET emphasized the importance of bacteriological control to clinical diagnosis of acute affections of the bronchi and lungs.

The Pathology and Clinical Varieties of Paludal Ascites.—DR. H. DE BRUN, of Beyroot, read a paper with this title, in which he held that paludal or malarial ascites was seen under two very different conditions, namely, with and without other collections of fluid or œdema. Usually there was more or less general anasarca. It was to the rare form that he directed attention. Pathologically there were three sets of cases: 1, with paludal atrophy of the liver, of which he cited two cases; 2, with perisplenitis and great pain in the hypertrophied organ; 3, with peritoneal congestion analogous to pulmonary, renal, and splenic congestion preceding paludal sclerosis.

Phosphatic Calculus in the Stomach.—DR. GARNIER presented a voluminous phosphatic calculus found in the stomach—entirely too large to have passed up from the intestine through the pylorus.

Ovarian Medication.—DRS. SPILLMAN and G. ÉTIENNE had employed ovarian medication in six cases of chlorosis. With the first dose all the patients had marked abdominal pain, headache, vague muscular pains; two had some elevation of the temperature. Three of the patients soon showed marked improvement, and in two the suppressed menses returned. The authors thought the treatment favored elimination of toxins, and in introducing an antitoxic principle seemed to act favorably on the general health, to increase the number of blood globules, and to re-establish menstruation.

Treatment of Diabetic Arthritism by Dosage of Alimentation.—DR. E. MAUREL had treated sixteen

diabetics with arthritic manifestations by food dosage, ten cases resulting in recovery, the other six in marked improvement. The treatment was equally important in other forms of joint affection.

DR. MOSSÉ gave experience with the administration of antipyrin, pancreas extract, etc., in diabetes, which was not very satisfactory. He had found a regulation of the diet the most important part of treatment.

Upon a Tremor Combined with the Cheyne-Stokes Respiratory Rhythm.—DR. PIC, of Lyons, reported a case of uræmia which had enabled him to study the pathogenesis of periodic respiration, going to confirm the view of Pachon, that the cerebral cortex participated in the production of the Cheyne-Stokes phenomenon.

The Prognosis of the Albuminurias.—This subject was treated of in two reports, one made by DR. X. ARNOZAN, the other by DR. CH. TALAMON, followed by a discussion participated in by DRS. TEISSIER, BARD, CROCQ, MAUREL, GARNIER, SCHMIDT, LINOSSIER, and others. DR. TALAMON, as reporter, stated that the elements of prognosis in albuminuria should be looked for in (1) the character of the albuminuria itself; (2) the composition of the urinary medium; (3) the etiological or pathogenic conditions of the albuminuria; (4) the special and general condition of the patient; (5) the conditions associated with the renal lesion. He considered these five divisions separately.

DR. LINOSSIER said with regard to the character of the precipitate by the cold nitric-acid test that usually slow formation of the ring, its lesser opacity, its greater diffusion, its formation in the upper part of the fluid, were signs of a favorable prognosis.

Treatment of Rheumatism by Applications of Methyl Salicylate.—DRS. LANNOIS and LINOSSIER had employed methyl salicylate locally in the different forms of rheumatism and in various painful peripheral affections, such as neuralgias, etc. In these various affections they had found the action beneficial in varying degree according to the case and condition. In rheumatism it was as useful, often more useful, than when taken internally, and avoided disturbance of the stomach. In the acute attack the pain might prevent rubbing it in and make oral administration necessary.

The Anatomical and Clinical Significance of Polyvisceral Interstitial Inflammations.—DR. BARD read a paper on this subject. He said that the presence of scleroses in conjunction with the cardiopathies presumed inflammations, subacute and interstitial. In cardiac œdema with chronic thickening the condition was one of interstitial dermatitis. These were local inflammations, and not stases which gave rise to scleroses. Ischæmic atrophies differed from scleroses connected with arteritis of inflammatory nature. Aside from the lesions of arterial origin, there were scleroses due to inflammations primarily affecting the interstitial tissue. These inflammations were polyvisceral, and the symptoms depended upon the lesions themselves, their association, and the organs affected. Briefly, inflammations were necessary to produce true interstitial scleroses which increased the weight of the organs; these inflammations were not always of arterial origin, but often were primarily interstitial.

Application of the Roentgen Rays to the Medical Sciences.—DRS. BARTHÉLEMY and OUDIN first gave an historical review and presented photographs of their own work, showing the progress made during the few months since Roentgen's discovery. Much depended upon the details of technique. For instance, Thompson's tube was better adapted to deeply seated organs in the adult, while Collardeau's gave remarkable results in fineness of details for the adult extremities and bodies of infants. The time required had been so reduced that the method was applicable even

to infants and others who could not remain long immobile. Their first photographs showed only the bony skeleton, while later ones showed also muscle-bundles, their tendinous insertion, and the nails with the bones back of them.

DR. VEDEL showed an x-ray photograph which had enabled him to differentiate between pseudo-osteo-arthritis and true osteo-arthritis, the case illustrating the former condition.

Treatment of Affections of the Respiratory Passages by Warm Baths.—DR. LEMOINE had treated and cured sixty cases of affections of the respiratory passages, such as inflammations of the tubes and lungs, etc., with baths of temperature of 37.5° C. Cold baths should not be used in these cases, however effectual they might be in typhoid. Spillmann, Bard, and Cassaet, on the other hand, had found the cold bath sometimes useful, especially the first two or three days of acute inflammation.

A Case of Labio-Glosso-Laryngeal Paralysis of Cerebral Origin.—DRS. PICOT and HOBBS, of Bordeaux, gave the history and autopsy in the case of a man, aged sixty-six, who had had several apoplectic strokes, and three months before admission to the hospital was taken suddenly with paralysis affecting the lips, tongue, pharynx, and larynx. The velum palati and muscles of mastication were not involved. The sudden and simultaneous occurrence of the paralytic symptoms led to the diagnosis of labio-glosso-laryngeal paralysis of cerebral, not bulbar, origin. The man died eight months after the accident, without noticeable progress or change in the paralysis. The autopsy confirmed the diagnosis of cerebral origin of the trouble, the bulbar origin of the cranial nerves being intact, while there were a number of small old hemorrhagic foci in the anterior and middle hemispheres, two of which had probably been the cause of the labio-glosso-laryngeal paralysis, one having destroyed on the right a part of the caudate nucleus and avant-mur, and in addition a small focus in the middle of the anterior portion of the centrum ovale on the left side.

Angina Pectoris of Bright's.—DR. RONDOT treated angina pectoris of Bright's disease by regulating urinary insufficiency.

Clinical Value of Hyperacidity of the Stomach.—DR. HERVOUET read this paper. He said that there might be a great excess of hydrochloric acid in persons not even dyspeptic. Treatment by dilute hydrochloric acid was equally efficacious in such cases and in cases of deficiency of hydrochloric acid, and did not aggravate the symptoms of the former.

DRS. AUCHÉ and CARRIÈRE read a contribution to the study of the histology of hemorrhagic effusions of the pleura. The findings differed greatly in the different cases.

Urology in Typhus.—DR. SPILLMAN, of Nancy, found in the urine in typhus albuminuria constantly, urobilinuria frequently, uric acid increased. Guérin had isolated from this urine a toxalbumin which caused diarrhœa and dyspnœa in rabbits, but not death. The urinary toxicity was diminished.

Duodenal Stenosis Simulating Pyloric Stenosis.—DR. PIC, of Lyons, related a case in which the symptoms and physical signs pointed to a hepatic colic and stenosis of the pylorus from adhesion connected with the gall bladder, the seat of stone. Laparotomy was performed and the diagnosis of the band was confirmed, but its nature remained undetermined. Gastro-enterostomy was made. Autopsy showed neoplasm of the bladder and a peritoneal band constricting the duodenum at its upper portion. The clinical picture had been one of true pyloric stenosis.

Hystero-Paludism.—DR. DUCAMP related a case of malaria in which the tremor of the chills was exaggerated and modified by the hysterical tendency of the

patient, this hysterical attack having been excited by the malaria.

A Case of Syphilitic Reinfection.—DR. FOURRIER related a case of syphilis occurring the second time fifteen years after the first attack.

DR. BARTHÉLEMY remarked that Fourrier had not proven his case by inoculation of the chancre. Syphilitic reinfection seemed not to be admitted in France; in all instances one had to do only with syphiloid or tertiary affections.

The Malarial Spleen.—DR. FERRIER gave the anatomical findings in some malarial spleens which he had had occasion to study. They related chiefly to (in two cases) the extreme abundance of small round cells, giving the cut somewhat an embryonic appearance; also to the abundance of dark pigment.

Post-Anæsthetic Paralysis.—DR. VAUTRIN reported three cases of paralysis following anæsthesia, seen by himself. One involved the deltoid, biceps, and brachialis anticus on the right side, and gradual improvement had taken place during the six years of its existence. Another was of the deltoid and long supinator on the right; the third was facial. In the last two the paralysis soon disappeared entirely. The anæsthetic used was chloroform, but the accident might follow other anæsthetics. It might be peripheral or central; in the latter hemorrhagic.

The Place of Production of Uric Acid.—DR. F. LAVAL cited the theories which had been offered as to the place of origin of uric acid in the system: one had said that it was formed in the liver, another in the spleen, a third in the blood, and finally in what one might call the leucocytic system. All these theories were correct, for uric acid was formed in the liver as well as in the kidneys, in the spleen as well as in other organs, wherever white blood cells were to be found.

Lesions of Intestinal Strangulation and Engorgement; Passage of Microbes through the Walls.—BOSE and BLANC gave results of clinical and experimental study of this subject. After stating the gross and microscopical appearances, they called attention to the close relation existing between the necrosis and hemorrhagia; hence the clinical importance of the subperitoneal ecchymosis. The transverse muscular fibres represented the most resisting part of the intestinal walls, to the importance of which fact the authors called attention. The rapid necrosis and hemorrhagia were explained in part by the action of the colon bacilli and their toxins; we knew their power to produce dilatation of the vessels, hemorrhage, and degeneration. As long as the lesions were light, without desquamation of the epithelium, no micro-organism was found either in the walls or on the peritoneum. When the lesions were more marked, micro-organisms were found in the mucous, submucous, and deeper tissues, on the peritoneum, and in small numbers in the vessels. The colon bacillus more especially was present, and combined hemorrhagia and necrosis made of the mucous and submucous tissue a veritable bouillon culture.

Multiple Neuritis Engrafted upon a Nervous Diathesis.—BERNHEIM related some experience in which multiple neuritis developed in persons of nervous diathesis. In the case of a young lady in love with a man whose father withheld consent to marriage, he was able to cure the hysterical element by hypnotic suggestion, whereas this had no effect upon the paralytic and other symptoms of multiple neuritis.

The Melbourne Hospital has two ladies on its house staff, Drs. Alfrida Hilda Gamble and Janet Lindsay Greig, who won their appointment by ranking among the highest six graduates in the final honor list of Melbourne University Medical School.

Clinical Department.

TREATMENT OF OLD DISLOCATIONS OF THE ELBOW.

By W. J. WELSH, M.D.,

BAILEY, MO.

In districts where the practice of medicine and surgery is regulated by laws rigidly enforced, old dislocations are extremely uncommon, but in districts where quacks and uneducated men do much practice such cases are common. We know how difficult it is to reduce dislocation of the elbow, even under anæsthesia when a few hours have elapsed since the accident. When a week or two or a month has passed and the dislocation remains unreduced, it is exceedingly difficult, and when several months have elapsed without correction of the deformity it is almost impossible in most cases, and it may be dangerous to use much force.

The dangers of using much force are patent to all, and if the pulleys be employed, the surgeon is liable to use more force than is justifiable before he realizes it, and he may suddenly do irreparable damage, even when he thinks he has employed but little force. In old cases in which the radius and ulna are dislocated backward the surgeon may have force applied, and in a right direction. He may skilfully use every possible manipulative effort. He may think he has nearly accomplished his object and that just in one moment more all will be right, but the more power he uses in a right direction, the more plainly and beautifully aggravating does the tendon of the triceps stand out, showing that the object cannot be accomplished in this way. In such cases it is rash to use much force. It is plain to be seen that the olecranon is the offending member. Excellent writers on the subject have advised subcutaneous section of the tendon of the triceps. This, however, is a dangerous proceeding and may be disappointing. No knowledge of anatomy that the surgeon may possess can make the operation a safe one. Any one who has seen the inside of such a joint and surrounding tissues, and noted the number and strangely diverse adhesions and changes in the parts, may well shudder at the possibilities of doing such work in the dark. It has long seemed to me that the better plan is to cut into the joint, sever the tendon of the triceps, remove the olecranon, dissect them both out, and then by proper and careful manipulation to bring the radius and ulna forward into their proper places and retain them there with the view of establishing ankylosis. I have had an opportunity of seeing this carried into effect. Miss M—, aged sixteen years, had been thrown from a horse; the radius and ulna of the left arm were dislocated backward. The accident had occurred six months before she was seen by the members of the Crocker District Medical Society. The lower end of the humerus could be seen in front of the ulna and radius: the arm was stiff and useless, was straight, could not be flexed one particle, and was only in the way. As she was an orphan the society agreed to take her under its protection and see what could be done. The pulleys were first thoroughly and skilfully applied, but all efforts failed. Subcutaneous section was considered dangerous. Three or four of the members agreed to cut down on the tendon of the triceps and olecranon and remove them. Under anæsthesia every justifiable effort was again made with pulleys and manipulation, without avail. The joint was cut into and the olecranon and tendon of the triceps were removed, thorough antiseptic precautions being observed. The radius and ulna were brought forward

and the bones set at right angles to the humerus. The following day the patient was found to be doing well. The arm was put up in plaster-of-Paris dressing. The case progressed nicely. The operation was done March, 1893. I saw the patient the following August. She was working at her vocation of housekeeping; could wash, iron, and do all kinds of housework; could put her hand on top of her head; could fasten pins and buttons with it. In short, the arm was apparently as useful a member as could be desired. As none of the members of the society had ever seen the operation before, it was practically an experiment which resulted in a brilliant success. No one who has not seen a straight stiff arm from such a cause can appreciate the deformity and unpleasantness resulting from such a misfortune. The limb is useless and only in the way, and the patient is rendered miserable. If the deformity cannot be remedied, the patient would be better off with the limb removed.

In drawing the radius and ulna forward into their proper places, one thing should be foremost in the mind of the surgeon, and that is to draw the bones fully forward and upward into their old relations. The radius should be brought well up past the lower end of the humerus and the ulna well up in front. The joint should be set at a slightly acute angle and the limb put up in a plaster-of-Paris dressing. The limb should be kept in permanent dressing until firm adhesions have taken place. If the radius and ulna have been well drawn up in front of the condyles of the humerus and retained there for a long time, the adhesions that take place will go far toward replacing the support which the tendon of the triceps formerly gave.

Intractable ankylosis need not be feared, as time and use will largely restore the functions of the limb, including the rotary movement of the forearm. The joint will be strong and will regain most of its former functions.

CONGENITAL IRREDUCIBLE UMBILICAL HERNIA.

By JAMES HARVEY RAYMOND, M.D.,

WAILUKU, H. I.

On April 3, 1896, I was called to attend a Portuguese woman, aged thirty-two, a primipara, poorly nourished, who had been delivered a few hours before my arrival by a midwife. Nothing could be learned of her previous history nor of her family history. The midwife had forcibly extracted a portion of the placenta, leaving the remainder in the uterus. The patient was anæsthetized and upon careful examination a large interstitial fibro-myoma was discovered. I carefully curetted the uterus and flushed it out with a solution of boric acid, and the patient was then taken to the Malulani Hospital, where antiseptic douches were given twice daily and stimulants were regularly administered. Recovery was uninterrupted and she was discharged fifteen days later.

My attention was called on the day of delivery to the peculiar condition of the child, which had a large hard swelling in the umbilical region, covered with the dilated parietal peritoneum, to which the cord was attached. I incised the membrane and found the swelling to be the entire liver, enlarged to such an extent as to be absolutely irreducible.

The child died shortly after the operation. The weight of the child was two thousand and forty-one grams; that of the liver one hundred and thirteen grams. The diameter of the child's thorax at the base was nine centimetres. The transverse diameter of the liver was six centimetres.

"MALARIAL HÆMATURIA."

By LUKE FLEMING, M.D.

TARRYTOWN, N. Y.

HAVING read in the *MEDICAL RECORD* of August 8th an article by Dr. Bush on "Malarial Hæmaturia, or Hemorrhagic Fever," I am anxious to give a report of a case which may in connection with the above article be interesting. In July, 1895, I was called to see Mary C—, a domestic, aged forty-two, who was suffering from malarial fever, in which the chief symptoms were a severe purpura hæmorrhagica covering the greater surface of the body, together with severe hemorrhage from the buccal and vaginal mucous membranes. Her family history was unreliable. Her own history was that for three or four days previous to my visit she had been suffering from chills, pains, and sweats. Twenty-four hours before my visit she had taken fifteen grains of quinine and shortly after this the above hemorrhagic symptoms appeared. Quinine in large doses was stopped and small doses of Warburg's tincture with arsenic were substituted. Under this treatment she recovered after a convalescence of two weeks. Five months later I was again called to see her and found her in a condition similar to that in which I found her at my first visit. Questioning elicited the fact that she had again attempted to "break up" a malarial chill by quinine and that the hemorrhage had not appeared until after the drug had been taken. Under the previous treatment she recovered. This summer I was called to see her for the third time. Now she was suffering from malaria but had taken no quinine. Wishing to test the case, I prescribed quinine and the hemorrhage appeared. I then substituted methylene blue, and she recovered. Now, with this case in mind, I am led to inquire whether the cases of so-called hemorrhagic fevers of Dr. Bush may not have been pure malarial fevers complicated by treatment.

REPORT OF A LAPARO-SPLENECTOMY.¹

By B. HATCHETT, M.D.,

FORT SMITH, ARK.

I REPORT the following case because of the infrequency of the operation of splenectomy, and hence to some degree its general interest.

Mrs. N. E. B—, a native of Arkansas, now a citizen of South Canadian, I. T., applied for treatment, August 5, 1895, and was admitted to St. John's Hospital. Her clinical history, as she told it, was that she was thirty-five years old, married eighteen years, and had nine children. She had one premature birth four years ago, from which time she dated the beginning of her ill health, though she had borne one child to full term since. She had been confined to bed with fever and pain for four months previous to my seeing her.

Six years ago she had an enlarged spleen which gave her considerable trouble, but recovered with treatment. Two years later, and soon after her miscarriage, she noticed a small tumor low down in her abdomen in the median line. It gave but little pain and grew slowly until she was stricken down with fever, when its growth became rapid and caused much distress.

At the time of my first examination the patient was exceedingly feeble, anæmic, and nervous. Temperature 103° F. Her abdomen was considerably distended and painful to touch at all points, evidencing the existence of a diffused peritonitis.

A large, round, semi-resilient tumor prominently

projected from a low position in the pelvis. Diagnosis as to the character of tumor was doubtful, but the opinion was given that it was ovarian in origin. Her condition was by no means favorable for immediate operation, and as I was on the point of leaving the city for a vacation, Dr. L. L. Saunders kindly undertook the task of caring for her for one month, and succeeded in improving her general state greatly, though she still had fever and peritonitis.

Operation, September 3, 1895. Under A. C. E. mixture narcosis, a median incision was made below the umbilicus, when the tumor was recognized as the spleen. The incision was then prolonged, adhesions were broken loose, and the enlarged organ was delivered from the pelvis and lifted into the wound. The pedicle was long and easily handled, with no loss of blood. It was transfixed with a Crawford needle, and the two halves separately ligated with strong braided silk; a clamp was applied at a more distal point, and the removal completed by cutting between ligation and clamp with strong scissors.

The stump was sterilized, found to be safe from hemorrhage, and dropped into the abdominal cavity. The usual laparotomy toilet was carefully made, and the patient came out of the ordeal as well as could be desired.

The extirpated spleen weighed six pounds. Its surface was of a dark slate color, dotted over at various points with cystic accumulations of sero-purulent fluid. The capsule was easily torn and showed the pulp and trabeculae of the organ to be very much disorganized, broken down, and presenting that condition of degeneration which has been designated as "splenic mud." Under the microscope this brownish-purple substance, or "mud," was shown to be composed largely of dark granules, granular bodies, and broken-down extravasated blood cells.

The same material was found thickly coating the internal walls of the large blood-vessels at the point where they were severed in the pedicle.

The patient did as well after the operation as one could wish after the most simple laparotomy. Her temperature began to decline almost at once, and never ran higher than 99° F. after the third day. Pain subsided, peritonitis gave way, appetite returned, and a general feeling of comfort was enjoyed during the days of convalescence. The sutures in the abdominal wound were removed on the ninth day with no sign of pus—not even the smallest stitch-hole abscess. She walked on the thirteenth day after the operation, and on the eighteenth day left for home feeling quite well, with improved complexion, appetite, digestion, etc.

On October 6th, two weeks after her discharge, I had a letter from Mrs. B—, stating that she weighed ninety-three pounds on reaching home, and that her weight was one hundred and three at writing. She had had a little fever at different times, and an occasional sharp pain in her abdomen.

November 10th, a month later, she wrote that her weight was one hundred and twenty-five pounds, and complexion good; there was some pain in the lower abdomen.

A few days ago, being nine months since the operation, I had the following letter from my patient:

"Your inquiry about my health has been received. In reply I will state that I am in better health than I have been for ten years, and as well as I ever was in my life. My appetite is good and my complexion is clear. I have no pains as a result of my former ailment, and can speak only words of praise and thankfulness for my recovery."

I made several microscopical examinations of this woman's blood, and found the relative proportion of the red and white corpuscles but little if any more disturbed than would ordinarily occur in any simple

¹ Extract from a paper, "Reports of Cases of Abdominal Lesions," read before the Arkansas Medical Society, May 1, 1896.

anæmic condition. Lukæmia was thus shown to be absent, and hence the exceedingly good results obtained, for I believe most operations prove rapidly fatal when the lukæmic state exists.

Unfortunately, our knowledge of the physiology of the spleen is still left in a state of confusion, and hence the discussion of the propriety of its removal under various conditions is unsatisfactory. The statistics of the comparatively few operations so far recorded are not encouraging.

ADHESIONS OF THE MENINGES FOLLOWING CEREBRO-SPINAL FEVER.

By MARY JORDAN FINLEY, M.D.,

MANSFIELD, O.

DR. J. LEWIS SMITH says in his article on cerebro-spinal fever in "Cyclopedia of Diseases of Children:" "No post-mortem examinations, so far as I am aware, have yet revealed the state of the brain and its meninges in those who have had this malady at some former time and recovered; whether there may not be some traces of it that are permanent, as opacity or adhesions."

The following notes of a case occurring twelve years ago and of autopsy made after death from suicide a few weeks since may be of value. I regret that they are not more full.

On March 17, 1884, I was called to see Thomas J. Kellar, aged thirty-eight years, suffering from a well-marked attack of cerebro-spinal fever, which was at that time rather prevalent here, as it has been twice since, once in 1889 and at the present time.

There were intense pain in the head, nausea, and vomiting; temperature was 102° F. The face was flushed and the eyes were injected; there was great restlessness. On the second day there was less pain and less fever, and the general condition seemed much better. The third day brought an exacerbation of all the symptoms: temperature, 103° F.; extreme restlessness, slight delirium, head retracted, legs drawn up but contraction not marked. There was a sparse eruption on the face and trunk resembling roseola.

On the fourth day temperature was lower; restlessness and delirium had given place to a stupor, from which the patient could be easily aroused, when he complained of pain in legs and general hyperæsthesia.

Improvement continued until the sixth day, when pain in the head was again very severe.

After this improvement was steady, and by the end of the second week convalescence was well established and my visits ceased. The case went on to an apparently complete recovery, leaving neither mental nor physical change.

The man was lazy, worthless, and a periodic drinker after his illness, as he had been before it, and managed to live on his pension and his wits, just as before. The pension had been granted for a crippled hand.

In the last year he had had fits of depression after his sprees, and in one of these, on the 28th of April, he shot himself through the head. The following description of the brain and meninges is taken from the report of the autopsy by Drs. John E. Speer and John Stevens: "The membranes were adherent to the brain along the crest of both hemispheres for a space half an inch wide and between three and four inches long. On these spots the dura mater, arachnoid, pia mater, and brain were closely connected with old white cicatricial tissue, which had to be cut way with the knife. There was some opacity of the arachnoid in the region near to the adhesions. There was no evidence of recent inflammatory action."

SLIGHT RESULTS OF A SEVERE INJURY.

By ROBERT H. McNAIR, M.D.,

NEW HAVEN, CONN.

I WAS called on March 25th to attend a case of apparently serious and extensive injury to the testes. The patient, J. G——, aged fifty-two, while using a piece of lead pipe as a lever and standing astride of the same, was thrown with considerable violence into the air by the end of the pipe, which in making its ascent punctured the scrotum midway between the extremities of the testes, making a laceration two inches in length, and, passing straight upward, wounded the tunica vaginalis testis by an opening large enough to admit the end of the examining finger. There were necessarily contusion to the surrounding parts and profuse hemorrhage, and after a careful examination I thought that I should find at the next visit a scrotum about half the size of the patient's head. After controlling hemorrhage and thoroughly cleansing antiseptically, I closed the lacerations and ordered cold compresses, to be applied at frequent intervals for twenty-four hours. There was no shock and but comparatively little pain.

Upon visiting the patient the following morning I was surprised to find very slight swelling and no more inflammatory action than necessary for the repair of an injury of less consequence. There was no discomfort except soreness at the scrotal wound. The patient insisted upon resuming his duties on the fourth day after receiving the injury, and with the support of a suspensory bandage he returned to his engine on a New York express train, which necessarily kept him on his feet most of the day. He was not inconvenienced any more than would have resulted from a simple incised wound on a less delicate part. Hence the reminder again of what Dame Nature is capable of doing in her workshop, regardless of surgical interference.

STRYCHNINE IN UTERINE INERTIA.

By F. E. BEAL, M.D.,

PAPILLION, NEB.

MRS. L. M——, aged thirty-seven, married, German, farmer's wife. Previous history as follows: Oldest of family of six children, all of whom are living. No evidence of syphilitic, tuberculous, or other dyscrasie could be obtained by closest questioning. Since maturity she has weighed about one hundred and fifty pounds and has always been a hard worker. She was married at the age of thirty, since which time she has had five children at three confinements: twins at the age of thirty-one; single at the age of thirty-three; and again twins at the age of thirty-five. Of these but one child was born alive, one of the twins of the first birth. All of these labors were characterized by absolute inertia of the womb and excessive hemorrhage during the entire three stages of labor, and even the following two and two and a half days, necessitating the constant attention of from one to three physicians, who had to use the most heroic measures to keep the patient from bleeding to death. All of her children have had to be taken by high instrumental delivery, simply because of the absolute absence of uterine contractions, and for the same reason each placenta has had to be delivered by the hand thrust into the uterus. Both husband and wife being quite intelligent, they gave me a good description of the treatment that had been employed, and assured me that the mother had faithfully taken ergot both internally and subcutaneously to its fullest extent, quinine, etc., to promote labor pains, but in vain. The bleeding, especially that post partum, could be

controlled only in a degree by active and repeated applications of styptics within the womb.

On May 25th I was called seven miles into the country to attend her in her fourth confinement. I knew nothing about the nature of the case when called, getting the above history at the time and since. I found the woman in a semi-faint: there was a pronounced general relaxation over the entire body; the pulse was 106 and weak; the pupils were dilated; the lower extremities were cold and clammy. Vaginal examination disclosed a large flabby os about two-thirds dilated; the position of the child was normal. The woman had been bleeding rather profusely for two hours, the hemorrhage having begun suddenly on the expulsion of the amniotic fluid. There was entire absence of pain and uterine contractions, the walls of the womb being soft and flabby, and all manipulation seemed only to increase the flow of blood.

Being, of course, averse to using ergot before the completion of the third stage of labor, and being assured by all present that the woman was in exactly the same state as she had been each time before, and that neither ergot nor any other medicine would do her any good, I determined to try strychnine in large doses subcutaneously. I immediately injected one-tenth grain of strychnine sulphate into the arm and in half an hour the bleeding had ceased; the pulse rose to 96 and became stronger, and the uterine pains were present enough to make the woman complain. Those present asserted that it was the first time she ever had a labor pain. Four hours from the first injection I repeated with one-twentieth grain, because the pains, while regular, were not of sufficient force. At the end of eight hours from the first injection she was delivered of a healthy eight-pound boy, the placenta being expelled with a good hard afterpain in eight minutes after the birth of the child. There was no post-partum hemorrhage, the uterus contracting nicely and remaining contracted. In short, it has never been my good fortune to meet with a labor and entire puerperium that were more entirely normal—after the first injection of strychnine.

Surgical Suggestions.

The Tourniquet.—When a rubber tourniquet is applied to the thigh, care should be taken to use a wide rubber band and not a rubber tube, since cumulative pressure of the rubber tubing is sometimes great enough to injure the nerve.—DR. WYETH, *International Journal of Surgery*.

Ulcers of Leg.—

R. Acidi carbol.....	2	parts.
Acidi borici	10	"
Pulv. camphor.....	7½	"
Ichthyol	20	"
Ol. andropogon nardi	q.s.	
Ung. zinci oxidi	q.s. ad 100	"
S. Apply once a day.		

—EDLEN, *New York Medical Journal*.

Malignant Tumors.—Dr. Senn says the essential features of the modern treatment of malignant tumors may be summed up as follows: "Operate early and thoroughly. The treatment of unoperable sarcoma by injections of the sterilized toxins of the streptococcus of erysipelas and the bacillus prodigiosus has not had the expected results."

Empyema of Antrum of Highmore.—Dr. Cobb (*Boston Medical and Surgical Journal*, May 7th) writes that Dr. Mackenzie has suggested that the pus discharge be examined for bacilli. This has been done, with no important results as regards diagnosis. The

staphylococcus pyogenes aureus, albus, and citreus, and the pneumococcus of Télamon-Fraenkel have been found. The latter is of interest, as pneumonia has followed antral disease.

Abscess of Ovary.—Dr. J. H. Etheridge (*American Journal of Medical Sciences*, April, 1896) reports three cases of abscess of ovary due to pneumococcus. So far as could be ascertained, no case of ovarian abscess produced by this microbe has been reported previously. "The majority of abscesses of the ovary are the work of the staphylococcus. A few ovarian abscesses contain the colon bacillus."

Continuous Submersion.—Dr. Hodges writes in the *Journal of the American Medical Association*, April 25, 1896, as follows:

1. Continuous submersion is harmless. 2. Continuous submersion will almost instantly limit infectious gangrene and control septicæmia and sapremia. 3. Continuous submersion will quickly relieve the pain and discomfort of phlegmonous inflammation or cellulitis. 4. Continuous submersion will speedily reduce temperature and pulse and overcome the consequent depression of the patient's vital forces.

Mixed Infection.—A fact of practical importance to the surgeon is that an area infected by one form of pathogenic organism may be invaded by another form. This is known as a mixed infection, and consists of a primary infection with one organism and a secondary infection with another. Koch found both bacilli and micrococci in the same lesion of tubercle. A soil filled with pneumococci is favorable to the growth of pus cocci and tubercle bacilli. Tuberculous and syphilitic lesions may be attacked by erysipelas. Chancre and chancroid may exist together. A syphilitic ulcer is a good culture ground for tubercle bacilli (Schnitzler). Suppuration in lesions of tuberculosis means a secondary infection with pus cocci.—DR. DA COSTA, *Manual of Modern Surgery*, p. 30.

Prevalence of Trachoma.—Dr. Van Millingen, of Constantinople, reports in the *Annales d'Oculistique*, vol. cxix., No. 3, that from an extended study of the subject and correspondence with ophthalmic surgeons in all parts of the world he has reached the following conclusions: 1. Trachoma is an infectious and contagious disease, which predominates in uncivilized countries and tends to disappear with the progress of hygiene. Hygiene and cleanliness are the best preservatives against trachoma. 2. Trachoma is not influenced by altitude: it may spread wherever people are uncleanly and live in poverty quite as easily at altitudes of from 1,000 to 5,000 metres as on plains. 3. All races are equally susceptible. An immunity for certain races does not exist.

Circumstances under which Chloroform is Preferable to Ether.—Though it is settled beyond a doubt that chloroform is more dangerous as an anæsthetic than ether, Dr. George W. Gay, of Boston, in discussing the question concludes that chloroform should be used in the following diseases and conditions: All cases requiring tracheotomy or œsophagotomy: as membranous croup, laryngitis, acute, chronic, traumatic, specific, or tuberculous; œdema of larynx and glottis; malignant disease of the throat and neck; deep cervical cellulitis; deep tumors of the neck, as bronchocele; foreign bodies in the air passages or œsophagus; bronchitis in the aged; and asthma. Dr. Gay admits that there may be other cases also in which chloroform is preferable.

After-Treatment of Tracheotomy Cases of Membranous Croup.—Dr. R. M. Harbin, of Rome, draws the following conclusions in a discussion of the above

subject at a meeting of the Medical Association of Georgia.

1. Croup, whether diphtheritic or membranous, is almost invariably fatal without surgical treatment, and the few cases in which patients recover by medicinal treatment alone are not to be considered. 2. So far as the practical indications for tracheotomy are concerned, it makes no difference whether croup be diphtheritic or membranous. 3. Tracheotomy has the advantage over intubation, in that it gives a better means of expectorating the membranes and furnishes free drainage from the site of septic infection. 4. Tracheotomy is a justifiable surgical procedure and should be performed in all cases where our therapeutic resources have been exhausted, and when the patient is in imminent danger of suffocation. It should be done in hopeless cases, since it either offers a chance for the patient or promotes euthanasia. 5. Tracheotomy keeps the patient alive until the pseudo-membrane disintegrates and resolves into a muco-purulent liquid and is expectorated through the tube. 6. The after-treatment is the most important part of the procedure, and the author attributes the successful results reported to the persistent use of limewater.

Partial Convulsions Occurring Prior to Delivery.

—Emory Lamphear, M.D., Ph.D. (*American Journal of Surgery and Gynecology*, April, 1896) makes the following rules: 1st, chloroform the patient; 2d, send for an assistant, if possible to get one quickly; if not, let the husband or some one else give the chloroform under close watching, as extreme haste is necessary; 3d, empty the uterus at once; the prime object is immediate delivery of the fetus. The practice Dr. Lamphear follows is this: If the os be dilating and dilatable, he rapidly enlarges the opening until the long forceps can be applied to the engaging head, or the hand can be introduced to perform version and speedy delivery. Often this can be done inside of a half-hour. If not, then the proper thing to do is to cut the cervix freely upon each side up to the cervico-vaginal junction, thus producing an artificial double laceration of the cervix uteri. Care must be taken not to cut through the vaginal wall. If the outlet is very close, as in primiparae, he cuts even through the perineum, but not through the muscle near the anus. As soon as he removes the placenta, the os is caught and pulled down, so as to allow six or more catgut sutures to be introduced in the cuts in the cervix. If the perineum be injured, it is sewed, irrigation practised, and then the anæsthesia is discontinued.

Vertebral Caries.—Dr. Thorburn (*American Journal of the Medical Sciences*, May, 1895) gives the following indications for operation:

(1) A steady increase in symptoms in spite of favorable conditions and treatment. (2) The presence of symptoms which directly threaten life. (3) The persistence of symptoms in spite of complete rest is the indication which has been most generally adopted. (4) In posterior caries (caries of the arches) operation is clearly indicated, as here we can readily both treat the paraplegia and remove the whole of the tuberculous tissue. (5) The existence of severe pain, if the patient is being exhausted thereby. (6) Children, as a rule, yield better results than do adults.

Subclavian Aneurisms.—Of 115 cases of all sorts, 79 presented complications (about 60 per cent.), of which 17 recovered (about 19 per cent.).

(1) Hemorrhage occurred in 48, of which 10 recovered (about 20 per cent.). (2) Inflammation, supuration, sepsis occurred in 15, of which 5 recovered (33 per cent.). (3) Pleuritis, pneumonia, pericarditis, bronchitis occurred 7 times, and they all died. (4) Phlebitis occurred in 2 cases, of which 1 recovered. (5) Cerebral symptoms in 5 cases, and they all died.

(6) Gangrene occurred in 4 cases, of which three recovered (75 per cent.). (7) Penetration of air in veins occurred in 1 case in external jugular vein; it recovered. (8) Wound of thoracic duct occurred in 1 case; it recovered. (9) Wound of pleura occurred in 1 case; it recovered. (10) Shock in 1; it died.—*Annals of Surgery*, December, 1895.

Cancer of the Breast.—Drs. Thomas Jones and John E. Platt present in *The Lancet*, August 31, 1895, p. 522, the following conclusions in regard to results of operations:

(1) Cancer of the breast, although a formidable disease, is amenable to treatment by operation, and the proportion of cures so obtained may confidently be put down at twelve per cent. (2) Non-success after operation is very frequently due to the extensive character of the disease when it first comes under observation; probably if relief were sought earlier, a much larger proportion of cures could be obtained. (3) Moderate enlargement of the axillary glands is no bar to operation or to a successful issue, provided they are systematically and carefully removed, and the axillary space thoroughly cleared. (4) It is well-nigh impossible to discover trifling enlargement of the axillary glands by an examination through the unbroken skin. (5) No operation for removal of cancer of the breast can be considered complete unless the axilla be examined through the wound, the additional risks of such a procedure being very slight. (6) The large number of cases in which recurrence occurs locally points to the necessity of very free removal of the disease; all doubtful skin must be taken away and great care must be exercised not to leave any outlying portions of breast tissue. (7) Operation is contraindicated when the whole of the growth cannot be removed or when the supraclavicular glands are enlarged. The only condition which might render an operation justifiable under such circumstances would be the presence of a foul cancerous ulcer, the removal of which is desirable on account of the great inconvenience which it occasions.

Furor Secandi.—It would seem that every tyro imagines that surgery offers the quickest route to success, and that fame is to be attained only through blood. Hence every case the symptoms of which are directed to McBurney's point is necessarily a case of appendicitis, for which the only sovereign remedy is the knife; or, if it be a woman, and her suffering is referred to the ovarian region, or she have a fibroma, however small and barren of symptoms of importance, not only must she be subjected to cæliotomy at once, but in nine cases out of ten has her uterus or uterus and ovaries sacrificed, thus unsexing her without the slightest effort being made to spare these organs and preserve to the woman her distinguishing function.—R. BEVERLY COLE.

Cæsarean Section: Suture of the Uterus versus Total Extirpation.—Dr. Henry C. Coe (*Medical News*, May 30) says the following are the advantages that the radical operation presents: 1. Rapidity of execution. Ligation of the broad ligaments and separation of the bladder are more easily accomplished than the same steps in an ordinary hysterectomy. In one of the writer's cases of cæliotomy for rupture of the parturient uterus, clamps being used, it required only five minutes; another in which ligatures were used required ten minutes. It is not necessary to elevate the patient in Trendelenburg's posture. Time is often a very important factor. There is no more shock or loss of blood than after suture of the uterus. 2. By removing the entire uterus we are reasonably sure that no infected tissue remains. In one Porro case the patient recovered,

but the cervix, being infected, sloughed out entirely. Free drainage per vaginam may save the most desperate case. No sutures are left to give subsequent trouble. 3. Neoplasms of the ovaries, or uterus, or diseased appendages are removed at the same time. Removal of the adnexa after Cæsarean section always seems fraught with considerable danger, since the large soft stumps, with their distended veins, are exposed to more or less traction during uterine contractions. Fibroids apparently not large enough to justify a Porro operation are left behind to cause future trouble. 4. Convalescence is quite as rapid as when the uterus is sutured. Dr. Coe says that in his experience the objection with regard to weakening of the vaginal roof by removing the cervix is largely theoretical, in puerperal hysterectomy as well as in total extirpation for any cause. The writer says he has found no case of vaginal enterocele among one hundred cases of his own or those of his friends who practise total extirpation. He concludes by saying that the indications for Cæsarean section are becoming every year more clearly defined and the operation will probably be more rarely performed in the future. Total extirpation has the additional advantage of preventing the risk of a second operation.

Curettage of the Uterus.—This procedure should always precede abdominal section for the removal of the uterine appendages, because in these cases the endometrium is usually so diseased as to interfere with the recovery of the patient if this part of the operation is omitted, and because thorough cleansing of the uterus, vagina, and vulva is imperative in case vaginal drainage is required.—WATKINS, *Medical News*, August 8, 1896.

Correspondence.

LOCAL TREATMENT OF AFFECTIONS OF TRACHEA, BRONCHI, AND LUNGS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An article in your issue of August 1, 1896, by Dr. Joshua Lindley Barton, on the treatment of the above-mentioned group of affections by intratracheal injection, makes it desirable for me to publish a few words anent the topical treatment of these diseases, as I have been using it these many years.

Dr. Barton gives due credit to Horace Greene's works in 1838, when he passed a small sponge saturated with a solution of nitrate of silver through the glottis into the trachea, in lieu of which method he afterward adopted catheterism and injection of liquids into the air passages. This method required special preparation of the patient. The author justly remarks how much these endolaryngeal applications have been facilitated by laryngoscopy and the discovery of cocaine. He duly appreciates the workings of Bergeron, Pernice, Kirke, Coakley, and Joseph Muir. He recommends previous sponging of the throat, then the introduction of the laryngeal mirror and the use of Muir's syringe with laryngeal tube. He continues, verbatim: "If care is taken, when inserting the tube, to avoid touching the glosso-epiglottic or the aryteno-epiglottic folds or the interarytenoid space, each of which seems to act as a cough centre, the irritation caused by this procedure will be found to be surprisingly slight."

Now, first of all, I suppose all physicians will agree how much local treatment, as a rule, whenever it is possible, is to be preferred to internal medication. And for this reason local treatment of the above-quoted affections deserves much more attention than it has until now received. I have never tried the intro-

duction of medicated sponges or the nozzle of the laryngeal syringe. The method is not quite so easy as it would appear to be from a consideration of the passage quoted above.

For the last twelve or fifteen years I have used intratracheal injections made with a Pravaz syringe, the needle of which is inserted into the windpipe through the crico-thyroid ligament, or according to circumstances, through any accessible intercartilaginous space of the trachea. If this injection be applied in the recumbent posture of the patient, with his head slightly elevated, the injected liquid flows down the posterior surface of the trachea, causing only exceptionally any inconvenience. I really cannot understand why in laryngeal diphtheria this method is not oftener made use of for the local application of convenient remedies to the larynx.

But much oftener than these injections I have used insufflations of medicated powders, as the use of the needle is always somewhat unpleasant to the patient or family, who oppose much less the use of the insufflation tube.

The insufflations are applied once, twice, or even thrice a day, with nitrate of silver, opium, alum, cocaine, etc., always made up into a fine powder with sugar.

An obvious objection will be that a violent access of cough and strangling must necessarily follow the introduction of powder into the air passages. But not so, gentle reader. If proper care be taken that the insufflation is done just when the patient takes a deep breath, no cough will follow.

The instrument used is an india-rubber tube with a shortly curved end, which is not intended to penetrate into the larynx, but to be held in the posterior fauces, behind the root of the tongue and over the aditus laryngis. The tube is provided with a flexible rubber extension to be held between the physician's lips, and must have a big terminal opening at its laryngeal end. If the insufflation be done by means of a rubber ball, the movement of squeezing that will unavoidably change the direction of the instrument. Besides, as no laryngeal mirror is required, the physician will have one of his hands free to hold the patient's tongue, which the former will do better than the latter.

I have used these insufflations in various affections of the larynx, windpipe, and bronchial tubes, always with satisfactory and prompt results, so far as the nature of the disease will allow it. If, as in consumption, it does not cure, it alleviates that troublesome symptom, "cough."

Whether this method of insufflation is original with me or not, I am not able to say, shut off as I am from libraries and scientific intercourse. But I make no claims in that direction. I shall be contented if this method, simplified as I give it, is more generally applied. It will prove satisfactory to the physician and to his patients.

F. SEMELEDER, M.D.

CÓRDOVA, MEXICO.

A Double Expiration.—A Paris newspaper provides its subscribers with free medical attendance. Recently the manager of the paper gave notice to one of the physicians "not to prescribe for X any more: his subscription has expired." The doctor replied: "So has X."—*Tit-Bits*.

Toothache.—When patients complain almost continuously of toothache or sensitive teeth, it is usually an indication to administer the phosphate of lime.—*Dental Register*.

Gonorrhœa is claimed by Asmus to be cured in a few days by injections of an emulsion of creosote of a strength of from 0.2 to 1 per cent.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 12, 1896:

	Cases.	Deaths.
Tuberculosis.....	162	100
Typhoid fever.....	51	10
Scarlet fever.....	21	1
Cerebro-spinal meningitis.....	1	2
Measles.....	42	4
Diphtheria.....	127	24
Small-pox.....	0	0

Small-Pox in Germany claimed sixty-five thousand victims annually a century ago. Now the average number of deaths is but one hundred and fourteen a year.

The Pasteur Institute in Athens was established by Dr. Pampoukis in 1894. During the first sixteen months two hundred and one cases were treated, with but one death.

Poison Ivy is said to be antidoted by the brook balsam, spotted touch-me-not, or jewel weed (*Impatiens fulva*), which grows freely in this latitude along the banks of brooks. Its leaves and stems are bruised and applied as a poultice to the inflamed parts.

Oxygen Inhalations after Chloroform.—Dr. Landau, of Berlin, prefers chloroform to ether, provided oxygen be administered afterward. He finds that if the patient inhales oxygen for a few minutes as soon as the chloroform is withdrawn, subsequent headaches, nausea, and vomiting are avoided. Further, consciousness is more quickly restored, the pulse becomes fuller and slower, and the dusky hue of the face disappears more quickly. Physiologically this is what would be expected when the oxygen is restored to the blood. From the excellent results and freedom from danger he thinks it is the duty of the physician to try the oxygen inhalation for the relief of the unpleasant after-effects of the anæsthetic.

Prevention of Diseases and Mortality in Infancy and Childhood.—Dr. Jane L. Herson (*Journal of Medicine and Science*) recommends wrapping the newborn child with a warm blanket and holding it in an inverted position for some minutes when asphyxiation is threatened. This causes the blood in the liver (one-quarter the entire volume of blood at this time) to flow to the heart and medulla, causing a physiological stimulation of respiration. Much gastro-intestinal disease may be relieved by avoiding overfeeding or too frequent feeding. Food administered once in three or four hours is sufficient. Eye disorders may be avoided by substituting kindergarten instruction for book study until children are ten years old, and after that time by insisting that schoolrooms be properly lighted and only books with good print be used. Night study should not be required nor permitted before twelve years of age.

New Scheme for Treatment of Female Inebriates.—Lady Henry Somerset is of the opinion that nothing could be worse for habitual drunkards than the sedentary employment usually assigned to them in reformatory homes. She has obtained possession of one hundred and eighty acres of land in the town of Duxhurst, situated beyond easy reach of all drinkable forms of alcohol. She has begun the construction of a small village upon this tract. It is to consist of

scattered cottages, which the patients will occupy. There will be a hospital, a chapel, a children's home, office buildings, and laundry for general use. Six patients will occupy each cottage and they will be expected to take part in the industries which are being organized on the estate. There will be light agricultural work, poultry raising, bee keeping, dairy work, flower culture, jam making, and a small amount of needle work and washing. The idea is to put the women to work where they can see and take pride in the results of their labor. The institution cannot afford to take free patients, so there will be a minimum charge of \$1.25 per week. If a patient works out the cost of her maintenance, the amount is credited to her and handed over to her when she leaves the institution. The English public is being asked to furnish money for the development.—*New York Sun*.

Micro-Organisms in the Healthy Nose.—In a paper published in the "Medico-Chirurgical Transactions," vol. lxxviii., Drs. St. Clair Thomson and R. T. Hewlett give the results of some experiments made to determine the nature and number of micro-organisms in the healthy nose. In the entire literature of the bacteriology of the nose, they say, there are only two articles wholly devoted to the normal or physiological condition. One of these is by Dr. Jonathan Wright, the other by L. von Besser, both published in 1889. The following is a summary of the conclusions formulated by Drs. Thomson and Hewlett: (1) That in all bacterioscopic investigations of the nasal fossæ, in all researches as to the action of the nasal mucus, etc., a clear distinction must be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin and is furnished with hairs and with sudoriferous and sebaceous glands; and it is not part of the nose cavity proper, but only leads to it. (2) The neglect of this distinction may account for the discrepancies in previous observations on the subject. Contamination with the lining of the vestibule is difficult to avoid, even when this source of error has been realized. (3) In the dust and crusts of mucus and debris deposited among the vibrissæ of healthy subjects, micro-organisms are never absent. They are rarely scanty in number; as a rule they are abundant. (4) On the Schneiderian membrane the reverse is the case. They do not assert that micro-organisms are completely absent; obviously some must occasionally occur, but under normal conditions they are never plentiful; they are rarely even numerous, and in more than eighty per cent. of their observations they failed to find any, and the mucus was completely sterile. These observations were limited to the anterior part of the nose, and, as not more than a fourth of the cavity is accessible to inspection and examination, it is reasonable to conclude that germs would be found still more infrequently in the deeper portions of the fossæ. (5) The occurrence of pathogenic organisms must be so infrequent that their presence in the pituitary membrane can be regarded only as quite exceptional.

Insanity in Children.—Dr. Conrads gives a lengthy review of the subject of infantile mental derangement, which is referred to in *Pediatrics*, as follows: First, he notices the variety of insanity in children and gives an extended notice of the literature. As regards the question of the relative frequency of insanity of the two sexes in children it cannot be definitely stated with our present statistics. Among the causes heredity is first; next comes the condition of the child's bringing up, his education and training, the management by nurses by frightening their charges, the discipline and methods at school, etc. Psychic causes, fear, shame, and especially mental shock, are not to

be underestimated. Emminghaus found twenty-three per cent. of the cases he collected in the literature to be due to these causes; homesickness is not common, but cases have been known. Conrads lays some stress on the evil effects of religious excitement in predisposed older children. Contagious (mental) and epidemic influence need mention, as they have been repeatedly observed. Onanism has been undoubtedly overestimated as a cause, but in predisposed persons it may have its effects. Among the somatic causes, acute infectious fevers are first in frequency. Emminghaus found these as a cause in twenty-five per cent. of his cases. Trauma, especially of the head, insolation, exposure, etc., have all had their victims. Ear disease and dentition may affect the mental condition, and the effects of nasal disease, adenoid vegetations, and tonsillar enlargements are suggestive. Middle-ear disease has been demonstrated by Bouchut and Emminghaus as causes of infantile derangement; intestinal parasites, tuberculosis, and cardiac weakness are also factors. Hereditary syphilis is the cause of juvenile paresis; whether it acts in producing other forms of insanity is uncertain. Long-continued suppuration has been the cause of melancholia, as in one case of Conrad's own observation. Reflex psychoses, aside from those of the ear and intestinal disorders, have been observed to follow wounds, extraction of teeth, etc. Various poisons—lead, mercury, cocaine, tobacco, etc.—have caused mental disease in children as well as in adults, and alcoholic insanity has been often reported. Conrads gives briefly a case of acute hallucinatory delirium observed by him in a child of two and one-half years, from this cause. The permanent psychoses of children occur usually in degenerate individuals, who sooner or later reveal their stigmata. The first symptoms of insanity can naturally only be looked for after the conscious perceptions have become manifest in the child and must consist in aberrations of these. The earliest age at which hallucinations have been observed is fourteen and one-half months (Marce). Visual hallucinations are far the most frequent. Delusions can show themselves only after a certain stage of mental development. The types of mental disease in children fall under two heads—the pure psychoses and the forms connected with the neuroses. Of the former it is difficult to say whether mania or melancholia is most frequent in the earlier years, and both are most frequent toward puberty. Mania generally begins without the prodromal, depressed phases, runs a subacute course, and generally ends in recovery. Melancholia may assume any of its types, is commonly gradual in its onset, and is subject to remissions. Its course and prognosis are the same as mania. Suicide in children should be mentioned in this connection, and from the statistics of France and Prussia seems to be steadily on the increase. It is, however, still infrequent. Conrads, taking the proportions of adults and children in Prussia in connection with the statistics of suicide, finds that it is forty-six times less common in the latter than in the former. Periodic insanity in children is usually of the maniacal type, and, with circular insanity, has an absolutely unfavorable prognosis. But few cases of either are found in the literature. Under hallucinatory insanity, Conrads includes two types—acute hallucinatory paranoia and transitory insanity—both characterized by hallucinations, the former the more chronic and the latter the acute type. In the former occur the stuporous cases that are often confounded with melancholia. The prognosis of both, except when they succumb to exhaustion or suicide, is favorable.

Paranoia of the pure type is rare in childhood, but the degenerative prodromal stage of the original paranoia of Sander is very common. These candidates for

paranoia are usually of the male sex; in all there is a hereditary taint. They are generally quiet, sentimental, and hypochondriacal children, who are liable to feel themselves slighted by their parents, and often conceive notions of self-importance, which are the incipency of their delusions. Hypochondria is closely allied to paranoia, and while its occurrence is rather rare, and has been denied in children, it is sometimes met with and is usually a degenerative sign. Its prognosis is only favorable in the milder cases. Imperative conceptions and acts are also met with, and frequently indicate a degenerative taint, and are often connected with masturbation as an exciting cause, but they are not so serious in their prognosis. The so-called "impulsive insanity" is diagnostically indistinguishable from these impulsive acts, though it has been accepted as a special type. It is always degenerative and of unfavorable significance. Passing by what is said of idiocy, a word can be given to moral insanity. This, Conrads claims, rarely exists without some mental impairment, and sexual perversion is often present. Recovery is as improbable as in idiocy; the apparent recoveries are, perhaps, only remissions of long duration. Paresis in children has been lately reported by various authors. Its connection with hereditary syphilis has already been noted. Among the neurotic insanities, that connected with epilepsy takes the first rank. Hysteria is commoner in children than it is generally supposed, especially in girls. Hereditary is its most important etiological factor. The mental disorders of chorea consist mostly in capriciousness, irritability, and a great tendency to sudden emotional disturbances. Hallucinations, illusions, and maniacal delirium may also occur, and Leidesdorf has observed hallucinatory paranoia. Very recently Moebius has directed attention to the resemblance of choreic to toxic insanity as supporting the view that chorea may be of infectious origin.

As regards the therapy, it would be best if all cases, except the milder forms of mania and melancholia, hypochondria, and the cases of imperative conceptions, and the stuporous cases, were treated early in a special asylum, very few if any of which, unfortunately, exist for children. Prophylaxis is still more important, and should properly begin literally *ab ovo*. The marriage of degenerates, insane, drunkards, etc., is a most prolific cause of infantile insanity and idiocy. Where the tendency exists in the child, its bringing up and education must be the subject of the greatest care. Ignorant and reckless nurses, especially if given to drink, may do the greatest injury, and in no case should alcohol in any form be allowed to a child under ten years, excepting, of course, as medicine in acute infectious diseases. Special care should be given to the points of masturbation and the general habits of the child; to the possibility of nurses or others working injuriously upon its fears and imagination; to the educational methods and discipline. It would be well were teachers obliged to study mental pathology in their professional preparation.

As a summary of the points in regard to which it is desirable to direct attention in relation to the psychoses of children, Conrads concluded his paper with the following as desiderata: 1. Statistics of infantile insanity, by means of circulars of inquiry to the medical profession, as to the actual number of insane children in their knowledge. 2. Information as to relapses, by communication from medical men as to the mental disorder of persons who had been insane in childhood. These could best be obtained from family physicians, who are usually able to follow the family history back for a lengthy period. 3. Special asylums for insane children. 4. Sufficient knowledge of teachers of the psychopathic states in childhood, and greater care in schools to mentally defective children.

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THE DIAGNOSTIC VALUE OF BLOOD EXAMINATIONS.

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ALTHOUGH Swammerdam discovered the corpuscles of the blood as early as 1658, and many others since his time have investigated its physical and chemical properties, it has been only within the past fifteen years that the blood has been carefully studied from a clinical standpoint. It is true that Virchow and Bennett and Craigie in 1845 first noted the enormous increase in white corpuscles in leukæmia, and that Duncan in 1867 recorded the decrease of hæmoglobin in chlorosis. But it was not until the discovery of the plasmodium malarie by Laveran in 1880 that a careful study of the relation of blood changes to disease processes was initiated.

This long delay in exact work was due largely to a lack of the instruments to which—coupled with the use of the differential staining qualities of aniline coloring matters—we owe most of our present knowledge of the conditions of the blood in disease.

The normal histology of the blood, as at present understood, embraces, roughly, the red biconcave discs, the white globular cells, the blood plates, and the plasma. The white cells are divided—in accordance with the way in which they stain with aniline colors—into lymphocytes, large mononuclear forms, polynuclear leucocytes, and eosinophiles. In addition to these, other forms are found in disease, the most prominent of which are the nucleated red corpuscles and a fifth variety of white cell, the myelocyte.

To make a thorough clinical analysis of the blood we must determine the number of red cells; the number of white cells; the proportion of white cells to red ones; the amount of hæmoglobin; its proportion to the number of red cells; the number of each variety of white cells and its proportion to each of the other forms of white cells, and to their combined numbers; the sizes and shapes of the cells; whether or not they contain nuclei or pigment in any form, and finally as to the presence or absence of any pathological substance floating freely in the plasma. It is along these lines that I wish to present a few facts concerning the diagnosis of disease.

The diseases in which a blood examination most naturally suggests itself are the various forms of anæmia, in many cases of which nothing else will give an early diagnosis. And by anæmia is meant not all cases in which the skin is apparently bloodless, but only those in which the amount of hæmoglobin or the number of red cells is below normal; for there are cases of persistent pallor, due perhaps to some peculiarity of the vasomotor system at the surface, in which the blood is normal.

As an illustration of the value of a blood count in anæmia may be cited the following case: Miss J., aged eighteen, blond, resembles her mother and maternal

aunt, both of whom died of phthisis. About two years ago, after nursing her father until his death, she began to lose strength, had poor appetite, slight fever, and cough, with shortness of breath on exertion. Although the fever and cough soon disappeared, she continued to lose strength, and it was feared that she had phthisis until she came under observation several months later, when it was found that she had 4,000,000 red cells per cubic millimetre, but only 36 per cent. of hæmoglobin, and although her skin was not colorless, it was plain that she had chlorosis. The daily use of carbonate of iron for three months gave a count of red cells of 6,000,000, with a hæmoglobin percentage of 84. Of course in a young girl the age usually suggests the likelihood of chlorosis in cases of gradual loss of strength with shortness of breath on exertion. It had not done so in this case, however, and in the rare cases of chlorosis in boys, this possibility is even less likely to be considered. But when in any given case in adolescents we find that the red cells are either in normal number or but slightly lessened, while the hæmoglobin is in half or in less than half the normal amount, we may safely make a diagnosis of chlorosis; and, on the other hand, we must not consider a case to be one of chlorosis unless there is this lessened proportion of hæmoglobin to red cells.

On this point Strümpell's statements that there is more or less pallor of the skin and mucous membranes as a constant and essential symptom of chlorosis, and that there is usually a decided decrease in the number of red corpuscles, are misleading. Chlorosis rubra is a well-marked form, and Osler and Thayer, Griffith, Gräber, Henry, Vierordt, Hayem, and others place the average number of red corpuscles in this disease at about eighty per cent. It may therefore be considered that the lessened hæmoglobin richness of the individual red cell is the essential diagnostic point in chlorosis.

At the opposite extreme as regards the relative proportion of red corpuscles and hæmoglobin we find pernicious anæmia. While a typical case of this latter disease, like a typical case of chlorosis, may offer but little obstacle to a correct diagnosis, many cases of it have been mistaken for chlorosis, simple anæmia, or Bright's disease.

To illustrate its resemblance to the latter may be mentioned a case occurring in the service of my colleague, Dr. Worcester, who has kindly placed this and other cases at my disposal.

Mrs. L., aged fifty-two, who has been a patient in the Danvers Lunatic Hospital since October, 1884, continued in fair bodily health until about eighteen months ago, when she began to lose color, the face appearing waxen, and to have œdema of the feet and ankles. The urine was examined, and was found to contain a small amount of albumin and a few casts. Her symptoms suggested Bright's disease. About the same time she began to have dyspnœa on slight exertion, but did not lose much or any in weight.

Soon after the close of last year she had become so yellow and short-breathed, and the ankles so œdematous, without any increase in the amount of albumin or in the number of casts, that the blood was examined, with the following result: red cells, 1,250,000 (about

25 per cent. of normal); leucocytes, 6,360, of which 5 per cent. were large mononuclear, 42 per cent. polynuclear, and 53 per cent. lymphocytes. The red cells varied from very small to very large, and many of them were irregular in shape. She had been taking iron without any improvement, but the condition of the blood, coupled with the other symptoms, pointed so strongly to pernicious anæmia that she was at once put on Fowler's solution. A hæmoglobin examination was secured soon after this and showed 30 per cent.

After six weeks of the arsenic treatment the blood count showed 1,902,000 red cells and 45 per cent. of hæmoglobin. A month later the red cells numbered 3,700,000, and the hæmoglobin showed a percentage of 60. The red cells were nearly normal in size and shape.

Bristowe thinks that no positive diagnosis between chlorosis and pernicious anæmia can be made, and Henry maintains that pernicious anæmia is simply the terminal stage of some cases of chlorosis and secondary anæmia. This position is stoutly assailed by many observers, and the argument in favor of considering it a separate disease seem to be the stronger.

Whatever the etiology, the use of iron, which is a specific in chlorosis, is rarely of advantage in pernicious anæmia, and the proportion of hæmoglobin to each red cell is usually above the normal in pernicious anæmia, while it is below the normal in chlorosis. These differences, together with the markedly altered size and shape of the red cells in pernicious anæmia, and the practically normal condition in these respects of the red cells in chlorosis, should render a diagnosis comparatively easy.

Before considering the disease next to be mentioned it may be well to define a term or two and to refer to the differential staining of blood cells.

Diagnoses of disease are now being made based upon the presence or absence of leucocytosis, and in using this term I shall abide by the definition of it recently given by Cabot, who says that "leucocytosis is the presence in the blood of an increased number of white cells of the same varieties morphologically as those in normal blood, a plurality and generally an overwhelming plurality being polynuclear."

This is a very important distinction, as evidenced by one of his cases, that of a woman who entered the hospital with a diagnosis of malignant tumor. There was so much pallor that a blood count was made, which disclosed a vast increase in the number of white cells (reaching the proportion of one white cell to thirty-nine red cells). This fact, taken in connection with the size and nature of the tumor, led to a diagnosis of leukæmia. But later a differential count of the blood was made with the triple stain, and at once it was seen that the disease was not leukæmia, as ninety-five per cent. of the white cells were polynuclear.

The use of stains in blood examinations was introduced by Ehrlich in 1878-1879. In his study of the white cells—the leucocytes—he found that the granules contained in them were differently affected by certain coloring matters, and that they had a special affinity for the aniline colors. Further than this, that some forms of leucocytes were stained only by acid aniline colors, while others were stained only by the basic coloring matters.

In accordance with these peculiarities a triple stain containing an acid coloring matter, such as eosin, and a basic one, such as methyl blue, in a fluid, with the acid in excess, is commonly used in staining blood. A popular staining fluid is that known as the Ehrlich-Biondi, which contains acid fuchsin, methyl green, and orange G. This stain colors the nuclei of the white cells green, those of the nucleated red cells nearly black, the red corpuscles themselves a light

orange, the eosinophilic granules red, and the neutrophilic granules a deep violet.

In normal blood these various forms of leucocytes bear a definite relation to each other in number, and this proportion is often much changed in disease; in some complaints the change may be pathognomonic.

It is agreed by all authorities that leukæmia can be diagnosed only by an examination of the blood. But while this has long been an easy matter in advanced cases, it is not easy in the early stages, in which alone we can hope for cures through treatment. The history of the disease is marked with cases of leukæmia which have been mistaken for scrofula, cancer, congenital syphilis with enlarged spleen, kidney disease, ovarian tumors, or malaria.

The difficulty of making a diagnosis from malaria in the early stages is well shown in the following case: Mr. M., aged thirty-one. Twenty-two months before presenting himself he had had a severe chill and remained in bed for four days, but had no fever. He continued weak and sickly up to the time of examination. He was said to have had malaria every spring, but could give no reasons for that diagnosis except the splenic enlargement. At the time of examination he was very weak and pale, and the spleen extended from the diaphragm to the pubis and laterally to beyond the median line. A blood count showed fifty times the normal number of white cells, and 4,000,000 red cells.

Of course the blood count made a diagnosis beyond question, as only in leukæmia is there such an enormous increase of the leucocytes. But in active digestion, pregnancy, the puerperal state, and in young children there is a physiological increase to perhaps double the standard number of 8,000. There is also a very large increase of leucocytes in various septic conditions, and in any one of these conditions a mere count of the white cells would not be sufficient to exclude leukæmia.

But if in a differential count we find, instead of the normal, from 20 to 30 per cent. of lymphocytes, from 60 to 75 per cent. of polynuclear, 6 per cent. of mononuclear, and from 2 to 3 per cent. of eosinophiles, a great decrease of lymphocytes with the presence of enough of a new form, the myelocytes, to replace the deficiency, there is no longer any doubt of the diagnosis.

In pseudo-leukæmia, or Hodgkin's disease, there may be a leucocytosis, which, together with a decrease of red cells, may so closely resemble true leukæmia that only a differential count of the blood cells will decide.

Bremer has recently perfected a method of making a diagnosis in diabetes by blood staining. He uses a mixture of eosin and methylene blue compounded in a very complex manner, and stains the red cells with it. Diabetic or glycosuric blood is stained a sap- or bluish-green, while non-diabetic blood stains a reddish violet. He claims this test to be so delicate that an amount of sugar too small to show in the urine will give the reaction in the blood.

In cases of simple leucocytosis very valuable information may be gained without staining the blood.

Several writers, including a number of German authors, have claimed that leucocytosis is present in all febrile affections with increased activity of the lymph glands, but many microscopical tests by careful observers have shown that this is too sweeping a statement. For instance, while there is at times a leucocytosis in tuberculosis it is only while the tissue destruction is active. In typhoid fever there is no leucocytosis, and this fact is of very great importance in deciding in a doubtful case between typhoid fever and purulent affections such as meningitis, appendicitis, abscess, and general infection.

But in pneumonia there is a marked leucocytosis except in cases that prove fatal, and in doubtful cases in the early stages a blood count would aid in the diagnosis; and in making a diagnosis between it and the grippe, in which there is no leucocytosis, the examination of the blood may be of very great use, especially when depressive drugs are used for the grippe. In gynecological work an examination of the blood should be of use in a few cases in determining whether the symptoms are due to the irregular pelvic neuralgias with which we sometimes meet, or to a beginning pus tube or malignant disease.

In rise of temperature after operation a count of the leucocytes may be of value in determining the presence or absence of pus. In a recent case in which I had removed a carcinomatous breast, the temperature rose to 101° F. after having been at normal, and the question suggested itself whether there was pus or whether the tension of some of the stitches, coupled with the excitability of the patient, was the cause of the high temperature. A blood count showed 19,000 leucocytes, and with the removal of two or three stitches a small amount of pus was discharged, and the temperature fell.

In deciding whether a case is one of appendicitis or some condition such as intestinal obstruction, or even constipation, which sometimes resembles appendicitis, the absence of leucocytosis should make the surgeon hesitate about operating.

The blood parasites offer very valuable diagnostic information. The most important of these yet known is the plasmodium of malaria. When Laveran first announced his discovery of this hematozoön his claims were denied by others who could not find the germ he described. And though its presence is easily demonstrable with a little perseverance, so little interest was taken in the subject that it was several years before its existence was admitted by leading clinicians, and even now there are men of repute who declare that the so-called malarial parasite is found in the blood in all conditions.

But the masterly treatise of Manson is alone sufficient to set this matter at rest; and in addition to that, any one may decide it for himself with a high-power microscope. All that is needed is to put a drop of fresh blood on a clean glass slip and carefully examine it under a $\frac{1}{2}$ inch oil-immersion lens, though it may be seen, if one knows what to look for, with a less powerful lens.

The main difficulty which confronted the earlier observers was the fact that the malarial parasite is not the same in appearance in all stages of the disease. Thus, if we examine the blood in a case of benign malaria, just before the rigor, we find a cluster of bodies in a blood cell arranged so as to resemble somewhat a rosette with a small mass of pigment in its centre. If we again examine it an hour or so after the chill, while the temperature is still rising, we may see a number of small bodies in a blood cell arranged in an irregular circle near its periphery and in active motion. If the examination is repeated several hours later, these actively moving bodies have disappeared, and in their stead are seen larger amœboid bodies, each body being pale but containing one or more grains of a very dark red or intensely black pigment, which if carefully observed is seen to be constantly changing its position. If we once more examine the blood a few hours before the next paroxysm is due, we find that these pale bodies nearly fill the blood cells they occupy and are no longer actively amœboid, and that the granules of pigment are coarser, more numerous, and nearly stationary. The cycle of change is then complete. These forms and changes are slightly different in quartan from those in malignant malaria, and it is quite possible that the germ is not the same.

Some form of the parasite may be seen in every case of true malaria during the activity of the symptoms, though in some mild cases many microscopic fields may have to be examined before detecting it. Although the diagnosis of a case of malaria may generally be made and the appropriate treatment used, other affections, such as hectic fever, deep-seated suppurations, nervous chill, and the chill of catheterization may be mistaken for it, unless the blood is examined.

The last blood parasite I shall consider—that of anthrax—is famous, as being the first germ proven to be the cause of a specific disease.

This disease is rare in this country, but occurs in all sections of it. Nearly every case recovers if properly treated at its inception, while in those of late diagnosis the mortality is as high as sixty per cent.

The bacillus cannot always be found in early cases, but is so large and distinctive (being a straight rod with a length equal to twice or three times the diameter of a red corpuscle) that a diagnosis can at once be made upon seeing it.

In conclusion I would like to call attention to the possibilities there appear to be in this field of study. What has been done thus far is merely a beginning in the field of hæmatological investigation.

There are several diseases in which the blood has not been examined in its clinical aspects and many others in which the work done is as yet so small that no positive opinion can be based upon it.

It will be noticed that most of those diseases in which the results of blood examinations have been most marked are among the members of that group of so-called essential or idiopathic diseases. It may be that through the blood we can not only determine their character but also discover their causes and their cure. Bremer thinks that, while his test for diabetes is effective only in the presence of grape sugar, it is not the sugar alone, or even primarily, that is the essential characteristic in this disease, but that its clinical symptoms are due to some other foreign substance in the blood. The study of blood offers an excellent opportunity to any careful observer, for, although the best results are not mathematically exact, the error is so small that it may be disregarded. But on the other hand, the slightest neglect of details may cause an error of fifty per cent. without the operator's being aware of any mistake.

Infectious Diarrhœa in Infants.—Dr. H. M. McClanahan says: "Stop the food supply. Remove the products of imperfect digestion from the intestinal tract by irrigation, continued until the water returns free from admixture of fecal matter. Inject solution of twenty grains of tannic acid in a pint or more of sterilized water, and have it retained in the bowel about an hour. When vomiting persists the stomach should be washed out also. To neutralize the toxins calomel in one-tenth grain doses hourly for the first twenty-four hours is recommended. First among antipyretics is the cooled bath. When watery discharges continue after the irrigation, hypodermics of one-one-hundredth grain of morphine and one-eight-hundredth grain of atropine can be given. Stimulants are indicated in the severe cases, and whiskey is the best that can be given. After the urgent symptoms have subsided the child can be nourished with the white of an egg stirred in cold water or the mixture recommended by Jacobi: Five ounces of barley water, the white of one egg, one or two teaspoonfuls of brandy or whiskey, some salt and sugar. A teaspoonful every five or ten minutes as indicated. No milk should be given for several days."—*American Journal of Obstetrics and Diseases of Women and Children.*

A MEDICO-LEGAL CONSIDERATION OF SOME OF THE GENERAL FEATURES, SIGNS, AND SYMPTOMS OF THE SIMPLE TRAUMATIC NEUROSES.¹

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VIEWED from a medico-legal standpoint, there is no more important and interesting subject in neurology than the traumatic neuroses.

Much of the importance which attaches to this subject is due to the frequency with which cases are made the basis of an action for damages for bodily injuries arising from accidents.

It is interesting, chiefly, on account of the complex and varying nature of the symptoms, the absence of special objective signs, and the want of reliable tests for detecting simulation.

For many years the subject received consideration only at the hands of the surgeon, and not until the appearance of Erichsen's treatise upon spinal concussion were the nervous aspects of the disease brought into special prominence. Since then neurologists inspired by the writings of Page have investigated the various nervous phenomena of the affection and as a result of their labors about three hundred articles upon the traumatic neuroses and questions connected therewith have been published.

In consequence of the incorrectness of many of Erichsen's conclusions respecting the pathology of the disease, the ability of the surgeon properly to elucidate its nature is seriously questioned by the neurologists. As an outcome many, if not most, of our surgeons have retired from the field of investigation, leaving the inquiry to the neurological expert, who with his instruments of precision attempts a scientific determination of the signs and symptoms, without sufficient regard, in many instances, for the practical deductions.

The object of adverting to the tendency of the neurologist to usurp the entire field of investigation, to the exclusion of the surgeon, is not to discredit the former, but for the purpose of showing that the surgeon, by reason of his earlier and usually prolonged connection with the case, is in a better position, if he has made a careful study of the remote effects of traumatism, than the neurologist—and as well qualified—to determine correctly its gravity and final outcome. For these reasons, the surgeon should maintain his equality as an authority with the neurologist respecting the sequences of trauma upon the functions and structure of the nervous system.

Definitively considered, the condition known as traumatic neurosis is a state of chronic general nervous depression with or without accompanying hysterical manifestation consequent upon physical or psychical shock. Usually, except that it originates from trauma, it differs symptomatically in no important respect from the ordinary exhibitions and combinations of idiopathic neurasthenia. In ordinary cases the symptom complex is expressed somewhat as follows: There is a loss of nervous tone and the patient suffers from a peculiar train of bodily feelings dependent upon a depressed and irritative condition of all the vital functions. The mental state is one of anxious foreboding, irritability, and distress of mind. The attention, will power, and thought concentration are weakened, and there is a keen dislike, or actual inability, for the assumption of any business responsibilities. The muscular power is lessened, tremor and inco-ordination are present, and the reflexes are exaggerated, while at times there may be paresis or paralysis. The special senses are involved. Anæsthesia, hyperæsthesia, and some of the various forms of par-

æsthesia are usually present. Visual disturbances, such as photophobia, asthenopia, and an enlarged and sluggish state of the pupil, are seldom absent, while at times contracted visual field and the graver defects of vision are observed. The senses of hearing, smell, and taste are perverted, but seldom to the extent of occasioning serious annoyance; while sleeplessness, headache, vertigo, loss of appetite, impaired nutrition, spinal pain, and a host of minor derangements complete the wretched state of the subject.

The great majority of cases of the affection occur between the twentieth and fiftieth years of life and are met with very much oftener in men than in women. Most of the cases seen in this country are of the neurasthenic type, although the hysterical element may be detected in a small proportion of the cases. The average age for hysterical cases is said to be less than that for the neurasthenical. This assertion rests upon no substantial data and is scarcely worthy of acceptance. According to the writings of foreign authorities it has striking national peculiarities. In France the hysterical cases preponderate; in Germany the hypochondriacal; and in England the neurasthenical. It is extremely questionable if these differences in symptoms exist in the degree that has been claimed for these countries. Undoubtedly much of these differences may with greater propriety be ascribed to the methods and personal bearing of the observer. The slowly performed, methodical examination best develops the hypochondriacal side of the disorder, while hysterical or neurasthenical tone may be produced and given undue coloring as the result of the bearings and suggestions of the examiner upon the subject. For the most part, however, the symptom complex is determined by the nature of the injury and the previous state of patient. If the subject had always been a neurotic the disorder would tend to assume the neurasthenical form; if emotional to an unusual degree prior to the accident, the hysterical type of the trouble would probably develop.

Not infrequently is witnessed in our courts the spectacle of a serious contention arising through the disagreement of the experts concerning the precise nature of the neurosis encountered: whether it be hysteria, or neurasthenia, or an intermingling of the symptoms peculiar to these affections. Hysteria may have existed prior to the injury, and proof of its existence would go far toward establishing a successful defence to an action for damages if hysterical expression were the chief or only manifestation exhibited after the injury. Again it might be alleged as a defence that the claimant was a "neurotic" before the injury occurred. If such allegations were sustained by competent evidence compensation would as a matter of justice be lessened or withheld by our courts. Thus it may happen that the particular phase which the neurosis assumes is sometimes of more importance than any other question connected with a given case.

The claim made by some of the leading neurologists of to-day that neurasthenia and hysteria are due to disintegration of the nervous system is plausible enough and possibly may be true: but unfortunately, like too many other claims of modern medicine, it is, in our present state of knowledge and with the means at our command, incapable of satisfactory demonstration. The older theory of dynamical disturbance of the nerve elements as causative of hysteria and neurasthenia is by no means exploded by the newer theory of nerve disintegration. Both theories are tenable, but one is no more proven than the other.

Statistics have been introduced into the current literature of the subject which appear to prove conclusively that the traumatic neuroses are developed with greater frequency and with more intensity at or near the large centres of population, while the converse oc-

¹ Read at a meeting of the Syracuse Academy of Medicine, June 16, 1896.

curs in the remote country districts. Without doubt the affection is oftener seen at populous points, but not to the extent that has been claimed. In country districts such conditions are not so well understood nor so readily recognized by physicians; while, upon the contrary, the physicians of the cities not only recognize these traumatic states but they put their patients by their instructions in a position to realize the importance of the dangers which may remotely result from traumatic influence. Resulting, then, as it may, from a great variety of causes, traumatic neurosis is by no means of infrequent occurrence in country districts, for it is highly improbable that one could fail to find the histories of at least a half-dozen or more well-marked cases in an aggregation of a thousand people anywhere in this country—be it ever so remote from the centres of population. For this reason the affection is a very important one to the country practitioner and he has no just excuse if he does not possess the ability to detect and intelligently treat it.

The question of alcoholic or syphilitic taint may arise and its determination may be an important element in the adjudication of a case. Syphilitic infection is oftentimes set up as a defence, and is usually introduced for its bugbear effect. The syphilitic and alcoholic neuroses are usually not specially difficult of detection; nevertheless, it should not be forgotten that a very profound syphilitic cachexia may manifest itself in a way which may be mistaken for some serious nervous condition, even by very competent observers.

In the consideration of the ultimate effects of trauma upon the nervous structure the physician encounters problems which lie more within the domain of psychology than of medicine proper. The bestowal of compensation upon the industrial classes for slight or imagined injuries has not only its medical aspects for the physician to deal with, but it is a matter of more than passing sociological importance, which, sooner or later, will make itself perniciously felt upon the morals of the people of this country, the same as it has already done in some of the countries of Europe. It behooves, then, the physician who assumes the rôle of the expert to give the most careful consideration to the weight of his utterances respecting the nature and sequence of the trauma which he has to consider. It is no doubt true that if the baneful effects upon the patient of the injudicious suggestions of the friends and attending physician could have been removed from the cases which have been the subject of litigation, more than one-half of the damages heretofore awarded in this country as compensation would never have been bestowed. That many of the symptoms which follow nearly every case of trauma can be accounted for on purely psychological grounds, there is now no dispute. The evils of introspection are in many instances greater than the evils of the suggestions of those having relations with the patient. When these two influences are brought to bear upon a given case, they constitute evils the most powerful and pernicious with which we have to contend in arriving at a correct estimate of the actual damage sustained by the nervous system. As is generally known, it is possible for persons influenced by introspection and suggestion to construct an organized symptom complex identical with the remote symptoms of profound trauma upon the nervous system, and while in this state escape detection and secure a heavy award of money from some luckless individual or corporation without having ever undergone physical or psychical injury. Such simulation is too often witnessed to require the introduction of direct proof of its existence. It may be consciously or unconsciously performed; nevertheless, it is a simulation in its most subtle form. Symptoms so successfully simulated cannot be differentiated

from the symptoms of true cases of traumatic neurosis, except by a history of the case; and in the absence of this knowledge, we have no certain means at our command for the detection of the deception. Use may be made of the various so-called objective signs of the expert neurologist, and instruments of precision without number may be brought into requisition, and, notwithstanding these aids, the acumen and ability of the investigator is unequal to the task of unmasking the imposition, and the case, in the absence of an accurate history, is regarded as genuine. Neurologists, as has been adverted to before, have recently evolved the theory that the traumatic neuroses, in whatever form manifested, are the result of the disintegration of nervous matter. This theory neither sustains nor strengthens the commonly accepted doctrine of the changeable nature of the symptoms of the affection; but, on the contrary, tends to confirm the teaching of those observers who maintain that changeableness of the symptoms indicates exaggeration or simulation. Disintegration of nervous matter is unqualifiedly a definite pathological process and must of necessity give rise to definite symptoms. Changeability of symptoms denotes a converse state of things, or the absence of a fixed pathological condition such as disintegration of the nervous system implies; hence it is evident that the theory of causation is wrong, or else changeableness of the symptoms is either an erroneous conclusion or is due to simulation. Traumatic neurosis, in this country, is usually met with as a neurasthenia. Writers agree that the symptoms of the idiopathic and traumatic varieties of neurasthenia are identical; and the idiopathic form is acknowledged, on their part, to have definite symptoms of sufficient stability to warrant an easy and unfailing diagnosis, while the traumatic type, according to the neurological expert, has changeable symptoms which require special skill and the use of instruments of precision for their determination. It is utterly impossible for any one having a knowledge of the admitted facts pertaining to the forms of neurasthenia under discussion to reconcile conclusions of this character. The disagreement is apparently due to the jealousy of investigators who have originated special tests for the detection of malingering. These tests are intended to establish the presence of objective signs or symptoms which in themselves constitute an unfailing means for obtaining a correct diagnosis in suspected or doubtful cases. Much could be given in the way of description of these signs, but suffice it to say that, as yet, there are no known special signs, alone sufficient, whereby a case of traumatic neurosis can be differentiated from one of ordinary idiopathic neurasthenia. The presence of sprains and other objective evidences of recent injury, together with an authentic history and a stable, well-organized symptom complex, constitute the only reliable factors for differentiating, with certainty, the genuine from the simulated cases of traumatic neurosis. Instruments of precision and special tests are, at times, very valuable aids to diagnosis, but their employment under ordinary circumstances is unnecessary. There are numerous instances in which simulators have successfully maintained their imposture against the tests and armamentarium of the specialist, and oftentimes a little common sense is of more use in diagnosis than all the special tests and diagnostic appliances combined.

"The stumbling-block in the whole matter of the accident neuroses," says a late editorial writer, "lies in the interpretation and significance of the term simulation." According to some observers it is extremely difficult to find many cases of simulation; while, upon the other hand, authorities of equal repute persistently affirm that a large percentage of the number is nothing but wilful, well-disguised cases of simulation.

The controversy over the matter has been long and acrimonious, and has resulted in no special advantage to either side of the question. The discussion, however, has given us the term "simulationists" as a name for those who believe in the existence of a large amount of simulation. The final settlement of the question of simulation will be reached when the matter of the pathology of traumatic neurosis shall rest upon indisputable grounds. If the theory of the disintegration of the nervous system prevails, then stability of the symptoms, whether physical or psychical, will denote genuineness of the affection, and instability of symptom expression will indicate exaggeration or simulation. From what has been said it is evident that the employment of special tests for the determination of doubtful cases has, thus far, failed to give satisfactory results, but, instead, has given rise to an endless discussion, confusion, and disagreement among the experts. Therefore, in view of what we know of the subject, it is evidently always best to stick to the practical methods of examination, even in determining the status of the doubtful cases of traumatic neurosis.

Conclusions:

(1) The surgeon should be an equal authority with the neurologist in determining the sequences of trauma upon the nervous system.

(2) Neurasthenia is the usual form under which traumatic neurosis expresses itself, and its symptoms are indistinguishable from neurasthenia arising from other than traumatic influences.

(3) The actual condition of the patient previous to the accident must be known in order to reach a correct estimate of the damage from injury sustained by the nervous system.

(4) The type of symptoms manifested by the neurosis, whether neurasthenic or hysterical, is oftentimes a question of vital importance in the adjudication of a claim for damages.

(5) Traumatic neurosis occurs oftenest at the centres of population, but it is by no means a rare affection in the country districts.

(6) It is probable that traumatic neurosis is dependent upon some definite—yet unknown—change in the arrangement and structure of the cellular elements of the nervous system, which gives rise to stable rather than unstable symptoms.

(7) A stable, well-organized symptom complex indicates damage to the nervous structures; while instability of symptoms and want of orderly arrangement denotes trivial injury—and, if long continued, simulation is rendered probable.

(8) The so-called "objective symptoms" depend upon the psychical rather than the physical state of the subject, and are unreliable guides to diagnosis.

(9) A correct diagnosis is best obtained from a reliable account of the accident, the history of the previous state of the patient, the presence of surgical troubles and the existence of a stable, well-defined, organized symptom complex.

(10) The term "traumatic neurosis" is an expression for an indefinite condition, and a simplification of the subject is desirable from a clinical standpoint.

Scabies.—Dr. Hare, in *Medical World*, says: "The 'itch' (scabies) is often hard to treat successfully. Sulphur ointment well rubbed in will often allay, but frequently fails of curing because of the depth of the furrows made by the female acarus. It is therefore best, before the application of the ointment, to give the patient a thorough hot bath, lasting half an hour, with strongly alkaline soap, in order to soften the epidermis and uncover the burrow of the worm. The ointment may then be used with much benefit."

THE SURGERY OF EMPYEMA.¹

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THE fact that empyema was not only recognized but treated surgically in the remotest days of antiquity adds interest to the discussions of the present day as to the best surgical procedures for its relief. The surgical treatment of the disease is said to owe its origin to the mythological legend which tells us that Jason, seeking death in the midst of battle, received a spear wound in the chest and was thus artificially relieved of an empyema. The same story, with a different hero, is related by Plinius in the seventh book of his "History of Nature." We also have the oft-quoted case of Kinesiros, whose pleura is said to have been opened by the actual cautery by Euryphon of Knidos. Traced, as it can be certainly, from Hippocrates down through this long series of years, the surgical relief of empyema has afforded a theme for animated discussion as to the proper indications for its performance. Hippocrates² operated by incision with the knife, by actual cautery, and by perforation of the ribs; and operations of this sort seem to have been common enough in his day. Another striking fact is that Hippocrates taught and practised frequent washing of these patients before the operation, and thus really practised what is now known as aseptic surgery. From soon after the days of Hippocrates there is no further account of surgical treatment of empyema for more than two thousand years, when it was revived by Sedillot, but was not looked on with favor by other surgeons, and even Dupuytren said he would rather die of the disease than be killed by the doctors. Since the revival of the operation by Sedillot, however, it has never again been remanded into obscurity, but has gradually come to be considered, in some of its forms, indicated in all cases of empyema that threaten life and cannot be cured by other means. Up to 1850, however, there was no real certainty or agreement as to its use, except as a last resort. About this time Trousseau laid down the proposition that in pleuritic effusions, no matter what their character, we ought not to wait till death is imminent, but operate with the view of warding off dangerous attacks of dyspnoea, which may unexpectedly seize the patient and carry him off with great rapidity. The great Frenchman encountered opposition to his views from every side, notwithstanding his successful results; and the operation would perhaps again have fallen back to its former limited sphere had not Dr. Bowditch, of Boston, begun his brilliant advocacy of Trousseau's doctrine, which was soon aided by the invention by Dr. Wyman, another American, of his suction instrument, and aspiration made possible. Dr. Bowditch operated for empyema two hundred and fifty times, and published papers on the subject in the *American Journal of the Medical Sciences*, April, 1852; *The Medical Monthly*, January, 1853; *Boston Medical and Surgical Journal*, May, 1857; and read his last paper on the subject before the New York Academy of Medicine in 1870. Leaving out the treatment with drugs and counter-irritants, by which it is hoped to produce absorption of the pleural effusion, the lines of treatment now advocated are about as follows: 1st, simple aspiration; 2d, aspiration followed by irrigation with antiseptic solutions; 3d, aspiration followed by permanent drainage, Beulau's method; 4th, simple incision; 5th, resection of small portion of a rib to insure free drainage; 6th, resection of larger portions of ribs sufficient to secure drainage and produce retraction of

¹ Read before the Æsculapian Society of the Wabash Valley, at Terre Haute, Ind., June 4, 1896.

² "De Morbis," Hippocrates.

chest wall, Estlander's operation; 7th, thoracoplasty, or removal of the chest wall, Schede's operation.

Dr. Carl Beck, who is a strong advocate of the resection of one or more ribs in the treatment of all operative cases of empyema, regards it as deplorable that there should be any difference of opinion in regard to the advisability of this method in preference to any and all others. His sarcastic assertion, that an explanation of this deplorable difference of opinion is only to be found in the fact that the "general practitioner" has had the effrontery to attempt the solution of surgical problems, certainly has no scientific weight in deciding the best method of treating a condition that varies so much in different cases as does pyothorax.

Many cases of empyema occur in children, and, for reasons which we shall see later on, it is quite probable they may do well with a less radical treatment than is required in adult cases. So the chronicity of cases, the condition of the lung, and the viscosity of the pus contained in the cavity are all factors that should be considered in deciding whether aspiration, incision, or resection of ribs will be best suited to any particular case. It has been suggested by Dr. Tiffany,¹ of Baltimore, that much depends on the character of the pus found in these cases, not only as regards prognosis, but in deciding the character of the operation required. He advises the use of the hypodermatic needle for withdrawing a sufficient amount of the pus for bacteriological examination, and believes that if the patient has pyæmic cocci he will die under any form of treatment; while if there are only staphylococci, or pneumococci, removal only is necessary without irrigation; but if streptococci are found, resection and washing out are necessary. Cases due to simple infection by pneumococci or staphylococci are therefore to be regarded as benign; those caused by saprophytes, in which case the infection is putrid, as in the highest degree unfavorable; while those arising from streptococcus infection occupy a middle ground as regards their danger to life.² However, in many pleuritic effusions, both serous and purulent, no microbes³ can be found. It has been assumed that such cases are tuberculous, but there seems no sufficient reason for such conclusion. If the empyema is due to a mixed infection, the gravity of the case depends on the predominance of the more virulent bacteria present in the exudate. The very fact that surgeons still differ as to plans of treatment, and show equally good results from their favorite methods, is a striking proof that all cases should not be treated alike. Any effort to inculcate a different doctrine, for the gratification of personal pride in one's own particular method, savors of an egotism that is dogmatic and unscientific.

All operative measures in the treatment of empyema have for their chief end two objects: first, to evacuate the pus or other fluid contained in the cavity; and second, the obliteration of the cavity by bringing together its walls. The latter is best done by that method which closes the cavity by expansion of the lung and not by retraction of the bony thorax.

The first question to be decided in any case is whether any operation is necessary for its relief. This question was discussed in a paper by Dr. John Ashhurst, Jr., of Philadelphia, read at the meeting of the American Surgical Association in 1894. He then said: "No operation is justifiable unless the presence of pus is certain; unless thorough treatment by medicinal agents, blisters, etc., has failed; or unless the dyspnoea and other symptoms are so urgent as to demand immediate relief." Since the presence of pus is never absolutely certain, it follows that we should

not, in ordinary cases, operate unless the symptoms are urgent. If operation is decided on, a simple aspiration should be done unless it seems certain that this will not be sufficient. The aspiration should be done under strictest antiseptic precautions, and with the same care in this regard as though it were a major operation, because on our care in so doing depends the certainty almost of changing a serous effusion, if such is found, into a purulent one.

The point usually selected for aspiration is the sixth intercostal space, but the exact location is largely a matter of choice of the operator. It should be low enough to permit of the emptying of the cavity, and high enough to be out of the way of the diaphragm, which moves upward as the fluid flows out. If the fluid evacuated is serous, and thorough asepsis has been secured, the chances are favorable that nothing more will be required. Following this first aspiration irrigation with antiseptic solutions should not be done. If the fluid is purulent, a reaccumulation is likely to occur, in which case either simple incision or puncture and permanent drainage (Beulau's method) should be practised. These methods favor the obliteration of the cavity by expansion of the lung, and if this takes place the patient is left in much better condition than when retraction of chest wall occurs. If from any cause sufficient drainage cannot be had by either of these methods, then a small portion of rib (an inch is ample) may be excised. If, however, the lung is bound down by adhesions so that expansion is impossible, then the operation of Estlander is certainly indicated, in which case there must be sufficient excision of ribs that by collapse of the bony thorax the costal pleura will be brought in contact with the layers next the lung.

A good many writers on this subject seem to have confounded simple resection of a small portion of one rib, for the purpose of securing and maintaining better drainage than can be had by simple incision, with the operation known as Estlander's, which has for its object an entirely different purpose. The Estlander operation, as before stated, aims at retraction of the chest wall in cases in which the already crippled lung cannot expand, and consists in the removal of extensive sections of two or more ribs. In many cases, however, it has been demonstrated that the mechanism of the cure of empyema is not dependent upon the retraction of the chest walls, and hence a resort to the Estlander operation is not necessary in all cases, even of protracted and extensive pyothorax. Such at least was the report of the committee appointed by the Belgian Academy of Medicine,¹ who, with M. Deroubaix as their chairman, made exhaustive study of the surgery of empyema. Their report, however, retains the Estlander operation in the list of legitimate surgical practice, and leaves the selection or rejection of this operation to the tact and judgment of the surgeon in each particular case. Verebélyi, of Vienna, thinks resection of ribs² is generally unnecessary, and is only indicated when by approximation of the ribs a free exit of pus is hindered. Moullin³ favors a trial of aspiration, and states that in children it is often successful and in case of adults is always worth the attempt. If this is not successful he advises incision and the insertion of as large a drainage tube as the space between the ribs will permit. He resorts to resection only in extreme cases, when there is such an overlapping of ribs that drainage through a tube cannot be accomplished; and regards washing out the cavity with antiseptics as unnecessary and dangerous. Resection certainly increases the liability to pyæmia and produces deformity of the chest. Another and most serious objection to it is that its performance

¹ Transactions American Surgical Society, 1894.

² "American Text-Book of Medicine," p. 522.

³ Koplik: "American Text-Book of Diseases of Children."

¹ Sajous' Annual.

² Treatise in Surgery, p. 836.

necessitates the use of anæsthetics, which not only are not well borne, but are absolutely dangerous in these cases. To operate without an anæsthetic is brutal in the extreme, and only the direst necessity should ever be a sufficient reason for its undertaking. Notwithstanding these and other objections to an operation which is certainly not devoid of danger, it is the plan advocated by many eminent surgeons, among whom may be mentioned Koenig, Schede, Weir, Bull, McBurney, and Beck. Dr. Achutz, in a paper on "The Treatment of Empyema in Children," read before a meeting of the Medical Society of Hamburg recently, emphasized the necessity of costal resection in all of these cases, and reports eighteen operations and sixteen recoveries. He deprecates all forms of expectant treatment and performs the radical operation as soon as the diagnosis is made that effusion exists.

As showing how favorable results are sometimes secured, under unfavorable circumstances and from methods of treatment that would not be considered good surgery by the extreme advocates of resection in all cases of empyema, the following report of two cases is offered. These cases are not reported as embodying all the writer's experience with empyema, nor for the purpose of "deducing classical rules from the results and observation of two cases," but for the reasons above stated.

CASE I.—E. T—, eight-year-old girl, was seen ten years ago in consultation. There was a large effusion in the left pleural cavity, following an attack of pleuropneumonia. The heart was displaced, and its apex beat was to the right of the sternum. The symptoms were urgent and the dyspnoea was extreme. With no antiseptic precautions, the fluid, which was sero-purulent, was aspirated—at least enough of it to relieve the urgent symptoms. The point of puncture was covered with adhesive plaster, which was pushed off very soon afterward by the escape of fluid. This discharge continued for about five months, gradually diminishing, finally ceased altogether, and the fistula closed. The child recovered her health permanently and perfectly, and is now a robust, red-faced young lady, with no chest deformity whatever.

CASE II.—J. R—, aged forty-eight years, has had chronic tuberculosis for years. In December, 1893, he became much worse and was confined to his bed for the next four months. With the advent of warm weather he rallied and seemed much better. At this time no effusion was discovered. Three or four months later he came to my office, and on examination a large effusion in the right pleural cavity was diagnosed. The next day, under antiseptic precautions, sixty ounces of pus were removed by aspiration, much to his relief. At this time, more than a year and a half afterward, there has been no reaccumulation, the tuberculous process has been latent or nearly so, and he has been in very fair condition.

A study of recent literature and observations made at a number of the largest clinics of this country, both east and west, have led me to question the propriety of the extensive resection of ribs in any but the most desperate cases. And while there are, no doubt, many cases in which the resection of a portion of a rib gives better results than the simpler methods, there have been many cases thus operated more for the sake of doing the major operation than with the belief that it was necessary. Especially is this true of the operation of Estlander and the thoracoplasty of Schede. As for other novel procedures occasionally advocated, such as curetting the pleural cavity, etc., they need only to be mentioned to be condemned.

So, too, the indiscriminate use of antiseptic injections is to be strongly deprecated. Many fatal results are recorded as immediately following this practice; and in the operation for ordinary empyema it is

an unnecessary and dangerous procedure. If done at all it should be at later periods, and then the utmost caution should be observed. Surgeons should have "*Non nocere*" for their motto more often than they do, and not allow the *furor operandi* to drive it from their memory. Many, very many, cases of pleuritic effusion do well without any operation whatever, and when operation is necessary the simplest one that will cure the patient is the best.

SOME NOTES ON THE BACTERIOLOGY OF MUMPS.

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AND

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AN epidemic of mumps in the Camden Home for Friendless Children, in the service of Dr. Mecray, suggested the idea of looking for the cause of the disease in the secretion from the parotid as found in Steno's duct before its entrance into the mouth. The study itself was too incomplete to make the conclusions from it very definitely satisfactory, and the notes are published with the idea that, as we are not in a position to go on with the work, they may prove suggestive to others working in the same line. There is not very much in the literature as to the bacteriology of mumps. The text-books almost without exception ignore it entirely. Much of our work had been done before we found in the periodicals anything very definite or materially suggestive.

The "American Text-Book of Diseases of Children" refers to the investigations of Capitan and Charrin, but does not say where an account of them may be found. We suppose the reference is to their report to the Society of Biology in 1881.¹ This work was done before Koch's classical papers, practically laying the solid foundation of the modern science of bacteriology, had been published, and it is almost necessarily meagre, indefinite, and unsatisfactory. A number of microbes, spherical and bacillary, are described as occurring in the blood and saliva. The flora of the mouth was very little known at that time, and the precautions necessary to prevent contamination from the skin, in making cultures from the blood, were not well understood, so that the findings have not much of scientific value. The conclusion suggested by the research, however, seemed to be that a form of bacillus was concerned in the etiology of mumps.

Previous studies are apt to have an influence in the conclusions of after-observers, and so Bouchard² and Boisnet,³ in isolated cases, and Bordas⁴ in a series of cases found in the blood and saliva bacilli that they considered the cause of the disease.

Considerable study has been devoted to the micro-organism found in parotitis in which the inflammation had gone on to suppuration, but in these cases there had been a mixed infection and pus cocci were of course demonstrable. The infrequency of abscess complicating parotitis makes it extremely unlikely that the mumps organism of itself would ever cause suppuration.

Micrococci distinct from pus cocci were found in the blood and saliva in a severe case of mumps in 1885 by Dr. Netter at La Pitié,⁵ and a coccus that they

¹ Comptes Rendus Soc. Biol., May 28, 1881.

² Bouchard: Thèse de Paris, 1883.

³ Boisnet: Lyon Médicale, 1885.

⁴ Bordas: Comptes Rendus Soc. Biol., November 16, 1889.

⁵ "Leçons de Clinique de Jaccoud," Paris, 1895.

thought specific was found by Laveran and Catrin in an epidemic of mumps that occurred among some regiments quartered in Paris in 1893. In their report to the Society of Biology, January 28, 1893, they describe the organism as a micrococcus seen most frequently in the form of a diplococcus, though sometimes found in fours, or as zoöglæa. They grow well on the ordinary media, though rather slowly, clouding bouillon somewhat in twenty-four hours, and appearing on gelatin after forty-eight hours as small white punctiform colonies, which develop very slowly and liquefy some considerable time after coalescence. They grow on potato and give a whitish appearance not easy to detect.

In a further communication to the society, May 20, 1893, they report that they had found the organism in sixty-seven out of ninety-two cases of mumps examined. In the exudate of the inflamed gland obtained by puncture with a syringe, they found it thirty-nine times out of fifty-six in pure culture and twice in mixed cultures. The fifteen negative results they consider due to the fact that but an extremely small quantity of the exudate could be obtained. In the exudate from the metastatic orchitis of mumps the organism was found in twelve out of sixteen cases, in pure cultures. The blood of patients gave pure cultures of their "diplococcus" ten times in fifteen trials when taken during the fever. In all cases growths of the micro-organism had to be obtained, as it could not be found in the blood or secretions by the microscope directly, the number of cocci present seemingly being very small.

This micrococcus form, usually seen as a diplococcus, was the principal feature of our findings in cultures from Steno's duct made during the height of the disease, and we had isolated and noted its mode of growth on various media before we knew of Laveran and Catrin's work. The method was as follows: The mouth was thoroughly washed out with a saturated solution of boric acid, and the orifice of the duct, after some slight massage of the cheek to empty it, was covered by a swab of cotton soaked in the solution, and this was allowed to remain between the jaw and cheek for five minutes. A bit of sterile silkworm gut was then introduced into the duct and from it an agar slant was inoculated.

Out of ten tubes six had a mixed growth, but in all of them there was noted a small, white, slow-growing colony. This was isolated in plate cultures and was found to contain two different organisms, one a streptococcus form, the other a micrococcus, nearly always seen as a diplococcus. Further culture showed that the streptococcus grew more rapidly and liquefied gelatin sooner (in three to five days) than the micrococcus. It did not occur in the original cultures as constantly as the latter, the diplococcus form, occurring for certain in eight of the ten tubes and being considered to be present in the others, though this could not be demonstrated with certainty, owing to invasion of the colonies by the more rapidly growing cocci so common in the mouth, which our precautions had not succeeded in entirely eliminating.

We had been studying only the cultures from the duct, but, as Laveran and Catrin had reported the presence of the organism in the blood, we made cultures from the blood in eight cases. The blood was drawn from the lobe of the ear, and to avoid contamination by micro-organisms from the skin thorough cleansing was employed. The part was washed with soap and water, then with alcohol, then with 1 to 500 bichloride, then with alcohol again, which was allowed to evaporate; puncture was made with a sterile needle, the ear being supported by a sterile towel (all these precautions, almost impossible in private practice, were comparatively easy to be carried out in a pub-

lic institution). Out of the eight tubes two gave an entirely negative result, three gave pure cultures of the characteristic diplococcus, and three gave a mixed result, the diplococci being found, but with them other cocci, notably a staphylococcus form, probably the staphylococcus epidermidis albus.

Control tests made from the blood of five healthy children gave absolutely negative results. Cultures made from Steno's duct in these same children gave us various oral micro-organisms in four cases, but not the diplococcus found in the mumps cases.

Beyond this our observations did not go. Though a single case¹ has been reported in which a dog playing with a child that had mumps suffered from swelling of the parotids, malaise, etc., this must have been a coincidence, or a number of cases would have been reported, as domestic animals are so often exposed to the contagion and yet do not acquire it. Laveran and Catrin found that the injection into the testicle of pure cultures of the micrococcus isolated by them set up orchitis, but, as almost any irritant would do this in tissues so susceptible and highly organized, the observation does not seem of much scientific value.

Micrococci of various kinds are so common about the mouth and so easily contaminate cultures made from the blood, that the suggestion of such a form as the specific bacterial cause for one of the infectious fevers is usually set down as due to insufficient precautions in avoiding contamination while making the cultures. The characteristics of the growth of the micrococcus described are sufficiently like those of that very common organism, the staphylococcus epidermidis albus (Welch) to greatly strengthen the impression that perhaps this or some degenerate form of the ordinary cutaneous and oral micrococci is here described.

The diplococcus we found, however, seemed to grow even more slowly and to liquefy gelatin after a considerably longer time than the staphylococcus described by Welch. The negative results in the cases of healthy children living under just the same circumstances, and on whom the same precautions were employed, would seem to show that it was not an organism ordinarily present.

What etiological connection it may have in the absence of the possibility of producing the disease in animals it is hard to say, but there is certainly to be found pretty constantly in the blood and parotid secretion of mumps cases this diplococcus which is not found in children unaffected by the disease.

As a number of forms of cocci are known to invade the parotid gland and set up a non-specific parotitis in systemic septic conditions or during states of lowered vitality, it does not seem so improbable as it might on first thought that the specific cause of infectious parotitis is a form of coccus.

The micrococcus isolated by us grows in pairs, occasionally in fours, rarely in larger groups. Each individual coccus is very regularly rounded, and about the size of the ordinary pus coccus. The colonies are small, white, glistening, distinctly defined, regularly circular spots, at first discrete and of very slow growth, gradually coalescing. The slow growth is a marked characteristic. In making pure cultures three days after inoculation gelatin tubes were set aside as failures, no growth being noted; three days later the small white colonies were distinctly visible. At ordinary temperatures gelatin does not begin to liquefy for from ten to twelve days and liquefaction proceeds slowly. A faint white streak appears on the third day on potato and slowly spreads as a delicate whitish film. On blood serum growth is more rapid than on other media, and the colony is not so distinctly white in color.

¹ Whittaker: "Mumps," Pepper's "Text-Book."

Litmus milk changes to pink on the third day and coagulation takes place. Milk seems an excellent nutrient medium for it and a ready means of spreading contagion.

NOTES UPON THE ESTIMATION OF THE NUMBER OF BACTERIA IN MILK.¹

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THE examinations of milk which this paper reports were undertaken on account of the writer's interest in pædiatrics, the object in doing the work being to learn, so far as such a bacteriological test would teach, the fitness of milk from various sources for infant feeding. The facilities of the pathological laboratory of the University of Buffalo were at the experimenter's disposal, and the work was done under the direction of Dr. Herbert U. Williams.

The method used for counting bacteria in milk was as follows: To a test tube containing a definite quantity of sterile water, say 50 c.c., 0.5 c.c. of milk was added and the contents of the tube thoroughly shaken. One cubic centimetre of this mixture, containing 0.01 c.c. of milk, by means of a sterile pipette was added to a test tube containing liquefied sterile nutrient gelatin or agar. This tube was then whirled or agitated until the gelatin and diluted milk were thoroughly mixed. The contents of the tube were then poured into a sterile Petri plate. These plates, whether gelatin or agar was used, were kept at the room temperature. At the end of forty-eight hours in summer, after seventy-two or more in winter, the colonies were counted. The apparatus used for this was devised in the laboratory. The Petri dish was placed over a piece of glass, the under surface of which was painted black, the upper surface ruled in square centimetres. Then with the aid of a small magnifying glass, which in this case was an ordinary engraver's lens, the colonies were counted. If not many were present the entire surface was gone over; if the number was great, ten alternate squares were counted and the number on the plate estimated from the area of the dish. The number of colonies represented approximately the number of bacteria in 0.01 c.c. of milk. At the time of making the culture two control plates, one of the water used in diluting, one of the medium, were made. So long as these remained sterile whatever grew on the milk plates necessarily had its origin in the milk.

The dilution of milk is necessary for two reasons: First, To add to the gelatin even 0.5 c.c. of milk would make a mixture so opaque that the little grayish or creamy white colonies would be indiscernible. Second, even in the best milk the number of bacteria in 0.5 c.c. is so great that it would be almost impossible to count them. Indeed it is only the best milk that requires so little dilution. At this time of the year (June) for grocery milk a second dilution is done and cultures are made from a mixture of which 1 c.c. contains approximately 0.0001 c.c. of milk. Of course so much dilution increases materially the chance for error.

Gelatin was used as a culture medium until the weather became so warm that it liquefied at the room temperature, when agar was substituted. Either medium has its disadvantages. The rapid development of liquefying organisms in gelatin soon renders counting impossible. No less an objection is the cloudiness which certain bacteria produce in agar. In which medium the greater number of colonies

develop was not determined. One experiment showed about the same number in each.

The influence of temperature on the number of bacteria in milk is noticed in comparing the results of examinations of the same milk supply made last winter and this spring and summer.

A point of some interest is that all bacteria do not develop with equal rapidity. There will be a considerable increase beyond the number found on the usual day of counting.

Certified milk plated February 6th on February 11th showed 88 colonies, on the 13th, 139.

Grocery milk plated March 21st showed on the 23d 246 colonies; on the 24th, 369.

Sterilized milk (from dairy) plated April 2d gave 8 colonies on the 7th, 10 on the 11th. No further increase was found, though the culture was kept one month.

Crèche milk plated May 13th showed on the 16th, 84 colonies; on the 18th, 158.

Certified milk plated May 9th showed on the 12th, 255; on the 14th, 323. The same plated May 16th gave on the 18th, 350; on the 19th, 480. The same in agar June 10th showed on the 12th, 44; on the 13th, 58.

It is well known that milk is a medium in which bacteria multiply with great rapidity. Indeed the enormous numbers found in milk depend probably not so much on the extent of the original contamination as upon the length of time and the conditions under which the milk has been kept. But one experiment illustrating this has been done. Certified milk of that day's milking was brought to the laboratory and directly plated. Two days later the plates showed 57,600 bacteria to the cubic centimetre. The milk was left in laboratory, covered as it is sold, for four hours, the room temperature being from 68° to 72° F. A second plate was then made which at the end of forty-eight hours showed 747,200 per c.c.

The examinations of which records have been kept give the following results:

TABLE I.—MILK AS DELIVERED TO THE CONSUMER.

1. December 28, 1895, bottled milk.....	400,000 to c.c.
2. January 28, 1896, sold by measure....	590,000
3. May 27th, sold by measure.....	24,613,900
4. May 29th (same as No. 3).....	9,820,000 } Many
5. May 30th, brought from dairy.....	9,963,000 } moulds.
6. May 31st, bottled milk.....	796,800
7. June 3d (same as No. 1 and No. 8)....	48,000
8. June 11th (same as No. 1 and No. 7)....	6,630,000
9. June 11th, brought from dairy.....	43,600,000

The conditions under which cultures 3 and 4 were made were not fair, as the milk had stood some time in the laboratory before being plated. They merely illustrate the possibilities of milk as a culture medium. In all other cases the milk, which was brought to the laboratory in sterile bottles, or in the bottles in which it was delivered to the consumer, was immediately plated. The specimens brought from dairies were in both cases got in the afternoon. Morning cultures would show fewer colonies, yet the milk is bought even for little children in the afternoon.

TABLE II.—GROCERY MILK.

1. January 26th.....	25,000 to c.c.
2. March 23d.....	246,000
3. May 25th.....	2,619,900
4. May 26th (culture at 4 P.M.).....	25,090,000 Moulds.
5. June 10th (same as No. 1).....	1,220,000
6. June 11th (culture at 11 A.M.; same as No. 4).....	7,390,000

The milk sold at the grocery which supplied the material for cultures 1 and 5 is received each morning from the country. The first culture was made during extremely cold weather, and probably does not

¹ Read before the Buffalo Academy of Medicine, June 16, 1896.

represent the average condition of that milk in winter. Grocery milk compares very favorably with that from other sources.

Table III. gives the results of examinations of "certified milk." This milk comes from a dairy located some distance out of Buffalo, the manager of which endeavors to supply clean and wholesome milk. The stables are kept scrupulously clean; the cows, all of which have been submitted to the tuberculin test, are daily groomed; the food and water supply of the cattle receive careful attention; the milkers are required to be clean, and the pails, bottles, etc., are bacteriologically clean. The milk is shipped and delivered packed in ice. The name "certified" is given to the milk from the fact that a committee of physicians certify to their knowledge of its condition, a bacteriological examination being made semi-monthly by Dr. Herbert M. Hill to determine how nearly clean the milk is kept.

TABLE III.—CERTIFIED MILK.

1. January 20th.....	13,000 to c.c.
2. February 11th.....	10,000
3. May 12th.....	25,900
4. May 18th.....	35,000
5. June 2d.....	132,720
6. June 10th.....	4,400
7. June 15th.....	57,600

A culture made by Dr. Hill of the same milk on May 18th, a different medium being used, gave 26,000, which we regard as a confirmation of our results.

Table IV. is milk prepared for the infants received at the Fitch Crèche, a day nursery for the children of working women. Milk sent from the country on the morning of the day it is used is sterilized in the Arnold sterilizer, being kept at the boiling point for forty-five minutes. The cream used is prepared in the same way. The bottles containing milk and cream are stoppered with absorbent cotton, cooled, and put into the ice chest. Boiled water is kept in a fruit can in the ice chest. The lime water used is made at the crèche, with boiling water. The milk sugar is dissolved fresh in boiling water each time. These ingredients are mixed for each feeding as needed. The bottles are filled after using with cold water, then as soon as possible scalded and filled and left to stand with a solution of borax. All dishes used in making up the mixture are kept for this purpose alone, and are well scalded after use. That the preparing of the food is carefully done I am confident. Yet examinations of the mixture give the following results:

TABLE IV.—CRÈCHE STANDARD MIXTURE.

1. May 16th.....	8,400 to c.c.
2. May 29th.....	17,600
3. June 1st.....	456,320
4. June 12th.....	31,000
5. June 13th.....	851,440
6. June 15th.....	1,002,400

The fault in this process is that the bottles have to be opened repeatedly, giving chance for contamination. But the bacteria in this mixture, really only a relatively small number, seem harmless. At any rate the babies thrive on it.

Some points which may be noted are these:

Certified milk contains comparatively few liquefying organisms, cultures occasionally showing none at

all. The hay bacillus and the potato bacillus, both liquefying organisms common to milk, and both by some accused of an active part in certain digestive troubles of infancy, may be said to be present in this milk in small numbers if at all.

No count is anything more than approximately correct. All estimates probably fall far short of the actual number of bacteria present.

Counts, to be of value in comparing the purity of various kinds of milk, must be made under identical conditions as regards medium, temperature of room, and time of counting.

This work was begun with but little faith in its value, but as it went on the conviction grew that by ascertaining the number of bacteria in a given quantity of milk we had a valuable test as to its fitness for food; the original amount of contamination, the length of time the milk has been kept, and the conditions of temperature and cleanliness determining the luxuriance of bacterial growth.

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A CASE OF INFECTIOUS ENDOCARDITIS.

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G. A. F—, male, white, American, aged forty-five years; neurotic temperament; occupation, bookbinder; temperate habits. Father and one uncle died suddenly with heart disease; the mother's death due probably to phthisis. There was a history of so-called bilious attacks for the past ten years, one or two of which confined him to bed for three months.

He first came under the writer's care about five years ago during one of these attacks. They were ushered in,

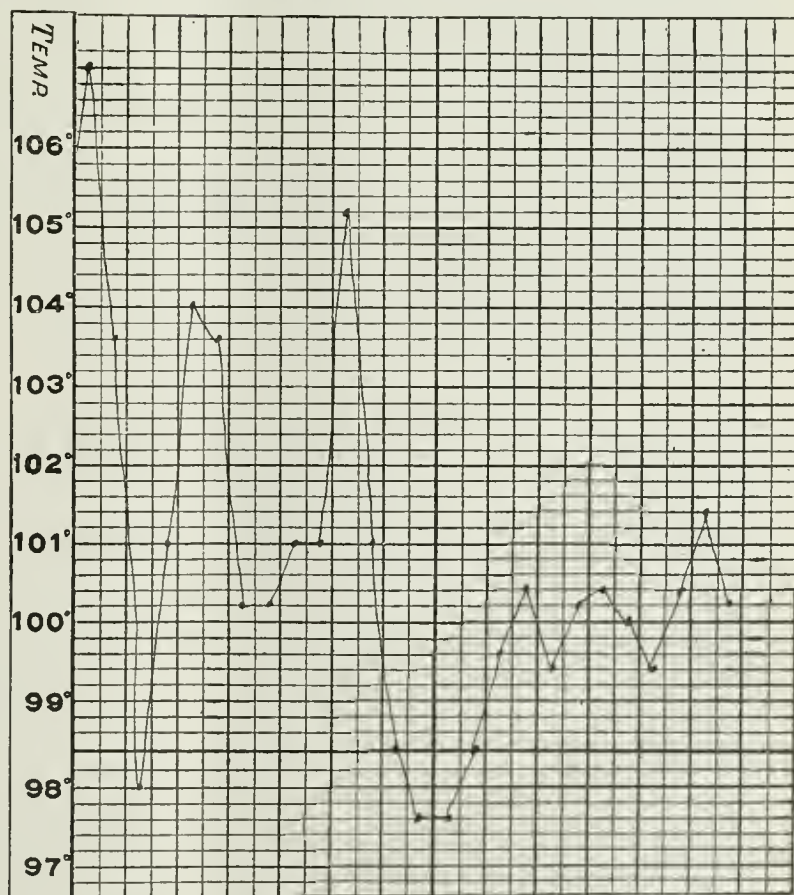


CHART 1.—Temperature from November 2 to November 8, 1895. Four observations daily.

as a rule, without warning. Sudden vertigo was followed by immediate vomiting, with violent pain either centring solely in the umbilical region or radiating from there to the liver; constipation was always present, though never in a marked degree; there was slight fever, with full, rapid pulse for a few days. Vomiting was always incessant, and enormous quantities of wind would be belched for several days. He was usually confined to bed for a week or ten days. The attacks occurred at intervals of about six months, until February, 1894, the date of the last until the beginning of his final sickness, July 25, 1895.

He had been granted leave from office and was ready to leave the city the following day. His two boys had been sent on to Connecticut by themselves. Coming back from the depot, he seemed much worried about the risk he ran in sending the children on alone. In this nervous condition he sat down to

room, and in a lesser degree could be noticed in both iliac arteries.

The next three weeks no improvement whatever was noted. The epigastric pain increased, and while there was no nausea, vomiting occurred spontaneously every three or four days after taking food. Gastric carcinoma was suspected, though the acid test was not made.

August 22d he went to Boston by steamer, but missed the boat coming home, and was thrown into a crowd of returning excursionists, becoming very much exhausted. He was taken to the seashore, and, his pain increasing and his general condition showing no improvement, he was brought back to Washington, September 4th. No fever was noted before he went, though temperature was not taken. On his return, fever of an irregular type came on, and in about two weeks Dr. S. S. Adams was called in consultation. He was then more or less hysterical, having frequent crying-spells

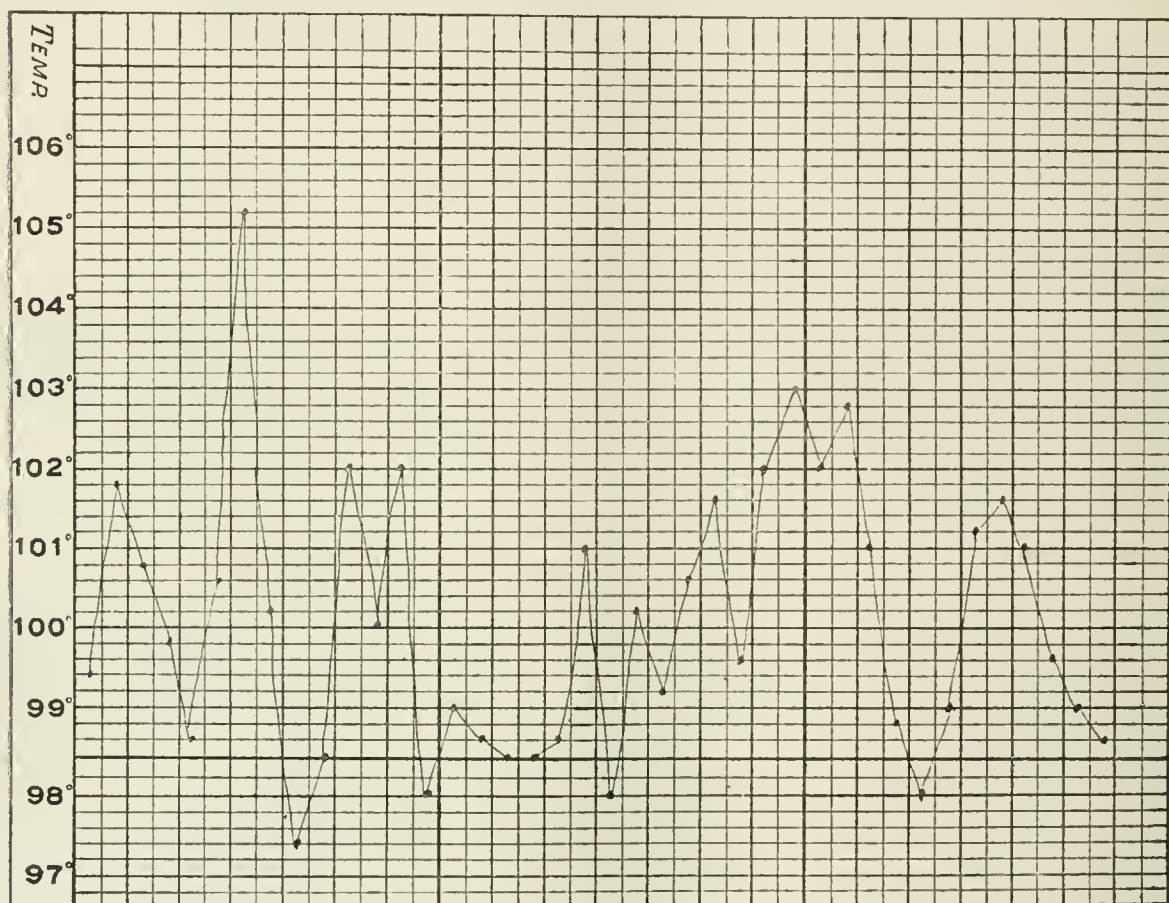


CHART 2.—Temperature from November 9 to November 18, 1895. Four observations daily.

luncheon, and was at once taken with what seemed to be one of his "old spells." The colon was irrigated (he had since his last attack been using a colon tube); bismuth, lactopeptin, carbolic acid, and hot solutions of phosphate of soda were given, with seemingly good results. The acute symptoms subsided much sooner than in his previous attacks, and the difference between the two then became noticeable.

First was noted a marked intermittence in the heart's action. Strychnine was given with good results, and when he left the city three weeks later his pulse was full and regular. The next difference noted was pain at the epigastrium, radiating to the back. This became so violent as to prevent sleep and required morphine for its relief. It was not influenced by eating or drinking. This was followed or rather accompanied by an utter and complete physical prostration. His appetite was fair and the food of a nourishing character, but his decline in strength was continuous. Epigastric pulsation was visible across the

and an idea that something was growing in him. Rectal nutrient enemata were given, with brandy and large doses of bromide of potassium. Nothing was given by mouth. The epigastric pain disappeared, vomiting ceased, and he seemed to improve. Murmur, most intense at apex, was detected.

In about a week, October 1st, a severe rigor was followed by high fever and profuse sweating. Fever seemed of a quartan type, and he was given quinine, dialyzed iron, and arsenic. This irregular fever continued about three weeks.

From October 21st to November 2d fever ranged from 97.6° to 99.5° F.

November 2d, 6 P.M., severe rigor; temperature, 107° F., followed in a few hours by a fall to 98° F.

From that time to the day of death (about one month), with the exception of two or three days, fever was never absent. It was of hectic type, two, three, or more exacerbations daily, accompanied irregularly by chills and sweats. There was bronchial catarrh during

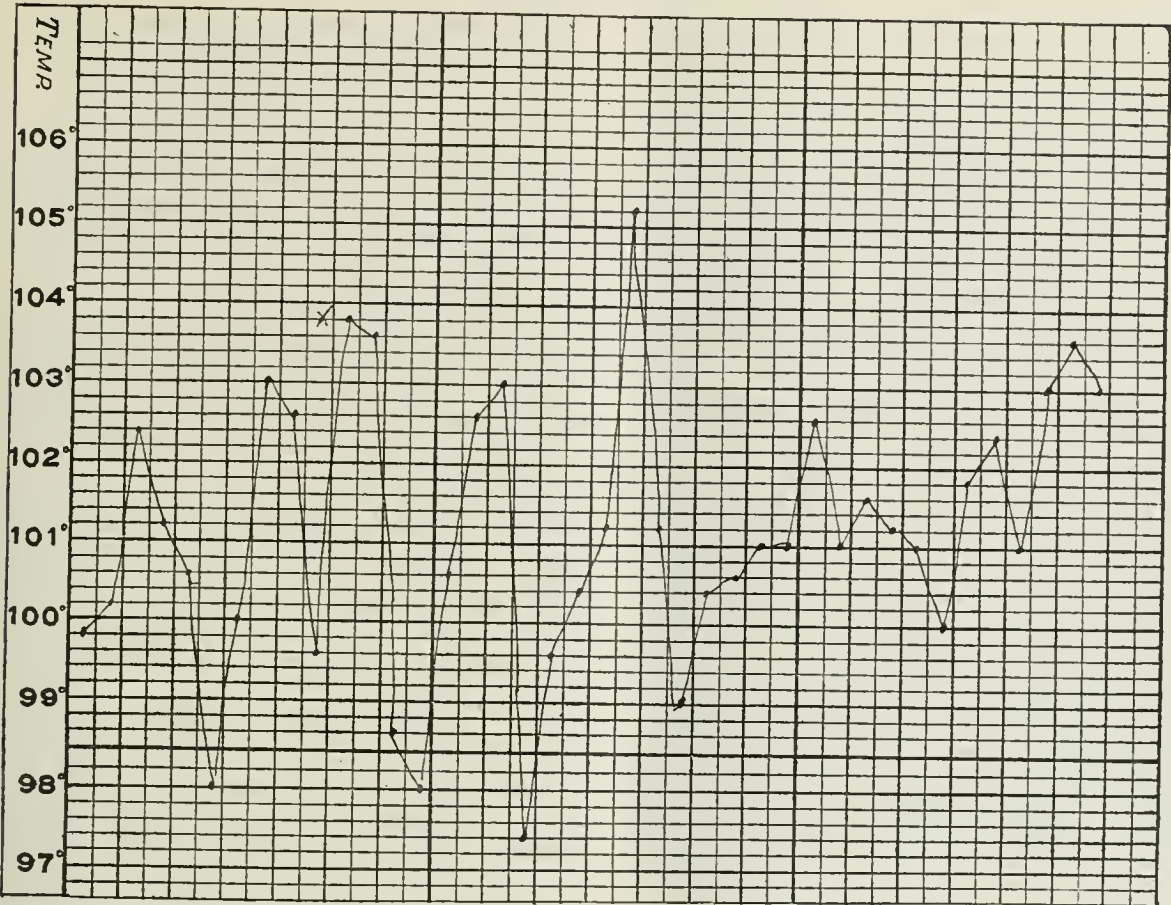


CHART 3.—Temperature from November 19 to November 28, 1895. Four observations daily.

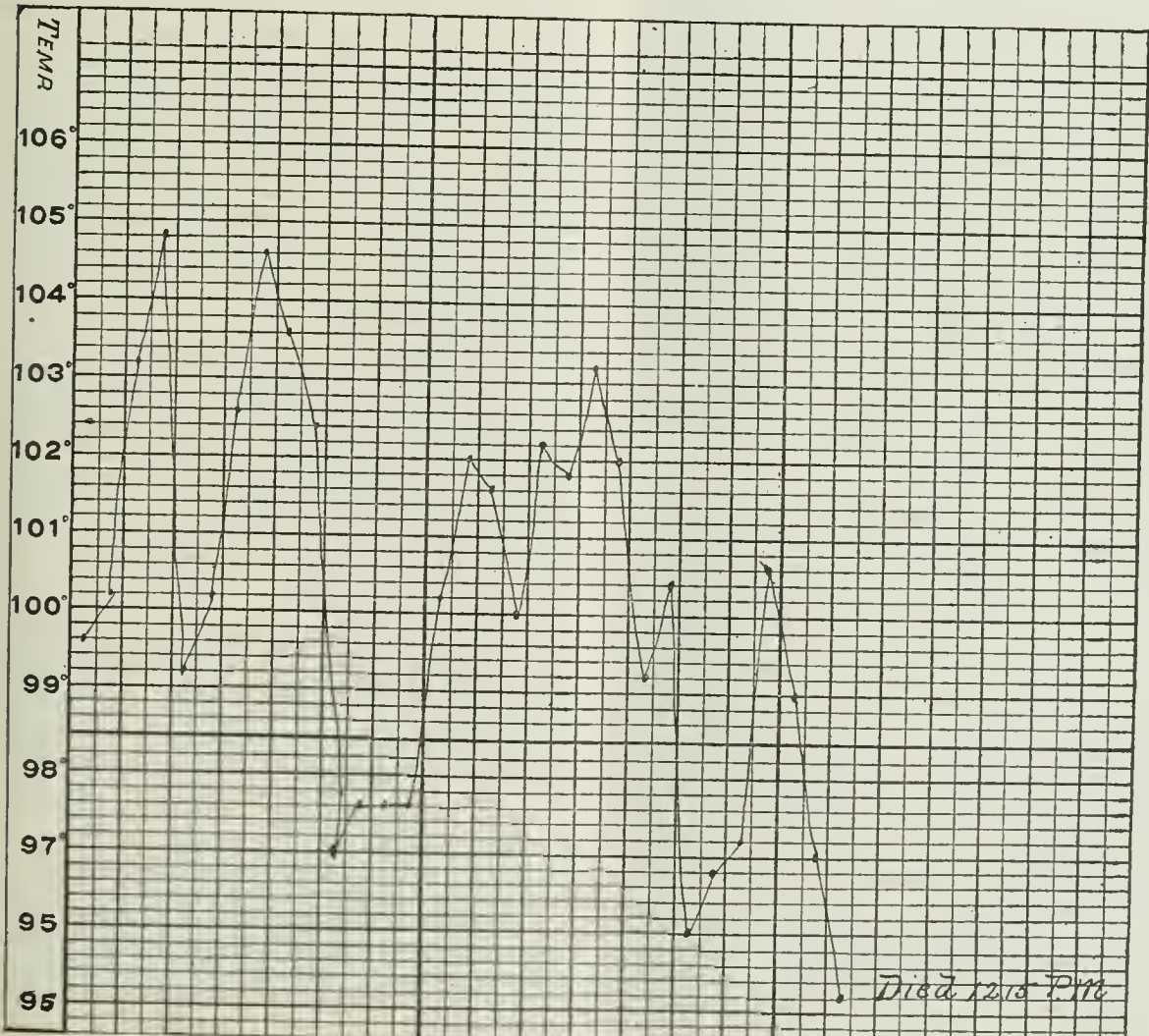


CHART 4.—Temperature from November 29 to December 6, 1895. Four observations daily.

the last month. The sputa and urine were repeatedly examined by Dr. George N. Acker, with negative results. Abscess of liver was suspected, from its enlargement. Dr. W. W. Johnston, who had also been called in consultation, aspirated the liver, with no result. Aortic murmur was very loud.

From about October 1st to death, petechiæ appeared on different parts of the body, principally on the hands and feet. These were preceded by a circumscribed redness, about two inches by three, on the inner side of the right thigh, accompanied by intense burning and itching. Several joints became affected. First the hip, simulating sciatica; then the right wrist, left shoulder, left wrist, and left foot. Just before death, the right foot seemed to be the only joint affected, and was much swollen and very painful. Pain was occasionally complained of in the left loin and over the right lobe of the liver. A swelling of the size of a large walnut appeared on the left frontal bone, and was painful. The latter part of his illness was characterized by a phthisical buoyancy of mind, as contrasted with the hysterical morbidness of the first part. His meals, as a rule, were eaten at a table to within a week of death, and he rarely spent a whole day in bed.

Five days before death pulmonary œdema of both lungs ensued and was followed by collapse. Recovery under heart stimulants and ammonium iodide and chloride was slow. Ascites then developed, but lessened considerably before death. There was amnesic aphasia for five days before death, with more or less delirium. Flapping in and out of both cheeks was noticed, but it was not persistent. There was retention of urine during the last two days and several times previously.

Notes of autopsy by Dr. J. R. Wellington: E. A. F.—, white, aged forty-five. Three hours after death: No rigor mortis; considerably emaciated. Pericardial fluid increased in amount; the heart, particularly the left ventricle, very much enlarged. The arch of the aorta dilated and infiltrated with calcareous deposits. Endocardium not examined. Lungs emphysematous around edges, otherwise normal. Liver larger than normal, extending to within two inches of umbilicus; very friable, light in color, showing signs of apparently fatty degeneration. Spleen slightly larger than normal, and on being incised was found to contain two abscess cavities of about the size of a walnut, with a dirty brown pus. Stomach distended; intestines normal. Kidneys each showed large infarctions of long standing. Brain not examined.

Report of examination of heart, spleen, and kidneys, by Dr. D. S. Lamb, pathologist to the Army Medical Museum, Washington, D. C.

"Heart shows hypertrophy and dilatation of left side (left auriculo-ventricular orifice stuffed with cotton). Edge of anterior leaflet of mitral valve much thickened, and is capped with a large irregular mass of fibrin, which was removed in handling and now lies loose. Left ventricle contained washed and dark clots, which have been removed. Leaflets of aortic valve are irregularly thickened and edges nodulated; right leaflet shows atheromatous abscess perforating into myocardium and into ventricle, and also a large vegetation. Both valves are stenosed and incompetent. Aorta and innominate artery are much thickened, and show fibrous and calcareous atheroma. Coronary arteries are rigid with calcareous deposit.

"Spleen, coronally bisected, shows one large solid and two softened infarctions.

"Kidneys show large infarctions."

Dr. Walter Reed, U. S. A., says that he found diplococcus lanceolatus in the vegetation of the heart valves. On inoculating an animal, however, there was no pathogenic result, perhaps because the virulency had diminished or ended.

COUNTER-IRRITATION IN THE TREATMENT OF HERPES.

By THEODORE WILKINS, M.D.,

POMONA, CAL.

A NUMBER of years ago I came across an article in some medical journal—I think, the *MEDICAL RECORD*—to the effect that some man, whose name I have forgotten, had treated herpes zoster by applying a fly blister over the affected nerve trunk posteriorly, in every case aborting the attack.

The treatment seemed so simple and withal so rational that it commended itself to my mind, and since then on various occasions I have treated herpes by counter-irritation, with the happiest results. Under these circumstances it seems to me this method of treatment should not be forgotten; for that reason I report the following cases.

Herpes is now generally recognized as a disease of the nerves, producing trophic changes in the skin. As a rule, it lasts for several weeks, and is often very painful. If counter-irritation will restore the integrity of the affected nerve or enable it to hold its own against possible bacterial infection, it is certainly a useful measure which ought to be known and practised early in all cases of herpes.

In all or nearly all cases of herpes search will reveal a tender spot higher up over the nerve trunk. This was found in all but one of my cases, and over this the blister was always applied. In that case, Case I., there was a curious anomaly—herpes in the terminal branches of the sciatic nerve was accompanied by a tender spot in the anterior crural, and promptly cured by a blister there applied. I do not pretend to explain this—I merely present the facts.

CASE I.—Mrs. B.—, a stout lady, forty-six years of age, came with a well-marked herpetic eruption over the upper contiguous edges and surfaces of the great and second toes of the right foot, which had troubled her for some days, causing great pain. It corresponded to the distribution of one of the distal branches of the great sciatic nerve. A very tender spot was found in the course of the anterior crural nerve, in the region of the saphenous opening, and here a blister the size of a half-dollar was applied. The pain in the toes soon ceased, and the eruption dried up within twenty-four hours. There was no other medication of any kind.

CASE II.—Mr. C. B. O.—, an elderly gentleman of stout habit, but very temperate in all things and a total abstainer. This was a case of herpes zoster which I considered intercostal neuralgia until the characteristic eruption began to appear. This was first recognized by his wife, who had herself had "shingles," and she came in great distress to tell me of her discovery. Blisters were applied posteriorly over the sensitive nerve trunks, with cure in twenty-four hours, to the great delight of himself and wife.

CASE III.—Mrs. H.—, a middle-aged, fairly healthy woman, who had been under a great nervous strain, associated with deep sorrow, for many months. One day she showed me a "sore" which had troubled her for some time. It was a well-marked herpetic lesion, situated about two inches below the knee on the anterior inner aspect of the leg. A few inches above the knee, in the course of the anterior tibial nerve, was a very tender spot. A small fly blister over this cured the lower sore promptly.

The next two cases, almost exactly similar in all particulars except the final result, and occurring within a short time of each other, seemed made for a "control experiment," and as such one of them unfortunately served. They both occurred in young women of the same general type—tall, slender, delicate, neurotic society ladies.

CASE IV.—Miss B. C.— had suffered just before from a mild parotitis of the right side, probably mumps. She came complaining of a very sensitive lump, about the size of a hazelnut, in front of the right ear; another, smaller but equally sensitive, was situated lower down in the neck. In addition, there were three soft, red, burning, painful swellings on the forehead, in the region of distribution of the supra-orbital nerve, the central and largest one exactly over the notch and perhaps one-half inch above it. At this time I did not connect the glandular enlargement with the eruption on the forehead, especially as the patient was subject to eczema, though she herself recognized this as something very different. I believed that a rather severe glandular infection from the parotitis had taken place, and directed her to use turpentine locally long and often, not as a counter-irritant but as an efficient and penetrating antiseptic, capable of killing the poison *in situ*. For the eruption in the face I prescribed a bismuth ointment and hot water. This treatment produced a rapid and complete cure.

CASE V.—A few days later Miss E. M.— came in, presenting almost exactly the same clinical picture as the preceding case, but not quite so severe. There were the same tender glands in front of the ear and in the neck, and on the forehead the same hot, red, painful little swelling over the right supra-orbital notch, like the central lesion in the other case. In this case there was no previous infection that I knew of, though she was in a weakened general condition from too much society and piano practice. Because I knew of no infection I did not deem the turpentine necessary, but prescribed—she was already on tonics—the bismuth ointment and hot water, measures which had proved so successful in my other case, as I thought. But the next day there was no improvement. On the contrary, the pain and burning were more severe and the swelling on the forehead was thickly studded, over an area exactly rectangular and perhaps five-eighths of an inch long by one-third of an inch wide, with minute transparent vesicles. A smaller similar swelling was appearing on each side. I now recognized the herpetic nature of the case, and directed the use of the turpentine as in Case IV., with the result of aborting the later lesions. But, without consulting me, the patient had kept the central lesion covered with court plaster most of the time, thus converting what would probably have healed in a short time into a deep, slowly-healing, rectangular ulcer, leaving at last an unsightly rectangular scar.

In these last two cases it seems the turpentine must either have acted sufficiently as a counter-irritant to have relieved the trouble in the deep-lying trunk of the fifth nerve, or that it was able to penetrate and destroy some infection which had invaded this nerve trunk or its trophic ganglion. Perhaps it acted in both ways at once.

Hemorrhoid.—An inflamed hemorrhoid will often cause exquisite pain. The little mass is bluish, hard, and is with difficulty put back into the rectum, if, indeed, this be at all possible. The treatment is evacuation of the thrombus by a cut radiating from the centre of the anus. Relief is immediate.—*International Journal of Surgery*.

Angina Pectoris.—Sir Benjamin Ward Richardson in the *Asclepiad* says: "From a study of forty-three cases I have reached the conclusion that this affection is a sympathetic neurosis, bearing much the same relation to the sympathetic nervous system as epilepsy does to the brain. Heart lesions and coronary disease are often absent, and when present are probably merely coincidental."

Progress of Medical Science.

Amputation of the Breast for Carcinoma.—Dr. Tansini (*Rif. Med.*, April 5, 1896) calls attention to the fact that many times a cancer of the breast recurs in the apparently healthy skin along the scar. To avoid this possibility, he advocates the removal of the entire skin from the breast and a strip four inches wide extending into the axilla. The author removes all glands and the pectoral muscle. To cover this defect he twists a flap from the back on a pedicle near the axilla and sews it into the wound.

Erysipelas in Infants.—Dr. J. Lewis Smith advises for a child from one to two years old the internal use of four drops of the tincture of the chloride of iron every three hours, either alone or with one of the preparations of cinchona. He applies externally an ointment of ichthyol, a drachm to the ounce of cold cream. High temperature should be reduced by sponging, the wet pack, or the bath. Antipyretic drugs should be employed with caution, only in minimum doses and guarded by a heart stimulant. For delirium the temperature should be reduced. If the delirium does not abate, bromide of potash, chloral, or as a last resort, opium are to be given. In using carbolic acid care must be taken to guard against poisoning. The first evidence of poisoning is shown by the urine leaving a pink stain on the napkin after exposure to the air for half an hour.—*Pediatrics*, May 1, 1896.

Muscular Macroglossia.—Dr. H. v. Ranke (*Jahrb. f. Kinderheilkunde*, xli., No. 3, 1896) names three varieties of the above affection occurring in children: 1. That in which the enlargement of the tongue is caused chiefly by increase of interstitial tissues. There may or may not be atrophy of the ordinary tissue of the tongue. The number of blood-vessels or lymphatics may be much increased, forming tissue resembling an angioma or lymphangioma. 2. There may be an increase of the tongue due to hyperplasia of all the different tissues of the tongue. 3. There may be an increase of the special tissues of the tongue due to hyperplasia of the muscles which make up its structure. The condition generally occurs in conjunction with other congenital deformities, such as abnormality of the intestine, of the arms, or of other parts of the body. It may be related to a general muscular atrophy or to a general muscular hypertrophy or pseudo-hypertrophy. Cretinism or rachitis may be closely connected with the condition.

Infectious Vulvo-Vaginitis in Children.—Dr. Sheffield, in the *American Medical Bulletin*, May 30, 1896, summarizes his views upon this subject as follows: 1. Infectious vulvo-vaginitis in children is of gonorrhœal nature; the diplococcus present in the purulent discharge is invariably identical with that of Neisser, decolorizing by Gram's method. 2. The infection can be conveyed through common privies, baths, beds, clothing, etc. 3. The symptoms accompanying the disease are far less severe than those described in most text-books. 4. Most of the complications are preventable. 5. The value of boric acid or mild silver-nitrate solutions as prophylactics of purulent ophthalmia is very doubtful. 6. Silver nitrate in strong solution is a reliable abortive of purulent ophthalmia, if used in the very earliest stage. 7. The mere presence of gonorrhœal discharge in a small girl, without injury to the genitalia, does not prove that rape has been attempted. 8. Physicians in charge of asylums or similar institutions should be on their guard not to admit girls with vaginal discharge, unless

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THE INFLUENCE UPON LEUCOCYTOSIS OF LARGE SALINE INJECTIONS.

THERE is increasing evidence of the usefulness of copious saline injections, either into the subcutaneous connective tissues or into the veins, in the treatment of a number of infectious diseases; but the mode of action is yet a matter of speculation. It is easy to imagine that the good results thus brought about are due, in part at least, to a dilution of toxic substances circulating in the blood and their elimination, especially through the kidneys, and in part to the increased circulatory activity resulting from heightened arterial tension in consequence of the addition to the fluid elements of the blood. The rapidity with which the resulting amelioration of symptoms and reduction of temperature take place in cases that respond to this mode of treatment is, however, indicative of a more profound influence upon the organism, than can be accounted for merely by the increased arterial tension or elimination of toxins. It has been shown that a condition of leucocytosis is a constant concomitant of a number of infectious processes, subsiding with the onset of convalescence. With this thought in mind, Claisse¹ has made a study of the changes in the blood that take place in cases of infectious disease treated with saline injections. The outcome of these observations indicates that a relation exists between the resulting improvement and the state of the blood. Thus, in a case of generalized purulent streptococcus infection, an intravenous injection of fifteen hundred grams of saline solution was followed in an hour and a half by a rise of the temperature from 102.9° to 105.8° F., while the number of red blood corpuscles to the cubic millimetre declined from 3,968,000 to 3,596,000, and the number of colorless corpuscles from 13,547 to 7,804. In the course of three hours the temperature had fallen to 98.6° F. In the case of a man, sixty-four years old, with a diffuse phlegmon of the arm, subcutaneous infusion of a litre of saline fluid was followed by a diminution in the number of red blood corpuscles from 3,565,000 to 3,255,000, and of the colorless corpuscles from 26,660 to 11,346. In a case of profound puerperal infection, an intravenous injection was immediately followed by an alteration in the relation between the red and the colorless blood corpuscles of from 1 to 228 to 1 to 344. It is pointed

¹ Comptes Rendus de la Société de Biologie, 1896.

out that the manifestations following saline injections—depression of temperature, lessening of leucocytosis, amelioration of the symptoms of infection, often with a period of reaction—are analogous to those that have been described as following the employment of the antitoxin of diphtheria. The observations are obviously too few to justify a final conclusion, but they are not without interest or significance, and should be confirmed or contradicted by others. They may further furnish certain prognostic indications, as with proper restrictions the discovery of a leucocytosis may be viewed as pointing to the existence of some infective process.

THE SUNDAY PENALTY OF IRREGULAR FEEDING.

THE American people pride themselves on being enlightened and highly civilized, using their reasoning powers to such advantage that by systems of quarantine, vaccination, etc., they are able to exclude or control almost all epidemics of infectious diseases. These intelligent people would resent a statement that in some of their routine customs they were only slightly above the level of barbarians, yet the unhappy truth remains that such a statement may be made without fear of refutation.

In our evolution from barbarism we have created or established a race of people with whom regularity in eating and sleeping is the fundamental essential to good health. The digestive secretions are poured out and ready for action with the regularity of clockwork, so that a man can tell by his feelings almost the minute at which his dinner hour comes. If this regularity, so long established, is violated and the regular dinner hour is passed without food being ingested, the violator not only suffers bodily discomfort, but an actual injury occurs to the digestive apparatus. The stomach and other secretory organs resemble the muscular system in a certain degree, as they must have a certain amount of work to perform in order to keep in the best working condition. Also, like the muscular system, overexertion leads to disorder, and disuse invites a variety of pathological conditions. But, unlike the muscular system, the digestive organs have been so educated by custom that they require, not only a definite amount of work to perform, but an absolute regularity in the time of performing that work. The gourmand who overtaxes his stomach is certain to meet his retribution. The drunkard who stimulates the mucous membrane of his stomach with alcohol and gives his secretions nothing to act upon in the way of solid food, finds shortly that his stomach refuses to secrete at all, as just punishment for his abuse and negligence. Almost as certain a result, if not so rapid, is sure to follow indiscretions of irregularity in eating. The stomach, having poured out its secretions at the customary time, waits only a short time before it allows such secretions to be absorbed without the accompanying production of nutritious pabulum that goes to assist in the formation of more secretions. After a few such experiences the secretions become less in amount and in activity, even when food is in-

roduced into the digestive tract, and we have resulting indigestion, so common in all communities.

The dyspeptic is cautioned and induced by his physician to take his meals at absolutely regular intervals, not only as a treatment of existing evils but as prophylactic against future disorders. One indiscretion of irregularity in such cases often causes the patient a week of misery. If this regimen is a standard prophylactic with confirmed dyspeptics, how much should any one in our artificial civilization allow himself to deviate from so simple a rule, when an absolutely normal stomach at all times is almost unknown?

Yet this very invitation to gastric disorders is issued every seventh day by ninety-nine per cent. of the people of this country. Once in seven days comes our so-called day of "rest" the day on which the three regular meals at morning, noon, and night are replaced by a vicious system of late rising and abstinence, followed by gluttony. The gastric secretions know nothing of a seventh day of rest. They are ready at the customary six-day morning-breakfast time, but no food comes to them and they are absorbed. A second period of the day comes and the same process is repeated, with the additional injury that from two to four hours after the customary meal the stomach is loaded unusually full of food, whereas the secretion is no longer there in sufficient quantity to digest it. The result is the regulation Sunday afternoon discomfort of gourmandizing, with the accompanying absence of appetite for the evening meal. What wonder that the following day is "Blue Monday!"

The barbarian gourmandizes to-day and fasts to-morrow, and he never has gastric disorders. We still exemplify our hereditary traits by imitating him one day of each week, but unfortunately we have not maintained the barbarian standard of excellence in gastric digestion. It would seem as if our process of evolution had reached a stage where we might expect soon to rise above our prehistoric ancestors in our system of eating. We certainly cannot do so until we do away with our custom of alternate fasting and over-feeding. Monday would lose something of its azure hue and some "digestive-ferment" manufacturers might be obliged to make assignments if such a progressive step were to be taken, but the general satisfaction would in a measure compensate for the damage done these ancient institutions.

THE USE OF ARSENIC IN CHOREA.

We believe the prevailing method of treating chorea in this country is by arsenic, and the usual form in which this drug is administered is Fowler's solution. In France Boudin's solution of arsenic seems to be much employed, and as it is much weaker than Fowler's it is said to admit of easier and more exact dosage. Dr. Jules Comby, of Paris, writing in *La Médecine Moderne*, August 19, 1896, describes his method of using this solution. He puts ten grams of the strength of 1-1,000 into one hundred and twenty grams of a syrupy solution, and gives to a child not under seven years two spoonfuls of this every two

hours for the first day, and increases the amount of Boudin's solution by five grams each day until he arrives at thirty-five grams; then begins to decrease the daily amount by five grams down to zero, when the patient will be found cured. This method is rather more heroic than that pursued here, and we are not surprised to learn that out of twelve cases which the author reports as having been thus treated and cured in the short period of from seven to thirteen days, some had nausea or vomiting, two had notable gastric embarrassment, one had arsenical paralysis (although this disappeared entirely), and one had passing pigmentation of the upper extremities. The treatment which the author says Grancher carries out at the hospital for children in Paris is preferable and is more in line with that practised here, except that he gives Boudin's solution instead of Fowler's. He prescribes four grams the first day, and increases the amount by two grams daily to the point of tolerance, but does not advise going beyond thirty grams a day. Another method of treatment in vogue in Paris is by antipyrin, but that remedy is slower and less reliable than arsenic.

News of the Week.

"The Atlanta Clinic" is now under the editorial management of Dr. Lucien Lofton.

A Member of a Medical Society in Vienna has been expelled for criticising a fellow-member in one of the daily papers.

Dr. William Thayer Smith, professor of physiology in Dartmouth Medical College, has been appointed dean in that institution, to fill the vacancy caused by the death of Prof. Carleton P. Frost.

The New Building of the medical department of the Creighton University at Omaha, Neb., is nearing completion. It is a handsome four-story and basement building. This and the St. Joseph's Hospital are gifts of Mr. J. A. Creighton.

The Russian Physician, so it is said, considers it beneath his dignity to send an account to a patient, but leaves it to the latter to pay what he thinks proper. Many think it proper to pay nothing.

The Floating Hospital of St. John's Guild carried during the season of 1896, 46,253 women and children. Over seven hundred sick children were treated, without a death taking place on board. Four trips only were omitted between July 8th and September 3d, and these were due to bad weather.

"Official Cheek" is what the editor of the *Cleveland Journal of Medicine* calls the request of the treasurer of the American Medical Association for five dollars in payment of the annual dues for 1896. As the association has declared that the members of the Cleveland Medical Society are no longer to be recognized as in good standing in the association, this characterization of a demand for dues would not appear to be unjustified.

Dr. George A. Gibson is to assume editorial control of the *Edinburgh Medical Journal* with the new year.

A New Consumption Cure is that of Dr. Langheld. It is claimed that the remedy kills the germs by carrying ozone to them. It has been tried in Berlin and Vienna, and it is reported that some of the patients are still alive.

The Bender Hygienic Laboratory, in connection with the Albany Medical College, is now completed, and will be ready for use during the coming session. Special dedicatory exercises will be held during October. Dr. George Blumer, late of Johns Hopkins University, has been appointed director of the laboratory.

"**The Charlotte Medical Journal**" has recently changed its appearance by enlarging its pages and making double columns, thus increasing very considerably the amount of reading matter. Our esteemed contemporary is evidently enlarging its sphere of usefulness very materially, and we congratulate its talented editors upon the well-deserved success of their undertaking.

A Polish Medical Society has been organized in Chicago and will be known as the "Towarzystwo Lekarzy Polskich." Drs. E. Czerniewski, D. Dowiat, M. Orglert-Kaczorowska, J. P. Kaczorowski, M. P. Kossakowski, W. Kuflewski, J. Piszczak, W. J. Siemionowicz, W. Statkiewicz, B. F. Strzyzowski, J. Ziolkowski, and R. L. Lande are the founders of the society.

Vaccination and Railway Accidents.—One of the arguments used by those who oppose the compulsory vaccination law in England is that vaccination is more dangerous to life than is railway travel. There is one fatal termination to every 14,159 cases of vaccination, while of railway travellers only one is killed among every 35,500,000.

Cheap Doctoring.—Two private hospitals have recently been established in St. Louis, in which the members of the association supporting them may be treated free. The fee for membership in the association is fifty cents a month. A new health-insurance society in California is cheaper than that, as it provides free medical attendance to all who will pay five dollars a year.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending September 19, 1896. September 14th.—Medical Inspector Daniel McMurtrie promoted to medical director from September 3d. September 18th.—Surgeon L. G. Heneberger detached from naval hospital, Widow's Island, Me., and ordered home to await further orders.

A Campaign against City Noises has been begun by Health Commissioner Kempster, of Milwaukee. The noisiest thing of all and the most trying he thinks is the church bell. Another nuisance that is useless and ought to be abolished is the factory whistle. The effect of these and other noises, he says, is greatly to

injure health and to shock and irritate the sick and those suffering from nervous troubles. He proposes to stop these noises, if he can, and we wish him a full measure of success.

Ammonia in Alcoholism.—Dr. Baratier recommends in *El Siglo Médico* the addition of ammonia to wine or liquor in order to produce a distaste for alcoholic beverages. After a few doses the disgust to the mixture becomes so intense that even the sight or smell of wine is unpleasant.

Medical Society of the State of New York.—The business committee of the Medical Society of the State of New York, recently appointed, consists of the following members: Dr. Seneca D. Powell, 12 West 40th Street, New York, chairman; Dr. Willis G. Macdonald, 27 Eagle Street, Albany; and Dr. Ernest Wende, 471 Delaware Avenue, Buffalo. Communications regarding papers to be presented at the next meeting of the society, to be held at Albany, January 26th–28th next, may be addressed to either member of this committee or to the president of the society, Dr. James D. Spencer, of Watertown.

Quarantine has been finally abolished in the British Islands. For many years there has really been none, yet two vessels with a full staff of medical officers were kept on the south coast of England. There was nothing to do at the station, but it was maintained from year to year, apparently because it never occurred to any one in Parliament to do away with it.

Clergymen and Physicians.—An amusing debate is being carried on in the columns of *The Medical Times* concerning the question of taking fees from clergymen in payment of medical services. One writer, "A Country Parson," who heaped abuse on all "medicos" who would not give him what he called "colored water" for nothing, was reminded by another correspondent that "in our great hospitals the maligned 'medicos' unreservedly—too unreservedly—and gratuitously render to the poor services which, if estimated by the tariff obtaining in their private work, would find their expression in millions of pounds per annum. The chaplain, whose duty it is to administer that consolation which is 'without money and without price,' absorbs a respectable amount of the hospital funds."

Epidemic Disease in Cuba.—The latest published reports of the Marine Hospital Service state that there is no abatement of yellow fever in Cuba, nor is the disease less virulent than it has been all summer. The United States sanitary inspector at Santiago de Cuba, however, reports that small-pox is steadily decreasing, and expresses the belief that in about a month the epidemic will be practically over. Concerning yellow fever, he writes that the disease is causing many deaths among the soldiers, and if the records do not show this it is because the deaths take place in the hospitals outside the city and in the detachments in the surrounding villages. At the Daiquiri mines, for example, the inspector says that he has the positive information that there is about one death from yellow fever daily.

Generous Provision for Free Beds.—By the will of the late Dr. A. H. McAdam, of Philadelphia, the income of \$5,000 is bequeathed to a sister, upon whose death the principal is to revert to the Episcopal Hospital, for the establishment and maintenance of a free bed, to be named, after the testator's wife, as the Anna W. McAdam bed. The sum of \$4,000 is to be held for the benefit of another sister, upon whose death it, together with an additional \$1,000, is to be given to the Hospital of the University of Pennsylvania for the endowment of a free bed to be known as the Dr. Alexander H. McAdam bed.

Typhoid Fever is unusually prevalent in Chicago, Denver, and various other cities. In Chicago, we learn from the *Journal of the American Medical Association*, on September 4th seven people died from typhoid fever, breaking the record since 1892. The health department says the prevalence of the disease is due to impurities in the drinking-water. During August of this year typhoid claimed sixty-four victims, against fifty-nine for the corresponding period of 1895. About five hundred cases are reported at present in that city. In Denver, the *Colorado Medical Journal* says, there is now raging an epidemic of typhoid fever which has more victims and a greater fatality than any epidemic since 1892. It is probably due to a polluted water supply. A number of physicians in the city are affected.

A Hospital for Tuberculosis in Philadelphia.—At a recent meeting of the Philadelphia board of health, the president of that body, Dr. William H. Ford, proposed the establishment of a hospital for tuberculous patients, under the direct care of the board of health, in analogy with the care of cases of contagious disease at the Municipal Hospital. It was suggested that the old Lazaretto Station in Delaware County, now no longer used and the sale of which has been authorized, could be well devoted to the purpose in hand. A resolution was accordingly offered, requesting the repeal of the ordinance authorizing the sale of the Lazaretto property, as well as authority for the establishment of the proposed hospital and an appropriation of \$19,500 for maintenance. Dr. Ford's argument was that as tuberculosis is an infectious disease, whose spread may be limited by the adoption of certain precautionary measures, while many die from the disease as a result of ignorance, neglect, and want, a grave responsibility devolves upon the municipality, which has been only partially and inadequately met through the efforts of philanthropic societies and individuals, and principally in the way of establishing hospitals for the sick. "If any progress is to be made in checking the ravages of tuberculosis, isolation and treatment in hospitals must be depended upon as a most important means to this end. The municipality is obligated to provide for the indigent sick, but especially urgent is this demand when such sick persons, unprovided for, jeopard the public health." The contention is made that tuberculosis "should be under the supervision of the health authorities, just as other dangerous diseases are, and the day is not far distant when this disease will be required to be reported to the board of health, as

other contagious diseases are now under the law. But time is necessary for the consent of the people to this new requirement. It would, therefore, seem that the hospital contemplated should most appropriately be placed under the supervision of the board of health, in conformity with the provisions of the law and as a means of simplifying the management of the disease. The main question, however, is the prompt organization of such a hospital, for which the opportunity is very favorable. The question of administration is of secondary importance."

Dedication of a Hospital Annex at Trenton, N. J.—A new annex to St. Francis Hospital at Trenton, N. J., was dedicated on September 17th, the blessing being offered by Bishop McFaul, assisted by a number of priests. The new building is a four-story structure, 50 x 65 feet, with a single-story addition twenty-eight feet square, fitted up as one of the best-equipped operating-rooms in the country. The new building cost \$34,000 and will add forty-five beds to the present capacity of the hospital, which is one hundred and five beds.

Obituary Notes.—DR. THEODA WILKINS, of Pomona, Cal., died on August 28th from injuries received in a runaway accident. She was a graduate of the Woman's Medical College of the New York Infirmary in 1885, and was an active member of the Pomona Valley Medical Society.—DR. JAMES EDGAR CHANCELLOR, of Charlottesville, Va., died on September 9th. He was born in Chancellorsville in 1826, and was graduated in medicine from the Jefferson Medical College in 1848. He served as surgeon in the Confederate army, and at the close of the war settled in Charlottesville. He was a member of the State examining board of Virginia, of the State society, of the American Medical Association, and of the Public Health Association.—DR. CHARLES BERNACKI died at Schandau, Saxony, on September 17th. He was born at Starasol in Galicia in 1812, and was graduated in medicine from the University of Vienna in 1839. About ten years later he came to New York where he practised for the rest of his life. A widow and a daughter survive him.—DR. THOMAS R. MCCRESSON died at his home at City Island on September 18th. He was born in this city in 1851 and was graduated from the New York University Medical School in 1879.—DR. STEPHEN CONGAR died in Pontiac, Mich., on September 18th. He was born in Newark, N. J., eighty-six years ago, and after obtaining his degree from the College of Physicians and Surgeons in this city, began the practice of medicine in Newark. He always took a great interest in the public schools, and served as member of the school committee, superintendent of schools, and president of the board of education for many years. In 1859 he removed to Pontiac, where he resided up to the time of his death.—MR. WICKERSHEIMER, the inventor of the preparation bearing his name for preserving pathological specimens, died in Berlin on September 4th.—DR. W. L. FRISBIE died at his home in Potterville, Bradford Co., Pa., on September 15th, at the age of sixty-two years.

Society Reports.

SECOND INTERNATIONAL CONGRESS OF GYNECOLOGY AND OBSTETRICS.

Held at Geneva, August 31 and September 1, 2, 3, 4, and 5, 1896.

IN the afternoon of the first day there was a reunion of the permanent international committee and the organizing members of the congress. In the evening a reception was given at the Palace Eynard by the Conseil d'État of the Swiss Republic and the Conseil Administratif of the city of Geneva.

The Surgical Treatment of Pelvic Suppuration was the first set subject for discussion. This was opened by DR. BOUILLY, of Paris. From the point of view of surgical interference, he said, pelvic abscesses may be classified as follows: (a) Cellular abscesses, perimetritis, periuterine phlegmons. (b) Abscesses of the ovaries or the tubes, pyosalpingitis, and suppurative oovitis. (c) Primitive peritoneal abscesses, pelviperitonitis, suppurative hæmatocele. (a) Simultaneous suppurations of various pelvic organs, constituting purulent collections or complicated with fistulæ, bursting either through the skin or into the neighboring cavities, or in various places, at the same time.

An exploratory puncture offers us the only certain means of diagnosis. The three principal methods of treatment of pelvic suppurations are: 1. Simple incision followed by drainage through the abdominal or vaginal wall. 2. Opening or ablation of the suppurating cavities by laparotomy. 3. Opening or ablation of the suppurating cavities through the vagina, by means of previous vaginal hysterectomy with or without morcellation of the uterus. 4. As derived from these principal methods can be considered: (a) The ablation through the vagina of small unilateral collections, with preservation of the uterus and appendages of the opposite side. (b) The simultaneous ablation of the appendages and uterus through the abdomen.

The method of election is simple incision followed by drainage: (a) For the opening of acute pelvic abscesses originating in the cellular tissue. The incision must be made where the collection bulges out either on the abdominal wall or in the vagina. (b) For the opening of primary peritoneal collections, either acute or subacute, or those following peritoneal infection, after operation, abortion, childbirth, or gonorrhœa. (c) For the opening of suppurative hæmatocele. (d) In the treatment of pelvic encysted abscesses of the appendages. In those cases it can be applied safely only when the sac is unilateral, thin-walled, fluctuating, and lying low by the side of the uterus, or when it can by pressure on the hypogastrium be brought into contact with the vaginal wall. The failure of the vaginal incision does not prevent the success of ulterior vaginal hysterectomy.

Laparotomy and vaginal hysterectomy as applied to the treatment of pelvic suppurations are not rival methods; both have their indications and advantages. When the patient is young and whenever there is any doubt as to the bilaterality of the lesions, laparotomy, which affords the sight of the opposite side, is to be selected. Laparotomy shall be selected in case of doubt as to the nature of lesions (possible existence of an ovarian simple or dermoid cyst or of extra-uterine gestation). However, the matter is generally settled in such a case by the fact that the purulent collection is unilateral. In the cases of bilateral lesions, when there is any doubt as to the two operations, the situation of the two purulent sacs in regard to the uterus and the vaginal culs-de-sac becomes a leading factor in the indications. With these excep-

tions founded upon the unilateral seat of the lesions, uncertainty about the nature of this lesion, the high position of the abscess, vaginal hysterectomy applied to the treatment of pelvic suppurations allows the pus tubes, the small pyosalpinx, the suppurating ovaries to be removed. It allows us to reach and cure lesions against which laparotomy is either powerless or too dangerous. It is the method to be selected in the treatment of large adherent sacs, which cannot be enucleated. It is better than any other method in chronic suppurations of the periuterine cellular tissue which have discharged spontaneously, most often communicating with neighboring organs. In these cases the operation must almost always remain merely one for evacuation. Ablation of the uterus gives us ideal drainage, owing to which the collections are emptied. For this reason, insisting upon the extirpation of the sac would be removing from the operation all the advantages of its simplicity and benignity, and failing to recognize one of the principal rôles of vaginal hysterectomy in the treatment of pelvic suppurations.

A good many laparotomists recognize nowadays the necessity of ablation of the uterus. This ablation insures firstly perfect drainage; secondly, it prevents future troubles which may be brought about by the uterus if left *in situ*; and so immediate cure is more common and the ultimate results are better.

On the whole, the speaker held that, in most cases in which simple incision was not possible, vaginal hysterectomy is the best method of treatment of pelvic suppurations; and laparotomy is to be performed only when contraindications to vaginal hysterectomy exist.

DR. HENROTIN, of Chicago, advocated conservative vaginal work. He believed that patients undergoing radical surgical operations are oftener cured of the operation than of the disease; that patients have often been cured of the disease without radical operation; that an immediate opening through the posterior vaginal fornix in the first week of an acute pelvic suppuration will give a large percentage of cures in cases which under the poultice-and-douche treatment would terminate fatally. He supported this claim by citing numerous statistics.

DR. SÄNGER, of Leipsic, said that the German gynecologists uphold the following general principles: 1. There must be strict indications for the operation; 2, the intervention must be as conservative as possible; 3, the bacteriological, clinical, and anatomical diagnosis must be our guide in the choice of the intervention in any given case.

Most surgeons discard vaginal hysterectomy and hysterosalpingo-oöphorectomy, preferring more conservative methods and abdominal operation. Hysterectomy is not the only thing to be considered in the treatment of pelvic suppurations.

He then reviewed the special methods of treatment:

Puncture is limited to inveterate cases of encysted abscesses or single purulent collections in the closed organs. Success can be expected only when the pus is sterile.

Incision applies:

(a) To extraperitoneal purulent foci. The proceeding ought to be limited to real purulent collections.

(b) To intraperitoneal purulent foci; this operation may be called simple colpocœliotomy.

The simplest proceeding consists in the incision of the vagina by means of the thermo-cautery and opening of the abscess with a dressing forceps. There is no necessity for irrigations, or for filling the cavity with gauze immediately after the operation.

(c) Cœliotomy is always indicated in purulent collections which through their size amount to real tumors, as well as in suppurating cystic and other

neoplasms. Simple cœliotomy and drainage suffices in encysted foci, remnants of purulent (and tuberculous) peritonitis, if however the removal of the appendages or of other suppurated organs is not demanded.

The difficulties as to the choice of an operation in connection with the opening of the abdominal cavity, in suppurated diseases of the appendages, have recently been enhanced through the increased number of the proposed operative measures. The speaker then gave a list of all these operations, of which there are two main sorts, vaginal and abdominal.

The recognition of the harmful influence of premature extirpation of ovaries or of complete extirpation of all the internal generative organs, especially in younger persons, has led to conservative vaginal and abdominal operations.

After reviewing at great length all these methods of operation, their indications, their technique, and their dangers, the speaker formulated the following conclusions: Advocates of the different operative methods ought not to claim an absolute superiority for their own proceeding. Every appropriate treatment may be justified and in every individual case it is far better to take into serious consideration the special advantages offered by each one of the methods. Let every one strive to perfect his own operative methods, while recognizing at the same time the value of others; the result will then be improvement and progress.

The Surgical Treatment of Retrodeviations of the Uterus was the second subject discussed.

DR. OTTO KÜSTNER, of Dorpat, opened the discussion. Although no operation which has ever been proposed for uterine retroversions, he said, can return the uterus and adnexa to their normal position, we should prefer the new position, artificially produced, to the former retrodeviation; for it gives to the uterus to the same extent its normal mobility. The formation of adhesions with neighboring organs is thus prevented, so is the prolapsus.

It is necessary to differentiate the reducible from the non-reducible retrodeviations; the latter must be first made movable.

In our procedures for stretching the adhesions we must not open the abdominal cavity when the adhesions are not very resistant or very large. Massage or Schultze's method will suffice. If the adhesions are too numerous or too resistant, we should open the abdomen in order to free the uterus as well as possible.

The opening into the abdomen may be made through the anterior or posterior cul-de-sac, as well as through the abdominal walls. No doubt with laparotomy, we can have a fuller view of the state and size of the adhesions. Therefore it has great advantages in the careful treatment of adhesions and of adnexa, which are always more or less affected. Colpotomy is much less accurate, and gives less complete results. To avoid wounding the neighboring organs, the methods which have for their aim the fixation of the uterus in a new position must keep the uterus in good situation and must not interfere with the healthy functions of the uterus.

The results obtained by ventro-fixation, vagino-fixation, abdomino-vesical fixation, and by Alexander's operation show that these operations can keep the uterus in good position. The same can be said neither of recent modifications of these methods, nor of Säger's retrofixation.

The normal function of the uterus is but slightly, if at all, disturbed by ventro-fixation, Alexander's operation, or vesical fixation. It is, on the contrary, injuriously affected by vaginal fixation when this extends to a large surface of the anterior aspect of the uterus. Therefore we should not perform vagino-fixation on women in the child-bearing period. When patients

cannot conceive, this operation gives very good results. When the adhesions are large, the best operation is laparotomy, followed by rupture of the adhesions with Paquelin's cautery, with scissors, or with the fingers, and ventro-fixation after Olshausen's method.

The best operation for reducible retrodeviation is Alexander's, for it gives in every case a nearly or really normal position to the uterus.

DR. POLK, of New York, followed with a paper, of which the following is a summary: Retrodeviations, especially in a uterus capable of pregnancy, should not be healed by any operation which fixes the fundus or body to the abdominal wall or to any contiguous structure, such as the bladder or vagina.

In such cases uncomplicated retroversions should be treated by Alexander's operation or by intraperitoneal shortening of the round and utero-sacral ligaments, operating through the vagina. Retrodeviation complicated by adhesions should be healed by intraperitoneal shortening of the round ligaments, and when necessary of the utero-sacral also, operating, when possible, through the vagina. Alexander's operation may be applied to the versions after rupture of the adhesions through a colpotomy, provided the round ligaments have not adhered to their sheaths, as sometimes happens because of the antecedent perimetritic inflammation.

Retrodeviations in a uterus deprived of its appendages should be treated by intraperitoneal shortening of the round ligaments, and of the utero-sacral also, when needed.

Retrodeviations after the menopause should be treated by intraperitoneal shortening of the round ligaments, and of the utero-sacral also, the operation being conducted through the vagina, if possible. If there are no adhesions and the uterus is not atrophied, Alexander's operation will suffice.

Whenever they are elongated, so as to form a direct factor in retrodeviations, the utero-sacral ligaments should be shortened, the vagina being the best possible route for the procedure.

The speaker then described the operation for shortening the round and utero-sacral ligaments as follows: (1) The anterior vault of the vagina is opened as in anterior colpotomy, the vesico-uterine space is entered, the uterus and appendages are freed from adhesions if such exist, the uterus is anteverted, and the fundus is brought into the vagina. The round ligament with its peritoneal sheath is encircled with a silk suture, as far out from the uterus as will permit the easy attachment of the part encircled to the uterus at the origin of this ligament. This folds the ligament inward upon itself, presenting of course two loops; one is always sutured to the uterus; the other is now sutured to the round ligament outside the folded section, which section in turn is encircled with the third suture. Special care must be taken to avoid the tube, the suture being passed as close to the ligament as possible. The manœuvre is repeated on the opposite side, the uterus is replaced in the peritoneal cavity, and the wound is closed with catgut, the peritoneum being sutured first and then the vaginal wall.

(2) The posterior vault of the vagina is opened by a transverse incision coincident with the utero-vaginal junction, and extending fully to the cornu of its lateral aspect upon both sides. Douglas' cul-de-sac is entered and a stout silk suture is passed over the utero-sacral ligament at about its middle. This is done on both sides, the ligaments being put on the stretch to facilitate the procedure. One end of each suture is now passed through the vaginal wall, upon its lower side, at the outer ends or angle of the cut, and is then firmly tied. This draws the cervix upward and backward to the extent of about half the length of each

utero-sacral ligament. The wound in the vagina is closed with catgut, and the sutures holding the utero-sacral ligaments are left long, the tube being removed at the end of two weeks. The patient is confined to bed at least three weeks; no pessary is used. Special care is to be taken to keep the bowels open and to avoid distention of the bladder; patients with prominent abdomen should subsequently wear an abdominal supporter.

DR. S. Pozzi, of Paris, said that the clinical conditions known as retroversion and retroflexion do not form a distinct pathological affection. They are considered as special affections only through an old tradition, which should to-day be revised.

Retrodisplacement of the uterus, either simple or with flexion, is observed in two entirely different conditions, viz.:

(a) Relaxation of the ligaments, without adhesions, due to a former perimetro-salpingitis. This is the movable retrodisplacement.

(b) Posterior adhesions, especially around the adnexa, following a perimetritis or a peri-oöphoro-salpingitis. This is the fixed retrodisplacement and is by far the most frequent.

For movable retrodisplacements the term mobility of the uterus should be substituted for those of retroversion and retroflexion. In point of fact the backward displacement is simply in this case the most natural position of a uterus which has lost its fixation and consequently its normal anteversion. But this abnormal displacement is in itself the cause of slight symptoms; the principal phenomena of nervous and reflex origin are independent of the direction of the displacement and are due to the mobility. They persist when the uterus is momentarily put back in position without being kept there. They appear to be due to a bad equilibrium in the abdominal statics, to a real pelvic enteroptosis.

All surgical treatment of these cases which aims to fix the uterus, when replaced, by a limited point of its surface, will give only temporary results. The constant traction on the point of fixation produces relaxation, and is the cause of unsuccessful results which usually after a variable lapse of time follow Alexander's or similar operations.

The rational treatment of movable retrodisplacements, or rather of mobility of the uterus, is complex and should provide for the various indications present. These are: to cure the metritis, which is very frequent in such cases, by proper treatment (curettage, amputation of the cervix, etc.); to restore the perineum, often ruptured or relaxed, by a large and extensive plastic operation; to apply a pessary which fixes the cervix by distending the posterior cul-de-sac as well as a hypogastric bandage which regulates the intra-abdominal pressure.

The treatment of fixed retrodisplacements of the uterus is that of the lesions which have produced it and keep it up.

Many fixed retrodisplacements are indolent, and become tolerated, but morbid symptoms occur if the uterus is again the seat of metritis. The operative treatment of the uterus by proper means will be sufficient to cause the accidents to disappear if the adnexa are only slightly or not at all diseased.

In other cases clinical examination shows that the lesions predominate in the adnexa and that a metritis coexists. Laparotomy is there indicated.

If only slight lesions of the adnexa are found, such as a sclero-cystic ovaritis without obliteration of the tubes serving as a starting-point for adhesions, conservative operations should be performed, such as ignipuncture and partial resection of the ovary according to the given case.

The uterus will of itself return to its normal position after destruction of the adhesions.

There are cases in which the best treatment of a retrodisplacement is vaginal hysterectomy. These are cases of old bilateral lesions of the adnexa, complicated by chronic metritis with hypertrophy of the uterus. In such conditions, extirpation of the adnexa through the abdomen after destruction of the adhesions, leaves a large and heavy uterus, which will soon be again retrodisplaced in the posterior vaginal cul-de-sac. A complementary abdominal hysteropexy can of course be performed at the time of operation and later a cure and involution of the organ can be brought about by curettage and amputation of the cervix, and lastly repair of the perineum, if it is relaxed and insertion of a pessary. But this practice is much more complicated and quite as serious as vaginal hysterectomy.

The Best Method of Closing the Abdomen.—DR. BANTOCK, of London, opened this discussion with an elaborate paper, of which the following were the conclusions:

1. Bacteria do not play any part in the production of suppuration, but are the result and not the cause of the conditions under which they are found. Hence abscess in the wound or in the track of the sutures is not due to the entrance of "germs" or fully formed bacilli, but in the former case to the presence of matter acting the part of a foreign body, and in the latter to strangulation of the tissues by too tight constriction by the suture.

2. In ordinary cases the simple interrupted suture alone is sufficient for all practical purposes.

3. In very thin or very fat subjects it is desirable to close the peritoneum separately by continuous suture, while the remainder of the wound may be closed in one or two stages.

4. For the simple interrupted suture silkworm gut forms the best material, while for the buried suture catgut not chromicized will probably be found preferable.

DR. LA TORRE, of Rome, continued the discussion. Post-operative hernia he defined to be the issue of viscera through an opening of the abdominal wall; more commonly through the musculo-aponeurotic plane. This accident was very common when the abdomen was closed by the extraperitoneal method, but it has become rarer now that we close the abdomen after the intraperitoneal plan, or after the extraperitoneal method with Durante's modification. Three principal factors are concerned in a good closing of the abdomen, viz., the incision, the material of the suture, and the mode of suturing.

The most important factors are the incision and suture of the musculo-aponeurotic plane, *i.e.*, the place where the tissues are to be cut and sutured.

Hernia is often produced by suturing the aponeuroses of the linea alba instead of suturing the substance of the muscle.

When the patients are still in the childbearing age, the operator should always suture the muscles. It is better in these cases to cut into the linea alba; then, before suturing, to cut off the aponeurosis of the linea alba up to the internal borders of the recti, and to unite by suture the muscular sheath and the muscle itself.

With old or sterile patients incision and suture in the linea alba alone might be recommended, when it is possible to obtain, during the operation and afterward, the conditions necessary to a good cicatrization.

In case of secondary closing of the abdomen, incision and suture have always to be made in the substance of the recti.

The most commonly used suture materials are silk, catgut, silver wire, and wormgut. Although all are good, silk and catgut are to be preferred.

The best mode of suturing is always in superposed rows of suture, and suture *en surjet* is to be preferred to separate stitches; the peritoneum, the aponeurosis of the linea alba (when this is not cut off), the deeper layers of the sheath of the recti, the muscles, the superficial layers of the muscular sheaths, and the skin with the subcutaneous tissue must be sutured separately.

Treatment of Eclampsia.—This was the final subject for discussion. The first paper was by DR. CHARPENTIER, of Paris. Every albuminuric pregnant woman, he said, being exposed to eclampsia, and milk diet giving marvellous results in albuminuria, we should very carefully examine the urine of pregnant women, and, when we find albumin in it, even in minute quantity, we should at once order an exclusive milk diet. This is *par excellence* the prophylactic treatment of eclampsia. When a woman has cedema without albuminuria, it is advantageous, if not absolutely necessary, to prescribe milk diet. During an eclamptic attack, if the patient is strong and cyanotic, we must first bleed her three hundred to five hundred grams. We may also give inhalations of chloroform and set up diuresis by hypodermic injections of artificial serum.

If the patient is delicate, if the cyanosis is but slight, if the fits are not frequently repeated, the chloralic medication will suffice.

We must wait till the labor begins spontaneously and let it go on undisturbed whenever it is possible. When, the labor having begun spontaneously, the case does not terminate by itself, on account of the contractions being too feeble or too slow, we must deliver the patient by forceps or by turning, followed by extraction, when the child is living; by cephalotripsy, basiotripsy, or cranioclasia when the child is dead.

We must wait without performing such operations till the state of the maternal parts (full dilatation or at least dilatibility of the cervix) permits us to interfere harmlessly, *i.e.*, without violence, consequently without danger for the mother.

Labor should be induced only in exceptional cases.

Cæsarean section and "accouchement forcé" are to be absolutely rejected as usual methods for the treatment of eclampsia. We must have recourse to these operations only in case of failure of every other means and when the mother seems on the point of dying.

DR. F. HALBERTSMA, of Utrecht, continued the discussion. He thought that in the therapeutics of eclampsia the most important question to decide was whether, at the termination of the pregnancy or at the beginning of labor, we must wait or accelerate the labor.

In the cases mentioned above, the active interference of the physician is usually indicated: When the prognosis seems very serious on account of complete anuria, or on account of the frequency and intensity of the convulsions; when nothing shows that the labor is about to begin; when, the labor having begun, the particulars of the case lead us to expect it to be difficult and tedious, as it is for primipara; when the patient is aged; when the pregnancy is multiple; or when the pelvis is narrow.

DR. MANGIAGALLI said that prophylaxis is most important; this consists in a milk diet assisted by the means capable of disinfecting the intestinal contents, of increasing diuresis, of improving the functions of the skin, and of stimulating the action of the heart.

Medical treatment, whether blood-letting or purging, the use of morphine, chloral, chloroform, veratrum viride, or diaphoresis must be essentially symptomatic. It constitutes in every case the only possible treatment in eclampsia post partum. Blood-letting followed by subcutaneous or intravenous injections of

physiological solution of chloride of sodium is a therapeutic method which rests on rational considerations and has clinical facts in its favor.

The prompt evacuation of the uterus constitutes the most important point in the treatment of eclampsia occurring during labor.

In case of eclampsia during pregnancy we must induce labor by rupture of the membranes, and administer morphine, chloral, or veratrum viride in strong doses; these measures are the more useful the sooner they are administered after the convulsions have set in. If the case is serious, the danger imminent, if in spite of the rupture of the membranes labor does not progress, or if the neck of the womb is shortened and softened, forced dilatation will be better than deep incisions of the cervix. In the cases of the same category in which conditions exist which render dilatation or incision particularly difficult, Cæsarean section will be justified, especially if the fœtus is at term and living. Every intervention must be made under deep chloroform narcosis.

DR. JOHN W. BYERS, of Belfast, defined eclampsia as that condition in which convulsions arise suddenly during pregnancy or labor, or after delivery. He excluded those cases in which fits occur in a pregnant epileptic, or when they arise from gross intracranial disease. While the etiology and pathology of eclampsia are still obscure, he directed attention to a change of opinion among British observers on two points: 1. The extreme view that the convulsions in all cases are due to renal disease is being abandoned. 2. Much greater importance is now attached than formerly to the influence of the fœtus as a factor in the causation of the fits.

Taking everything into consideration, the most probable hypothesis is that the convulsions are due to the influence on the nervous system of a poison which arises as a product of ordinary tissue metabolism (elaborated in part by the mother and also by the fœtus), and which in ordinary cases, provided it does not accumulate in too great an amount and the eliminating organs are working properly, is got rid of without any ill effects. When, however, these organs have too much to do, as when the muscular efforts of labor increase the work of the kidney, then the poison is not excreted and its increased accumulation affects the nerve centres; or the same thing may occur if the function of the eliminating organs is interfered with, as in constipation, or when the kidney is in that condition which Leyden has described as being peculiar to pregnancy, or when there are changes in the renal organs and liver in the form of a parenchymatous degeneration, produced, it may be, by the poison in its circulation, through them. Accepting the above explanation as a working hypothesis, he considered the treatment of eclampsia under the four heads:

1. The convulsions should be treated with morphine (hypodermically). The patient is to be placed on her side, to prevent the entrance of fluids into the larynx and lungs (pulmonary cedema being a common cause of death in eclampsia). Care should be taken that she does not injure herself; she should be kept warm, purged freely, allowed no liquids, and, accordingly as she is conscious or not, between the fits, a warm or vapor bath should be used.

2. Efforts should be made to eliminate the poison by purgation, hot baths, keeping the patient warm, and by the non-administration of liquids.

3. If labor has not set in, the convulsions are to be treated, but premature uterine action should not be induced. When labor has begun, and the patient is in the second stage, chloroform should be administered and delivery rapidly completed. In the first stage, with strict antisepsis, labor may be expedited

by the hot douche and by the use of Barnes' or de Ribes' bag, if the cervix is dilatable. If the cervix is rigid, this should not be done.

4. In the prophylaxis of eclampsia, rest, milk diet, purgatives, and warm baths give the best results.

DR. THEOPHILUS PARVIN, of Philadelphia, said that puerperal eclampsia is in almost all cases caused by toxæmia. Those instances in which the disease is apparently reflex in origin may be explained as resulting from an increased nervous excitability, consequent upon blood changes, and without such changes irritation would not cause convulsions. The bladder filled with urine, the loaded bowel, pain are not the essential causes; they are only exciting causes. The spark does not cause an explosion if there be no gunpowder.

He regarded that treatment as best which acts upon the essential cause and at the same time meets symptomatic indications.

He believed that veratrum viride is better than any other drug yet employed, and that it does affect the essential cause, as well as to a great degree the symptomatic conditions, for it notably reduces the frequency of the pulse, and convulsions occur only in very exceptional cases if the pulse be kept at 60 or less; it increases the activity of the skin; it reduces the temperature; and it causes increased secretion of urine. Finally, the recovery of so large a number of mothers, about ninety-two per cent., when veratrum viride is employed proves the value of the remedy.

FRENCH CONGRESS OF ALIENISTS AND NEUROLOGISTS.

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Auditory Hallucinations.—DR. VALLON, of Paris, read a paper with this title, in which he expressed the belief that all hallucinations of hearing were of cerebral origin. He made this division of sensorial troubles relating to hearing: 1, those in which the starting-point was in the brain—true hallucinations; 2, those in which the starting-point was peripheral. But all true hallucinations were cerebral; others were rather illusions.

DR. BALLET said a normal perception assumed a peripheral impression by some sense (hearing, for example), conducted to a cortical centre. Little did it matter in the explanation about the seat of the cortical auditory centre, but rather what part it played. Of normal auditory perception there were three forms: 1, brute perception or mere recognition of sound; 2, discriminating auditory perception; 3, verbal auditory perception. A peripheral auditory trouble might cause a hallucination, but not in everybody.

DR. RÉGIS, of Bordeaux, remarked that the general view seemed to be that auditory hallucination implied the intervention of a cortical centre, but according to his idea the sensory apparatus should be recognized as the exciting cause. Hallucination was often a cortico-sensorial phenomenon.

Crossed Heredity by Experimentation.—DR. CROCQ, JR., of Brussels, said in this communication that crossed heredity had been contested of late, principally by André Samson, who had characterized it as purely chimerical. While Crocq did not regard it as constant, nevertheless he thought its existence was real. Among chickens and pigeons he took two virgin animals of different race, and of twelve of their young eight were males and partook of the maternal characteristics, four were females and partook of the paternal characteristics. This experiment of cross-breeding with different races of pigeons and different races of chickens gave similar results whenever the pair was entirely virgin.

Melancholia, Paralysis: Craniectomy, Evacua-

tion of Cyst, Cure.—DR. AUGUST VOISIN reported the case of a woman, aged twenty-one, taken three years before with intense pain in the left temporo-facial region, gradual development of morbid fears and suicidal tendency, convulsive attacks, projectile vomiting, and hemiparesis affecting the face and limbs on the right side. Craniectomy was performed on the left temporo-parietal region, fifteen by seven centimetres. There was pachymeningitis, and in the ascending frontal and parietal convolutions a cyst was evacuated, four centimetres in diameter, filled with serum. From the first hour after the operation the cephalalgia, together with the suicidal tendency and paresis, disappeared permanently.

Spasmodic Paraplegia.—DRS. RAYMOND and A. SOUQUES, of Paris, reported two cases of progressive spasmodic paraplegia in sisters, aged nineteen and fifteen respectively. The disease had started insidiously and without known cause, in the former at the age of nine, in the latter at the age of twelve. In the elder sister the spasmodic paraplegia began in the right leg and went on to implicate in succession the left leg and upper extremities. By the age of fifteen she was unable to walk. In the other case only the legs were as yet affected. The knee reflex was exaggerated. Strümpell had made one autopsy in this disease, and found combined sclerosis, implicating the pyramidal, Goll, and direct cerebellar columns.

Partial Epilepsy in Acromegaly.—DRS. Raymond and Souques also reported a case of acromegaly of many years' standing, in a man, aged fifty-four, who in the last three years had developed Jacksonian epilepsy limited to the right upper extremity and right side of the face. They stated that the hypertrophy of the pituitary gland present in acromegaly constituted a cerebral tumor capable of exciting from a distance the cortical psychomotor centres.

Cord Lesions Produced by Microbic Toxins.—DR. H. CLAUDE, of Paris, had studied the cord lesions produced by microbial intoxication in four cases, as follows: 1, a guinea-pig, poisoned gradually by the toxins of the colon bacteria, became paralyzed in one foot, then in two feet; 2, a dog, poisoned by the toxins of diphtheria, in the course of a month, paresis of the hind feet; 3, a dog, poisoned by the toxins of tetanus (two months), posterior monoplegia, then paraplegia, finally paralysis of all the limbs; 4, a rabbit, poisoned by pyocyanic toxin, death without paralysis. Pathologically he found, besides gross vascular lesions, centres of softening and leucocytic infiltration; also cell alterations, varying with the degree and intensity of the intoxication and the part of the cord acted upon by the toxins. In the cases of slow intoxication there were all degrees of cell change in the cord, and, alongside elements still intact, there were others entirely degenerated. But cell alterations existed not alone in animals presenting nervous symptoms, but could be demonstrated by the method of Nissl before these symptoms made their appearance.

Acrocyanose.—DR. CROCQ, JR., of Brussels, said the syndrome to which he would apply the term acrocyanose was neither Raynaud's disease nor the blue œdema of Charcot, although it had some of the features common to these two affections. He had observed two typical cases in young hysterical females. The local cyanosis was constant; the pain was not intense; it did not cause gangrene, nor eruption, nor abolition of sensibility; nor was there, as in Charcot's blue œdema, either œdema, paralysis, or paresis. All three affections had, as a cause, disturbances of nervous centres, yet it seemed to Crocq that acrocyanosis was more especially a hysterical vasomotor phenomenon.

Unusual Duration of General Paralysis, Disappearance of its Special Symptoms, Termination in Simple Dementia.—DR. LAPOINTE said that general

paralysis might in some cases be of very long duration, and its cardinal symptoms disappear, to be replaced by those of dementia pure and simple. In one instance cited the duration was fifteen years.

Physical Insensibility.—DR. LAURENT, of Bordeaux, related a case illustrating the lack of susceptibility to physical pain in many of the natives of Indo-China, shown by their self-inflicted mutilation, suicide, etc.

Lesions of the Cord Cells Consecutive to Section of Nerves and Anæmia.—DRS. G. BALLET and JUTIL produced by experiments the same changes which were found in the cells of the cord in peripheral neuritis, their experiments consisting in division of the sciatic and in causing anæmia of the cord by compression of the aorta. The latter method showed the changes to best advantage: After rendering the animal paraplegic two or three times by repeated compression of the aorta, the lesions would be found more delicate and complex in the nerve cells, the cellule being rounded; the color granulations disappeared. Here as well as in section of a peripheral nerve there was melting of the protoplasmic granulations.

The Semeiology of Tremors.—Two reports were presented upon this subject—one by DR. LUCIEN LAMACQ, the other by DR. GRASSET. Both recognized the classical division into: 1, tremble of repose; 2, tremble in voluntary movement. Of the former, paralysis agitans was an example; of the latter, disseminated sclerosis. According to the number of vibrations one distinguished: 1, slow tremor, three to five oscillations a second—paralysis agitans, senile tremor; 2, medium, six to seven oscillations—disseminated sclerosis; 3, rapid or vibratory tremor, eight to nine oscillations—exophthalmic goitre, some cases of paralysis agitans. But certain tremors could not be thus classified, and others were polymorphous. Besides, Pitres had shown the frequent existence of tremor during the normal state, affecting different parts, including the hands, and here showing itself like the tremor of exophthalmic goitre—rapid oscillations of little amplitude. Grasset stated, in his *résumé*, that the semeiological value of tremors was variable, because there were a number of transition forms among the diverse types described, for certain forms were as yet imperfectly defined. In some cases the trembling was only a passing manifestation without great importance; while in others, when constantly present, it was of great significance.

Tremor and Rhythmic Spasm of Traumatic Origin.—DR. DELMAS related a case of tremor and rhythmic spasm with hysterical stigmata in a young man, and having apparently for cause a trauma five years back. He was cured in less than three months by hydrotherapy and bromides.

Physiological Tremor.—DR. PIERRE PARISOT stated that everybody trembled more or less when in normal health, as he and Meyer had found by test of the muscles when in a state of relaxation.

Tremor and Suggestion.—DR. BERNHEIM stated that hysterical trembling, at least if it were not constant, was always curable by suggestion. This was also true of hysterical chorea; but true chorea, that which was not due to imitation, resisted suggestion, although the amplitude of the movements could thus be reduced. Paramyoclonus multiplex responded to suggestion; also some cases of post-hemiplegic tremor. The trembling of alcoholism, saturnismus, paralysis agitans, and Basedow's disease was not curable by suggestion.

Tremor Accompanied by Cracking Sound.—DR. VOISIX had observed four women in whom a cracking sound proceeded from the upper part of the body, neck, shoulder, or trunk, loud enough to be heard at a distance of five or six steps. He assured himself that

the sound did not proceed from the articulations, but rather from the muscles, in which one could appreciate a tremor. Treatment by suggestion had no effect.

Tremor of the Tongue in Melancholia.—DR. PARANT said some melancholiacs showed tremor of the tongue; others did not. When present it was what he called voluntary titubation when the tongue was protruded, was seen in melancholia of recent date and infectious origin, and was a favorable sign in prognosis.

DR. RÉGIS said trembling of the tongue was not limited to melancholia of infectious origin, but was also present in infectious delirium, as in acute mania; and, therefore, could not be pronounced a sign of favorable prognosis.

Nystagmus by Suggestion.—DRS. SABRAZÈS and CABANNES had seen three cases of nystagmus in hysterics, in two being induced by hypnotic suggestion, in the other occurring spontaneously. It differed from the nystagmus of disseminated sclerosis. The oscillations of the eyes were extremely rapid, horizontal, associated, and exaggerated under strong light.

Commitment of the Insane.—DR. PAUL GARNIER, in a report on this subject, said that in the present state of our knowledge of psychiatry, isolation (from the general community) remained the best and most essential measure in most cases in the treatment of insanity. Its efficacy was greater the sooner it was carried out. The term dangerous could not be applied in the sense that some should be isolated and others allowed to be at liberty, for one knew not at what moment the apparently inoffensive might become dangerous. Besides, they needed hospital care, especially if indigent. The progress made in mental pathology tended to the almost complete suppression of physical restraint in asylums. Moral treatment, it seemed, could not rest on a system of intimidation by menace or actual punishment. Its principal value depended upon the word of authority of the doctor and affectionate display of benevolence, which many insane were still able to appreciate. Provisional discharge, although having inconveniences for the administration, also had certain advantages. The division of special institutions into asylums for treatment and into asylums for the incurable presented more inconveniences than advantages, and was not in accord with modern progress. But it was important to disencumber asylums of the feeble and senile, for whom there should be special hospitals, not necessarily under the law for the insane. The inmate of an asylum, when sent out cured, ought not to be abandoned to his own resources, but should be given work and receive the aid and affectionate oversight of public or private charity, as it might be required. The remainder of the conclusions related to the law of 1838. DR. Garnier thought there was room for an additional article relating to recurring deliriant alcoholics, of whose cure one could not be assured and against whom society could not effectually defend itself.

The chief dissension from the report related to the class of cases which should be committed to asylums, and division into curable and incurable.

DR. CHARPENTIER mentioned the following among those not necessary to be confined: Certain cases of attempted suicide; certain senile dement; lucid epileptics and hysterics; certain idiots; many imbeciles who were not dangerous; the backward who should be in educational institutions; many cases falling under the heads moral insanity, reasoning mania, hallucinatory alienation; recurring alcoholic delirians, who should be transformed into reasoning beings. Some of these persons required aid of one form or another, but need not be committed to insane asylums. He wished to see the asylums disencumbered of cases not properly belonging in them.

DR. TATY, of Lyons, believed in division of asylums into those for the curable and those for the incurable; and DR. MARIE thought the problem would be solved by dividing the cases into the acute and the chronic. About three-fourths of all were not benefited by therapeutics.

DR. PICHENOT presented a rare and curious specimen of hyperostosis of the cranium in an epileptic female.

Delirium of Persecution of Double Form.—DR. VALLON mentioned the fact that the insanity of persecution manifested itself in two forms, as a rule—reasoning and hallucinatory; but lately he had seen a case uniting the two forms. He would call it delirium of persecution of double form. Out of a large experience he had seen but one case.

Certain Psychical Troubles, Particularly Transformation of Personality, in the Course of Senile Dementia.—DR. PARISOT, of Nancy, said that psychical troubles independent of all insanity might appear during the course of senile dementia; and these troubles, such as the transformation of personality, deliriant conceptions, abnormal acts, were due to the revival of past psychical states under the influence of positive suggestion, spontaneous or provoked. They showed peculiarities which distinguished them from insanities.

Senile Dementia and Toxicity of the Urine.—DRS. PARISOT and LÉVY, of Nancy, having made some researches as to the relation between toxicity of the urine and senile dementia, gave the following brief *résumé*: 1. In one case of simple senile dementia (dementia without delirium) the urinary toxicity had varied in notable proportions, but without influencing the dementia. 2. In several cases of senile dementia with maniacal delirium, the appearance of delirium was always preceded by notable diminution of the urinary toxicity, a diminution which several times enabled them to foretell the delirious attack.

Automatic Speech.—DR. BERNHEIM presented a woman who was suffering from aphasia and paraphasia, but who, nevertheless, could sing and recite correctly her prayer. It seemed, therefore, that automatic speech was retained, while voluntary speech was much involved. Ordinary speech was attended in healthy subjects by a series of multiple transmissions cerebrally, which could not take place in the patient shown.

Neurasthenia and General Paralysis.—DR. RÉGIS said that these two affections might be associated, and they might resemble each other. Neurasthenia was to be distinguished from general paralysis by the fact that syphilis was a principal factor in general paralysis; also by the relatively greater age of neurasthenia and the fact that the speech disturbance was more emotional.

DR. CHARPENTIER had observed that when one pupil was more dilated than the other in general paralysis it was the right, whereas in healthy subjects it was the left.

DR. VALLON said he had not observed this difference, that the right pupil was oftener dilated than the left in general paralysis.

Case of Clinical Equivalent of Migraine.—DR. LAMACQ related the case of a patient who always suffered, the morning following a day of unusually severe labor or one in which he had experienced a disappointment, from either pain in the right foot or right hemisphericity. In either instance there would be nausea, difficulty in accomplishing mental work, etc.

Sulphate of Duboisine as a Means of Combating Refusal of Food in General Paralysis.—DR. FRANCOTTE had injected once or twice in twenty-four hours a solution of sulphate of duboisine, 4 to 1,000, as a means to induce patients with general paralysis to take food, and had found it successful in four cases.

Clinical Department.

A CASE OF RAYNAUD'S DISEASE.

By J. H. HAUPTMANN, M.D.,

ERIE, PA.

ON March 16, 1893, I was called in the afternoon to a woman in this city, Mrs. Z—, aged forty-seven years. On my arrival I found the patient sitting in a chair, suffering much pain in her legs and arms. She was much emaciated, her face was pinched, and she had all the appearance of one who had been long suffering. On examining her, I found both feet and legs very black, the discoloration gradually becoming less and shading off into the natural color at a point about two inches above the knees. The same condition was noted in her hands and in her arms up to a point about three inches above the elbows. Her nose and ears also had a dark hue. She had been in this condition for over four weeks, the discoloration gradually extending upward. She had during all this time suffered severe pains, accompanied with sleeplessness and entire loss of appetite. Her pulse was very feeble, intermittent, and somewhat thready, and her temperature was 102.5° F.

She had been under the care of several physicians, who had pronounced the case to be one of senile gangrene, and had advised immediate amputation. The family history was negative. Her parents and grandparents had died at an advanced age, and none with any hereditary or nervous disease. The patient herself had always worked very hard; she had borne seven children, all with hard labor, and had had one abortion, followed with puerperal septicaemia. Otherwise she had been healthy until this disease came upon her. Her heart was very weak and irregular.

After careful examination I made a diagnosis of Raynaud's disease, due to vasomotor contraction. The main difference between senile gangrene and Raynaud's disease, so far as local appearance is concerned, is that in senile gangrene there is a sharper line of demarcation between the diseased and the healthy parts, whereas in Raynaud's disease there is a gradual shading off from the dark color into the natural flesh color.

I went back again that evening and applied electricity, using the faradic current, to her legs and arms, for each extremity twenty minutes, changing the current from time to time. In bed, her limbs were elevated and massage was gently employed. That night she slept four hours, without any narcotic or anodyne being given. In the line of drugs I prescribed a nerve tonic of quinine, iron, arsenic, and strychnine; and for her weak circulation used digitalis, strophanthus, and nitroglycerin. Under this treatment and with nourishing food she quickly rallied.

After one week's treatment as above outlined, the natural color of her limbs and arms had reappeared as far as the toes and fingers, and these gradually resumed their natural color, and in three weeks' time she walked outdoors. The only parts that were dead were the first phalanges of all fingers, which later on I amputated and which soon healed nicely. She continued the treatment for several months longer, and has had no trouble since. She now follows up her occupation of sewing as usual. In the winter she is at times during the coldest days troubled with slight tingling and burning in the tips of her fingers, but the use of the battery always allays this; also rubbing the fingers will always stop it. I presume that without the use of occasional electricity and general hygiene, she might be liable to have another outbreak.

9 WEST ELEVENTH STREET.

A CASE OF ANTITOXIN POISONING.

BY L. ROSENBERG, M.D.,

NEW YORK.

LUCILLE J.—, aged four—previous history good, the child having been free from all illness up to the appearance of the present trouble—was taken sick on Sunday, July 5th, with sore throat and a rise of temperature to 101.5° F., per rectum. The heart, lungs, and kidneys were perfectly normal, and the little patient was well-nourished and well-developed for her years. On the 6th, the appearance of a small membrane on each tonsil warranted a clinical diagnosis of diphtheria (subsequently verified by culture), and she was given one injection of two thousand units of antitoxin. This was at about 1:30 P.M. She slumbered quietly for about an hour, when the mother (an unusually observant and intelligent woman) noted that the child appeared to become cyanosed. She awoke, complaining of cold, and was taken with a severe, prolonged chill; lapsed into unconsciousness and collapse. Physicians were hastily summoned, and Dr. Whitman H. White responded. He found the child, as he believed, *in extremis*. The temperature per rectum was 109° F., verified by myself when I arrived twenty minutes later. However, he gave the child one-one-hundredth grain of strychnine hypodermatically, and also two minims of digitalis fluid extract in ether. The pulse was scarcely perceptible when I took charge of the case. The patient was rigid, icily cold; the pupils were dilated to their utmost; a profuse perspiration appeared all over the body; a large quantity of coal-black faces was involuntarily expelled, resembling meconium but of darker hue and staining everything with which it came in contact. I concluded to supplement the other stimulants with nitroglycerin, one-fiftieth grain of which was injected under the skin. It was found necessary to repeat this in twenty minutes. The pulse rallied nicely from this, but the condition was extremely menacing. There was more or less rigidity, notably of the muscles of the neck; there was partial opisthotonos; the surface temperature continued frigid and the skin clammy. Hot-water bottles were placed all about the child. Four ounces of strong coffee, with two ounces of cognac, were thrown into the rectum, hot, and were retained. This was repeated in an hour. The nitroglycerin had to be exhibited freely and frequently, the heart action being extremely feeble and irregular. In all, the little patient received one-eighth grain between 3 and 8:30 P.M., when she began to rally. Although still unconscious, her pulse was slower, full, and regular; the normal bodily temperature obtained, the pupils were less widely dilated, the temperature was 103° F. per rectum. Nourishment could not be given; an enema of whiskey, milk, and egg was not retained.

This condition continued as described until midnight, when she came out of the stupor. Attempts were then made to nourish her with small doses of champagne and an infant food, but the stomach rejected everything. The vomit was fluid and inodorous, but contained the same dark coloring matter as the stool before described. The rigidity gave way to extreme restlessness, the patient writhing about in the bed, with very short intervals, during which opisthotonos would recur. Ten grains of sodium bromide were given per rectum, without benefit. The extreme nervous perturbation continued.

At 11 A.M., Tuesday, the temperature was 101° F.; the stomach was still rebellious. The child was fully conscious, but complained of nothing; the restlessness was unabated. A second rectal injection was given, containing ten grains each of sodium bromide and chloral hydrate, and two drachms of whiskey. The stomach was quieted by one-twelfth grain of mor-

phine, given hypodermatically. From now on the condition became more tranquil, the child slumbering, though fitfully. The stomach retained small doses of fluid nourishment; the temperature fluctuated between 101° and 102° F. during the day.

Wednesday morning the temperature, pulse, and general condition were as nearly normal as could be expected under the circumstances. The membrane had entirely disappeared. The first urine obtained (twenty hours after the onset of the collapse) was foul smelling and strongly alkaline, but free from albumin or blood. The subsequent history was uneventful, and at this writing the child is as well as ever. The small quantity of iron which the child received before the antitoxin was resorted to was insufficient to give the stool the deep black color it presented. The dark color of the vomit is also unexplainable. The condition of the digestive tract had been normal prior to the illness. Elsie, an older sister, had been given three hundred units of antitoxin from the same source, without any untoward symptoms developing. The injections were made by one of the most experienced physicians on the staff of the health board.

210 EAST ONE HUNDRED AND TWELFTH STREET.

A FISHHOOK REMOVED FROM AN INFANT'S THROAT BY DIGITAL MANIPULATION.

BY THOMAS B. HEGEMAN, M.D.,

BROOKLYN, N. Y.

ON August 21st an infant girl, two years old, was brought to my office by the mother, who stated that the child had "swallowed a fishhook."

On examination I found that about one inch of the catgut to which the hook was attached was protruding from the mouth. Placing a wine-bottle cork between the upper and lower molar teeth of the right side, I found on inspection that the fishhook had passed into the throat and had been carried to the lower part of the pharynx, the point being embedded in the mucous membrane of the lateral wall of the pharynx in the hyoid space of the left side.

Using the protruding catgut as a guide, the thumb and index finger of the right hand was passed along into the pharynx. The end of the shank of the fishhook could then be felt, but only about one-fourth inch of the shank could be grasped by the fingers. Securing as firm a grasp as possible on this small lever, I passed the index finger of the left hand deeply into the pharynx, until the point of the fishhook could be felt through the mucous membrane.

Realizing that the peculiar nature of the foreign body made it hazardous to either push or pull, I decided to try rotation. Giving the shank a quick twist the point of the hook was forced out of the membrane and caught in the skin of the index finger of my left hand. Having the hook now between the index fingers, it was an easy matter to withdraw it. There was very little laceration of tissues, and the operation took less than three minutes to accomplish. The hook was of the variety known as a "porgie" hook, about one and one-fourth inches long, with about six inches of catgut attached.

The case is interesting because of the nature of the foreign body. Many strange and curious things have been swallowed by children, but one does not often hear of a fishhook as a foreign body in the human throat. The case is instructive in showing how much can be accomplished by careful digital manipulation in removing foreign bodies from the throat.

363 NEWKIRK AVENUE.

APPENDICITIS COMPLICATING PREGNANCY.

By HOWARD CRUTCHER, M.D.,

CHICAGO.

At ten o'clock on the evening of August 1st, I was called by Dr. Frank H. Waters to see with him a young woman, aged seventeen, unmarried, American, who presented the following history:

On July 16th she was taken sick with cramps and pains in the stomach and bowels. There was some vomiting and the bowels were constipated. Two days later (July 18th) a two months' fetus was expelled. This development was a total surprise to the family, who at once called a neighboring practitioner to attend the case, until Dr. Waters could be called from the city. Dr. Waters and the other attendant held a consultation within a few hours after the expulsion of the fetus, and decided to curette and pack the uterus. This was done at once. The girl strongly denied any criminal procedures, and attributed the mishap to overexertion at the washtub. The condition, however, did not improve. Abdominal pains, constipation, and headache continued. The pulse rose quite steadily from day to day, and it was evident that general sepsis had developed.

I found the patient slightly delirious at times; the pulse was 160, with a temperature of 102.5° F.; the abdomen was not painful to pressure, although it was much distended. The uterus was explored carefully, but no traces of degenerated tissue could be detected at any point. The odor was quite offensive. There was hardly any discharge from the uterus. On account of the entire absence of pain, it was evident that she was already anæsthetic from sepsis. The bowels were discharging a dark, soft mass about every two hours, and had been very loose for three days. Previously to this, constipation had been very obstinate. The urine appeared to be normal in quantity and but slightly altered in quality.

My belief was that the patient was suffering from septic metritis. It was thought that a tubal complication might account for the peritonitis, although nothing in the patient's history justified such a belief. The patient's condition being utterly hopeless as she was, it was decided that an attempt at relief would be justifiable.

On account of apparent improvement during the night, the family insisted upon delay. This action put off the operation until the morning of August 3d. Chloroform was given by Dr. Waters. Assisted by Drs. F. H. Lockwood and A. S. Pease, I opened the abdomen in the median line three inches below the navel. On incising the peritoneum there was a hissing of gas, which, of course, led to the belief that an intestine had been opened. This was not so. In an instant there was a torrent of foul pus, which amounted to more than a gallon. The well-known wall of lymph, so eloquently described from time to time, had pushed the intestines and omentum up to within an inch of the umbilicus. At this time the prostration of the patient was extreme, but irrigation with gallons of hot saline solution revived her. The abscess cavity was enormous. Its walls were not broken at any point. Attached to the right tube and uterine fundus were the remains of a perforated vermiform appendix. It was strongly attached and no effort was made to remove it. After the use of many gallons of hot salt water, the cavity was quickly sponged and a large Mikulicz drain inserted.

The patient died in three hours, after apparent recovery from the shock of operation. Drs. D. H. Galloway, A. S. Pease, and the writer conducted an autopsy seven hours after death. Intestinal adhesions,

while recent, were universal. The liver was entirely adherent. The omentum was a friable mass, occupying the left lumbar region. The uterus and ovaries, aside from their recent coverings of lymph, were in apparently good condition, barring the usual congestion of the uterine tissues. The right Fallopian tube was normal, save at the point of attachment to the vermiform appendix, where a small collection of pus was found. The vermiform appendix was four inches long, and gangrenous for an inch where it was adherent to the tube.

In the absence of any other cause for the miscarriage, it is evident that the appendicular lesion was responsible for the trouble. Probably a former attack of appendicitis had been "cured" by the appendix attaching itself to the uterus and tube, where it held in store a magazine of infection, which, when released by the normal enlargement of the uterus, dealt the patient a swift and fatal blow.

103 STATE STREET.

A CASE OF OXALIC-ACID POISONING.

By PAUL W. ERDTMANN, M.D.,

NEW YORK.

MR. L—— called at my office in great excitement, and asked me to come with him at once, his wife having "taken something by mistake." I hurried to his home, and on arrival found his wife, a woman, thirty-five years old. She was in bed, vomiting bloody mucus. The respiration was short and jerky, the pulse small and irregular, the surface of the body was livid, and the skin was cold. She complained of severe abdominal pain and burning in the throat. I asked her what she had taken. She said in a whisper and very slowly that she had, by mistake, taken a drink from a bottle in which she kept a solution to clean the boiler with. She had mistaken the bottle for one containing lemonade which she had placed next to it. The husband told me it was oxalic acid. I did not scrape the ceiling, because a drugstore was opposite, to which I hurried the husband to get lime water. By this time the patient was almost completely unconscious and was cyanosed about the face. She had no convulsions. Vomiting had entirely ceased. I administered the lime water freely, and then gave mustard water, which, however, did not cause vomiting. I then administered apomorphine hypodermically. This promptly acted. The heart was stimulated all the time.

After two hours the patient was out of immediate danger and was perfectly conscious. She then told me she had dissolved an ounce of the acid the day before in a tumbler of water. She drank the whole amount. I suspected her of suicidal attempt, which, however, she emphatically denied.

The patient was also six months pregnant. On examination I could not hear the fetal heart sounds and quickening had ceased. I concluded the fetus was dead.

Next morning the patient was doing well: the pulse was good, the temperature was 102° F. The gastroenteritis was quite severe. Examination revealed that the fetus was dead.

Next morning I produced premature labor, introducing a carbolized-sponge tent, and in the evening the entire ovum, membranes, placenta, and fetus were discharged at one time. The patient made a complete, uninterrupted, rapid recovery.

I report this case, as there are but few instances on record of recoveries after the ingestion of an ounce of oxalic acid. Some writers have claimed that oxalic acid is an emmenagogue. In this case no uterine contractions were produced.

A CASE OF MALIGNANT DIPHTHERIA TREATED BY ANTITOXIN—RAPID RECOVERY.

BY ARTHUR IRVING BOYER, M.D.,

NEW HAVEN, CONN.

At the present time there seems to be so much doubt existing in the minds of many of the profession regarding the efficacy of antitoxin in the treatment of diphtheria, that some are no doubt deterred from even trying it for fear of failure. The case I am about to relate is one which came up in my own practice very recently. Saturday, July 25th, about 9:30 P.M., I was called to see the patient, a girl, eleven years old. I found her in a semi-comatose condition. Pulse, 120; respiration, 24; temperature, 104° F. Her father said that she appeared perfectly well Friday night and partook of a hearty supper; she slept well until about midnight, when she became a little restless, but did not complain of her throat or manifest any other symptoms at that time. Indeed, Saturday morning she was about the house; as the day advanced, however, she began to act drowsy, and then (about 5 P.M.) for the first time complained of a sore throat. Her father looked at her throat and told me that at that time all he could see was a "small white spot" on one tonsil.

As the child had had tonsillitis before, he did not attach very grave importance to it; but as she continued to get worse he sent for me. Upon examination of her throat I found both tonsils and the pharynx covered by membrane, parts of which had become necrotic. There was no room for doubt as to diagnosis. At 11:15 P.M. five cubic centimetres of antitoxin were injected (New York Board of Health No. 2). At this time her pulse was 120; respiration, 26; temperature, 104° F.

Sunday, at 11:15 A.M., another five cubic centimetres were injected. Both these injections were followed by marked reaction in about ten hours. At 11:15 P.M. there seemed to be a change for the better; she had a coughing-spell, accompanied by vomiting, and a small portion of the membrane became detached. At this time her pulse was 104; respiration, 20; temperature, 101.1° F; and she was conscious and rational.

Monday, at 10 A.M., another injection of antitoxin, this time two cubic centimetres, was given. Pulse, 100; respiration, 20; temperature, 101° F. At 8:15 P.M. I removed a piece of membrane as large as a fifty-cent piece, with long forceps. At 10 P.M. there was a reaction from the antitoxin given in the morning, and she was somewhat delirious.

Tuesday, at 10:10 A.M., I removed another piece of membrane with forceps. Pulse, 100; respiration, 20; temperature, 99° F.

Wednesday, 10:15 A.M., pulse, 100; respiration, 18; temperature, 98.5° F. She had slept from 11 P.M. to 5 A.M., and awoke very much refreshed. The membrane gradually disappeared. At 8:15 P.M. the pulse had fallen to 80; respiration, 18; and temperature, 98.5° F.; and they have remained so ever since.

The patient gained strength rapidly, and at the present time of writing, August 5th, she is out of doors, and her throat is in an entirely normal condition. Quarantine was raised yesterday.

I have seen a statement to the effect that "bacteriological" and "clinical" diphtheria are not closely allied. All I can say regarding this is that the diagnosis was proved beyond question by the finding of the Klebs-Loeffler bacillus, and the case from a clinical standpoint gave no reason for doubt, as, besides the throat symptoms, there was marked evidence of systemic infection which the temperature alone would not account for. No other treatment whatever was resorted to,

with the exception of drachm-doses of brandy in milk and an antiseptic mouth wash of boric acid in distilled water.

121 GRAND AVENUE.

A CASE OF COLLAPSE FROM EXCESSIVE VOMITING SUCCESSFULLY TREATED BY INTRAVENOUS INFUSION OF SALINE SOLUTION.

BY CARLOS C. BOOTH, M.D.,

YOUNGSTOWN, OHIO.

MR. CHARLES B——, aged twenty-six, millman, became suddenly sick with severe pain, accompanied by general cramps and vomiting of large quantities of fluid, at 2 P.M., July 28, 1896, while at work in the rolling mill. I attended him at 5 P.M., administering a large hypodermic injection of morphine, and repeated the same at 8 P.M. He continued vomiting large quantities of rice-water-like fluid during the night, but with less frequency.

On July 29th, although he had received large hypodermic injections all this time at intervals of two or three hours, the vomiting continued.

July 30th, at 9 A.M., he was still vomiting and from the excessive loss of fluid was rapidly approaching death. I gave him nitroglycerin and strychnine. The pulse was then 130 to 140; temperature, 96° F.: the eyes were sunken, extremities cold, and the man was vomiting occasionally. At noon Dr. J. Wilson was called in consultation, and we both agreed that if something radical was not done, death would surely follow, as the man was rapidly getting worse. At 5 P.M. the pulse was 160; temperature, 96° F. At this hour, assisted by Drs. Wilson and B. F. Hawn, I infused two quarts of sterilized normal saline solution, at about 120° F., into his right median basilic vein. The patient was throwing himself from one side of the bed to the other, as one dying from hemorrhage. Almost immediately he became warmer, fell asleep for a few moments, and the pulse from a flutter came down to 110 per minute, with a full volume. The man expressed himself as feeling much better and warmer; his extremities became warm, he perspired a little, and at once his condition improved in every way.

During the next twenty-four hours he vomited only three or four times. I continued the nitroglycerin and strychnine, and on August 1st he had a pulse of 96 per minute, normal temperature, desired food, and is at this time, August 7th, sitting up and feeling quite himself. There was no secretion of urine from July 28th to 31st, and no movement of the bowels until August 1st, and, in fact, I could obtain none previously to this time. It is not necessary to detail the minutiae of the treatment further than this, as we had used about everything that has ever been suggested for such a condition. In our opinion, this man would have died if he had not had the infusion. If occasion presents itself, I shall not hesitate to recommend and use this treatment in the above condition, regardless of the age of my patient.

Vinegar as an Antidote to Carbolic Acid.—Professor Carleton (*La Semaine Médicale*) says that when applied to a skin or mucous membrane burnt by carbolic acid vinegar causes a quick disappearance of the characteristic whiteness, as well as the anæsthesia produced by carbolic acid; and prevents the formation of a slough. It also neutralizes any carbolic acid that may have been introduced into the stomach. In cases of poisoning, then, the first thing to do is to make the patient drink some vinegar mixed with equal parts of water, and to wash out the stomach. According to Billroth, soap is an antidote in carbolic-acid poisoning.

Therapeutic Hints.

Turpentine is said to be a specific for parotitis.

Antihysteriæ.—It is said that one-tenth grain of apomorphine given hypodermatically will break up and thereafter prevent any attack of hysterics.

Hypodermic Purgative.—

R Caffeinæ et choral. āā gr. viiiss.
Aque ℥ lxxv.
S. Inject fifteen minims.

—EWALD, *Journal de Médecine de Paris*.

Antidyspeptic.—

R Bism. subnit.,
Magnes. sulphat.,
Cret. prepar.,
Calc. phos. āā 10
M. Div. in cachet No. xl. S. One before each meal in dyspepsia accompanied with pains and flatulency.

—DUJARDIN-BEAUMETZ.

Antiasthmatic.—

R Tinct. opii 4
Ether sulphuric. 8
M. S. About fifty drops every twenty minutes in attacks of asthma with emphysema.

—CLYMER.

Infantile Diarrhœa.—

R Bism. subgal. ʒ i.
Sodii bicarb. gr. v.
Cret. prep. ʒ ss.
Creosoti. ʒ v.
Syr. cinnam. ʒ ss.
Aq. dest. q.s. ad ʒ iv.
M. S. Teaspoonful after each movement.

—GRIFFIN.

Unguentum Refrigerans.—

R Anhydrous lanolin 10
Benzoated lard 20
Rose water. 30

Absorbent Powder.—

R Alum, finely pulverized 5
Carbonate of lime, pulverized 4
Starch, pulverized. 50

—SIGMUND.

Cutaneous Irritation of Measles.—

R Lanolini puris. ʒ i.
Vasellini ʒ iiij.
Ol. ricini ℥ ij.
Aq. dest. ʒ v.

Ft. ung. S. Apply as required.

—Practitioner.

Toothache.—

R Chloral hydrate,
Camphor,
Carbolic acid,
Glycerin. āā ʒ iss.
Introduce into tooth cavity a ball of cotton moistened with this mixture.

Earache.—

R Chloral hydrate,
Camphor,
Carbolic acid āā gr. xiiss.
Castor oil ʒ iv.

Warm the mixture and put a few drops in the ear.

—College and Clinical Recorder.

Epilepsy.—

R Antipyrin ʒ i.
Ammonium bromid. ʒ iiiss.
Stronium bromid ʒ i.
Solution of potassium arsenite. ℥ xl.
Extract of solanum carolinense. ʒ xss.
Water q.s. ad ʒ vi.

M. Dose: A dessertspoonful or more twice daily.

—Gaz. hebdomadaire de Méd. et de Chir., 1896, No. 19.

Chancroid.—Cleanse and dry the parts. Apply salicylic acid so as to cover the ulcer and a narrow zone of skin beyond. Cover with an adhesive plaster. Dress every twenty-four hours. On the third day replace by an ointment. Three days after falling of the eschar reparation is complete.—HEBRA.

Bronchitis of the Aged.—

R Benzoic acid gr. ivss.
Tannic acid. gr. ii¼.
M. For one cachet. S. Take four or five such cachets per diem.

—E. MARAGLIANO, *Le Progrès Médical*.

Heart Failure in Phthisis.—But one of the most serviceable means, which has stood me in very good stead, is taking advantage of the physiological relation between the act of swallowing and the act of expectoration. Repeatedly we see in adults with phthisis the benefit of sipping hot fluids to ease their morning expectoration. The experiments of Kronecker and Meltzer prove that this result comes about mainly by stimulation of the heart with each act of deglutition.—DR. THOMSON, before the Academy of Medicine, April 7, 1896.

Infant Feeding.—Dr. Dillon Brown (*American Medical and Surgical Bulletin*, May 9, 1896) says that the farinaceous foods and the so-called milk foods are, in his experience, rarely or never indicated, and are usually harmful. In children with poor digestive powers, the Liebig foods are often of value; but they never can be and it never has been claimed that they are substitutes for milk, and are only to be used as a valuable addition, in certain cases, to properly handled and properly modified cow's milk.

Typhoid.—Dr. Henshaw (*Boston Medical and Surgical Journal*, May 14, 1896) commences an article as follows: "Within the last few years, more than fifteen hundred remedies have been suggested for the treatment and cure of typhoid fever. All sorts and kinds of foods have been advocated as of special value in the diet; hydrotherapy and antipyretics have been advised for the reduction of the fever; attention has been called to the value of intestinal antisepsis; while the special symptoms arising during the course of the disease have been relieved, experimentally at least, by almost every resource of the pharmacopœia. These methods, however, have not proved invariably efficient in modifying the course or severity of the disease."

Foreign Bodies in Ears.—Dr. Belt (*Virginia Medical Semi-Monthly*, April 24, 1896) gives this important admonition to the general practitioner: The physician is frequently called upon to remove foreign bodies from the ear—such as insects, grains of wheat, corn, beans, slate pencils, etc. Sweet oil or glycerin will usually kill or quiet an insect, after which it can be removed as any other foreign body—that is, by means of a syringe and warm water. Never use a probe, ear-spoon, or forceps in these cases, as great injury may be done while contending with a struggling child. Foreign bodies sometimes remain in the ears for years without doing injury, so there is no need of haste, excitement, or forcible methods in dealing with them.

Chills in Typhoid Fever.—Dr. Osler, in the *University Medical Magazine*, November, 1895, says chill may occur—First, at the onset of the disease, as seen in thirteen cases out of a total of seventy-nine treated at the Johns Hopkins Hospital during the sixth year. Second, at the onset of the relapse, due to an irregular or a disturbed elimination of the poison, a large volume of which is thrown into the blood in a short time. Third, as a result of treatment, antipyretics being

particularly prone to produce chill, and this phenomenon may occur after the injection of sterile cultures of bacilli and after the external application of guaiacol. Fourth, with the onset of complications, such as pneumonia, pleurisy, acute otitis, suppuration in the mesenteric veins, pyemic abscesses of the kidney, perforation of the ileum or appendix, or an acute peritonitis. It may occur with thrombosis of the femoral or saphenous veins, and it may precede acute and fatal hyperpyrexia. Fifth, during convalescence in severe and protracted cases. In such cases there may be no local symptoms to account for the chills, and, though alarming, they may gradually subside, with complete recovery. They may possibly be septic. Sixth, chills may be due to concurrent malaria. While attributed, as a rule, to malaria, chills in the course of typhoid fever are very rarely due to this cause.

Nervine Tonic and Sedative.—

R Asafoetida ℥ i.
Acidi arseniosi gr. ss.
Strychnine sulph. gr. ss.
Ext. sumbul ℥ iss.
Ferri subcarb. ℥ ij.
Quinine valerian. ℥ i.
M. Make capsules No. xxiv. S. One capsule after each meal.

—DR. BROWN, *Va. Med. Semi-Monthly*.

Enuresis in Children.—Dr. Harold Williams (*Boston Medical and Surgical Journal*) gives statistics of sixty-two cases: twenty-eight in boys, thirty-four in girls, of ages from two to fifteen. In thirteen cases definite causes of reflex irritation were discovered, with prompt cure of the enuresis in twelve cases. These causes were: Adherent prepuce, four cases; vulvo-vaginitis with gonococci, one case; oxyuris vermicularis, five cases; chronic ileo-colitis, one case; prolapse of the rectum, one case. Anæmia and a neurotic temperament and history were present in most of the cases. Forty-nine cases remained unexplained.

Causes of Migraine.—Dr. Marcus, of Pymont, has suffered from periodic headaches for forty years and thinks they are due to changes in the atmospheric pressure. He finds that the advent of his own attacks and of those of others are always coincident with a variation in the pressure, which is not always accompanied with a change in weather, but is confirmed next day by the official weather bulletin. Dr. Marcus asks physicians who live in localities where the atmospheric pressure is more stable to investigate the matter and possibly find some relief for chronic sufferers. —*Therapeutische Wochenschrift*, March 29th.

Local Anesthesia in Labor.—Dr. T. H. Weagly (*Times and Register*, October 5, 1895) has obtained excellent results in cases of rigidity of the cervix by local anæsthetics applied to the parts by a spray apparatus. He claims that the following solution will expedite and soothe the first stage of labor, and even when the occiput has entered deeply into the pelvis the pain accompanying the expulsion of the head may be reduced to a minimum by spraying the vaginal surface of the perineum and outlet.

R Phenolized cocaine solution (3 per cent.)... ℥ i.
Trinitrin solution (2 per cent.)... ℥ x.
Sulphate of strychnine..... gr. 1/6.
Listerine..... ℥ i.
M.

Fevers.—Dr. Da Costa, in the *American Journal of the Medical Sciences*, June, 1896, says: "The treatment of the prolonged simple continued fevers is purely symptomatic. Quinine has no effect on them, nor have the ordinary antipyretics more than a temporary influence. Phenacetin and salol do most good, partic-

ularly in cases with headache. They are best given in small doses, a grain or two, frequently repeated until their effect is manifest. Better still, when it can be efficiently carried out, is the cold-bath treatment, not only to lower temperature but for its revulsive and alterative influence. I regret that in the extremely long cases first mentioned circumstances prevented it from being thoroughly carried out. Purgatives, unless contraindicated by weakness, always form part of judicious treatment."

Syphilitic Brain Disease.—1. In syphilis of the brain, especially of the meninges, severe headache is an early, often predominating, symptom. In our case the patient did not suffer from headache of any consequence till partial paralysis had developed, nor was his headache at any time more severe at night, as is often the case in specific disease. 2. The course of syphilitic brain disease is subject to great variations in the intensity of the symptoms; sometimes from day to day, or week to week, symptoms come and go and do not show the steady development observed in the case under question. 3. Specific meningo-encephalitis yields readily to energetic specific treatment, especially when applied early. Our patient grew steadily worse under a thorough course of specific treatment; nor were there any other signs of syphilis of the nervous system, as is so often the case, present to support the diagnosis of syphilis.—DRS. STIEGLITZ, GERS-TER, LILIEN-THAL, *American Journal of the Medical Sciences*, May, 1896.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GENERAL MEDICAL COUNCIL—CANDIDATES—RETI-
RING MEMBERS—COLCHESTER MEDICAL SOCIETY—DEFENCE
UNION—"BALDERDASH" AS INTERPRETED BY BRU-
DENELL CARTER AND VICTOR HORSLEY—INDIRECT
REPRESENTATION REVIVED—DANGEROUS TRADES
REPORT—PETROLEUM REPORT—SANITARY CONGRESS
—ARMY VACANCIES.

LONDON, September 4, 1896.

THE medical council, though not sitting, is monopolizing the attention of many medical politicians. First, the coming election of direct representatives gives rise to discussion of the claims of the candidates, and fresh names are continually being suggested. I should think some of the gentlemen whose names have been mentioned by their friends or others would have preferred to keep the proposal out of print. I shall not call them candidates until they declare themselves such. Among those who have done so, Dr. Rentoul will be remembered as the man who defeated the midwives bill by his indomitable courage and energy, and at no little pecuniary sacrifice. This is certainly no little claim. As one of the retiring members, Sir W. Foster, is an Irishman, some of our delightful Hibernian colleagues have suggested that the occasion should be seized for doing justice to Ireland by sending two of her sons to replace him; and this Hibernicism has actually drawn a refutation from a sober writer, who thinks it is time England should be considered at the election of three members for England. The qualifications for the office do not seem to concern many, and so we see such claims as these put forward, as well as others which have equally little bearing on the duties of councillors.

At Carlisle the British Medical Association assumed to thank Mr. Wheelhouse and Sir W. Foster for their services, and an effort was made to beg them to con-

tinue. This is in accordance with their election at first, which was managed by the committee of the association, of which these two gentlemen were members at the time. It is the fashion within the inner circle of the association to extol the work of these two members in the council, and to hold them up as model direct representatives. Outside we smile at the advertisements that proceed from within, and admit that they were direct representatives of the inner circle. When it is asked what they have done, an answer is seldom given, though occasionally we are told they voted for an increase in the number of direct representatives. Really, a great deal too much has been made of their so-called services, and now it has been proposed to get up a testimonial to them for doing the duty they sought so ardently. I hope no one will be hoodwinked into subscribing. They secured the position by electioneering tactics of the lowest order, and if they have voted as directed by the clique who manœuvred the election, let their retirement close the disgraceful page of the history.

The Colchester Medical Society has nominated Drs. Rentoul, Drage, and George Brown as candidates. Some other societies are proposing candidates, or, rather, selecting those they intend to support. The attempt of the British Association through the Lancashire and Yorkshire branch is thus being followed, but that attempt has led to an unpleasant dispute as to whether its nomination was in order. I am afraid there is something in the objection raised to the proceeding, but it will not invalidate the election, being only a resolution of a small meeting to support certain candidates—a meeting held for another purpose, viz., to hear an address by Prof. Victor Horsley. I am sorry he should have been mixed up in this move on behalf of those he supports. He is president of the Medical Defence Union, which in its brief career has done more for the interests of the profession than the General Medical Council in its thirty-seven years of talking and passing recommendations. Mr. Horsley's surgical fame has long since reached you, but you may not be aware that he has developed equal skill and energy in the task he has undertaken as president of the union. I hope he will retain that office and work it as he has done hitherto. The decision of the British Association to take up medical defence does not necessitate any particular plan. I am half-disposed to believe the safest for the time being would be to vote funds for every case undertaken by the union, up to a fixed limit in the year or for each case. This would give the union a free hand, and Mr. Horsley and those working with him would be encouraged to continue to give their great experience and talent to the work they have done so well, and for which they only need further funds.

Mr. Horsley has also come out as an acute dialectician. I told you Mr. Brudenell Carter, a keen controversialist and experienced journalist, had written to *The Lancet* a defence of the Medical Council from the criticisms to which it was subjected at Carlisle. Mr. Horsley read a paper there, as did the candidates he supports. They treated the defects of the council from different points of view, and Mr. Carter called their statements "balderdash," which he subsequently pronounced to be "a good old English word, meaning a confused statement." Mr. Horsley is equal to the occasion, and quotes authority to show that though in early Scandinavian it meant so, it gradually came to be applied to the sayings and arguments of persons who talked nonsense, and its present-day synonyms, according to the great authority of Roget, are "nonsense, jargon, gibberish, jabber, babble, hocuspocus, fustian, rant, bombast, rigmarole, twaddle, fudge, trash;" and, he adds, it also appears that balderdash means, further, "a tale told by an idiot, full

of sound and fury, signifying nothing." These are hard words, Mr. Horsley thinks, though after Mr. Carter's "graceful explanation" he is happy to know that they were not intended to apply to the criticisms of the council made at Carlisle. This is the lively part of the little discussion Mr. Carter provoked. There is plenty more and of a serious kind, demonstrating that Mr. Horsley knows what he is talking about, and that his trenchant criticisms of the council are founded on a basis which has not been shaken.

In the discussion at Carlisle on the subject, the most interesting point was the revival by one speaker (Dr. Muir) of the question of indirect representation as preferable to direct. How should more influence be obtained? Instead of more direct representatives to enlarge the council, he held that every diplomat of a corporation or university ought to have a vote in the choice of a representative of such body on the council. Some dissentients to this were present, as might be expected, but it is clear that such a reform would be popular and effective. It was advocated with no little energy some years ago, and the association made a great blunder in opposing to it direct representatives in the hope of controlling the elections.

A year ago the home secretary appointed a committee to inquire into dangerous trades. After inspecting one hundred and thirty-four works and examining one hundred and fifty-three witnesses, the committee has presented an interim report, in which a number of recommendations and suggestions are offered, with a view of protecting the health of workpeople without pressing too heavily on employers or adding to the difficulties of keen competition. Most of the recommendations are already in use in the best-regulated works, where employers regard their workpeople with interest, and it could, therefore, be no hardship to make them compulsory on any who may have no thought for the health and welfare of those who contribute to their own prosperity. The dangers to life and health in various occupations may, perhaps, be minimized by judicious legislation, and careful inquiries such as this are the best preparation for parliamentary action.

The select committee appointed to inquire into the laws relating to the keeping, selling, using, and conveying of petroleum and other inflammable liquids, being unable to conclude their inquiries in the parliamentary session, reported the evidence they had taken and recommended the house to reappoint a committee next session. This will probably be done. Meantime, it may be observed that there were great differences of opinion among the witnesses examined, especially as to the existence of a safety-flash point for paraffin. The alternative of looking to the construction of the lamps presents itself. I suppose that we must await next session's committee for further investigation and legislation, but as there are safety lamps in the market prudent people will decline to purchase others.

On Wednesday the Duke of Cambridge opened the congress of the Sanitary Institute at Newcastle-on-Tyne, and judging from the proceedings of the two days that have elapsed, the meeting promises to be successful.

Competition in the army medical service is dead. At the last examination, as I reported, only thirteen were passed, and for them twenty-five vacancies waited. But a further need has occurred from resignations, and there are twenty-two places waiting for qualified candidates; but none of these are coming forward. The "combatant officers" have killed competition, and will yet feel the want of skilled surgeons.

Obesity.—Duboisine is said to cause persistent loss of flesh.

A PROPOSED CONGRESS OF LEPROLOGISTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Goldschmidt, late of Madeira, now at Paris, in a letter to me, last December, proposed that a congress of leprologists should be held, for the suppression and prevention of leprosy. In a letter I wrote to Dr. Hansen, I referred to this proposition and suggested the formation of an international committee, one delegate from each government, to be permanently active, to meet once a year, and to take cognizance of all questions and problems relating to leprosy all over the world. I also suggested the collection of a fund in every country, for the use of this committee, to support asylums where such help is wanted, and to send specialists wherever they are needed. Dr. Hansen at once received these overtures with favor, and submitted them to his chief, who in turn communicated them to the Norwegian government. In his answer to me, Dr. Hansen said that it was the desire of the Norwegian physicians that the seat of the first leprosy congress should be Bergen, Norway, and that the Norwegian government was willing to issue the call for the first leprosy congress, provided it had assurances of sympathy from other governments. I at once applied to President Cleveland, to Queen Victoria, to the German Emperor, to President Diaz of Mexico, to Lord Aberdeen of Canada, to the Japanese and Chinese governments, and to all the republics of South America. I also submitted this scheme to the American Dermatological Association, to the American Public Health Association (of Canada, the United States, and Mexico), and to Miss Clara Barton, the president of the American Red Cross Society. It is to be communicated also to the Pope, through a hierarchical channel. It is desired that every influence that may exist, of any kind, be brought to bear upon the different governments, so that they may consent to appoint official delegates. Of course, leprologists in their private capacity, or as representatives of associations, will be invited and are expected to attend. The committee formed by the delegates will be exclusively concerned with the promulgation and application of laws suitable to the suppression and prevention of leprosy in each country, leaving the discussion of questions of etiology, bacteriology, cure, etc., to the specialists. This is the plan as it stands now, and as it was resubmitted by me to Dr. Goldschmidt. Dr. Goldschmidt, in his reply, has suggested that Moscow be the seat of the congress, as the international congress is to meet there next year. This is open to the following objections: 1st, If the leprosy congress is held in Moscow, along with the regular international congress, it will of necessity fall into position of secondary influence, and will be, in fact, a section of the general congress; 2d, Hansen is entitled to claim the first leprosy congress, he being the discoverer of the *lepra bacillus*; 3d, the Norwegian government, having been the first to express a willingness to issue the call (which should be issued by a government, not by individuals), is entitled to the honor; 4th, if the congress is now taken to Moscow, after the Norwegian physicians have expressed a desire to have it in Norway before even Moscow was suggested, the Norwegian physicians will certainly take offence. A leprosy congress without Hansen cannot well be imagined.

Will you kindly publish this letter, and ask the leprologists of America to communicate to the provisional committee of the congress as it exists—Dr. G. Armauer Hansen, Bergen, Norway; Dr. Jules Goldschmidt, 4 Rue Daunau, Paris, France; Dr. Albert S. Ashmead, 210 West Fourth Street, New York—their own ideas about this great scheme, and to offer such suggestions

as may help to advance it? May we hope, also, that you will use the influence of your paper to make the first leprosy congress a success?

ALBERT S. ASHMEAD, M.D.

THE APPENDICITIS CONTROVERSY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Readers of the MEDICAL RECORD who have been following the interesting discussion on appendicitis which Dr. MacArtney's article has elicited have at times felt that the personal element has been very manifest in most of the letters. It is unfortunate that calm discussion has been invaded by satire and often by sneers, which do not conduce to convincing argumentation nor show proper respect for the opinions of others. Dogmatic assertion on the one hand and ridicule on both are not calculated to allow a proper estimate to be made, or to favor the acceptance of observations that should be weighed in the balance of sober deliberations. Certainly all are entitled to express without fear or favor honest opinions and convictions gathered from personal experience. Very many readers of current medical literature are country general practitioners, who have not the advantages of hospital practice. There are bright and keen intellects among this large army of patient, hard-working men, yet how many keep in touch with the advances in thought and practice that master minds are developing along the lines of evolution in medical science in the centres of learning and research?

Are not aseptic and antiseptic principles defied by the methods universally in vogue everywhere in the management of all kinds of wounds—not excepting the puerperal uterus? The men who are constantly combating these "old ruts" and gallantly fighting against prejudice, ignorance, and often laziness are the very teachers to whom I, as a general practitioner, am looking for light in the darkness.

Is it not dangerous for us to accept and practise—to say nothing of advocating—plans of treatment which do not lower mortality and give incomplete results and tedious convalescence? We should have the courage of our convictions. All seekers after truth want to know, and should adopt, the best plans of treatment in appendicitis—the safest, shortest, and positively curative methods; those which ensure not simply a recovery (?) but a cure.

What we want is the cumulative evidence of, say, a thousand cases treated in and out of hospital by surgeons and physicians, their complete histories, embodying all the points that have a bearing upon their cases in any particular, before and for years subsequent to treatment; the sequelæ, complications, accounts of autopsies, and pathological reports. All theories based upon individual impressions from treatment should be eliminated, such as that opium favors adhesions or that colon irrigations absolve the sins of the *bacillus coli communis*. Perhaps then some rational and more uniform lines will be generally accepted as bases in treatment than seem to be followed at present.

I have had six cases that were reported in the *Buffalo Medical Journal* for February, 1896; also a few since, but I will speak here only of these six. My first case, that of a boy of six years, was treated against my judgment by the opium plan. I had but recently located, coming from a general hospital, and was unknown, while my *confrères* were men of established reputation and experience, who independently diagnosed the case as one of peritonitis and advised the opium treatment. The boy died in a few days of unmistakable septic peritonitis.

My second case was that of a man of fifty, who gave a history of a number of previous attacks. Surgical aid was deferred for about forty hours, and when the abdomen was opened the appendix had perforated in three places and was gangrenous, and diffuse peritonitis existed without any evidence of recent adhesions limiting the infective process. The man died. My third case was that of a young man, who also had had previous attacks; he was promptly operated on, and although the appendix was severed by perforation from a concretion and a large abscess was present without any adhesions, and pelvic peritonitis existed, yet the man recovered satisfactorily. The remaining cases—in two of which there had been several attacks—were treated medically. One was on the eve of being operated on, when the abscess discharged through the rectum. These cases terminated in recovery from the attacks, but the patients were not cured, as all complained for over a year afterward of pain and discomfort in the right iliac region on exertion.

Only the operated case made a satisfactory recovery, and is to-day free from the dreaded ventral hernia. I am not particularly proud of this as exemplifying medical treatment. I have added this experience of my own to confirm a conviction indelibly impressed on my mind—that operation done early is free from danger and gives a complete and speedy recovery as compared with medical treatment, which encompasses the patient with greater dangers. No one can say the cure is absolute, for often the system is left to struggle against a septic infecting focus and there is always a dynamite mine ready to explode at an inconvenient season. It is questionable whether opium favors the formation of adhesions or that, if it does, relapses are therefore less frequent; on the contrary, constricting bands favor relapse, and the patient has a false hope of cure.

S. W. S. TOMS, M.D.

BELLPORT, L. I.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is to be regretted that some of the readers of my former reply to Dr. MacArtney discovered any "keen sarcasm" therein, for it was my intention to take only a plain part in a plain discussion, which had for its object the determination of a scientific point. Dr. MacArtney is voicing the opinion of many responsible practitioners when he defends a certain medical treatment of appendicitis which has been so successful in his hands that it deserves the respectful attention of the whole profession—physicians and surgeons alike. The testimony on appendicitis questions is about all in, and it is simply for the settling of borderland questions that I desire to speak from the experience of a surgeon. Those of us who are physicians and those of us who are surgeons have no other object in practice than to do the very best thing for the patient who places his life in our hands—and we all comprehend the responsibility that is involved. Dr. MacArtney asks six questions, which I wish to answer *seriatim*:

(1) "What is the best treatment for outlying cases?" By outlying cases I understand him to mean the cases of appendicitis among the poor, among those who are too ill to travel, and among those who are not tractable. In such cases there has been no better treatment described than the opium treatment as shown in Dr. MacArtney's statistics.

(2) "What proportion would recover if treated medically?" This question cannot be answered by physicians, because an infected appendix containing a concretion or a stricture dam may recover from so many attacks, and in the hands of so many physicians, that years may elapse before the case can be properly quoted in statistics. The question cannot be answered by surgeons, because the cases that get to the surgeon

are not apt to include the very mild ones. It can be answered pretty well by the pathologists, however, and in the second edition of my book an analysis is made of the pathological findings in one hundred consecutive appendicitis cases in which the specimens were examined, showing that the medical death rate in that particular series of cases would have been about twenty-eight per cent. from entrapped concretions, stricture dams, strangulating adhesion bands, tuberculosis, and other causes not amenable to medical treatment. The surgical death rate in that particular group of cases was two per cent. In a series of one hundred consecutive cases of half the severity of this series, the medical death rate could be placed at fourteen per cent. and the surgical death rate at one per cent.

(3) "What proportion would relapse?" Relapse would be looked for in several classes of cases, as, for instance, those with entrapped concretions, obstructed solitary arteries, stricture dams, tuberculous foci, and thick-walled abscesses; and these include in fact about all of the appendicitis cases that are now going about the country since their recovery without operation.

(4) "What proportion of these cases if operated upon under existing conditions, would recover?" By existing conditions Dr. MacArtney means inability to receive skilled surgical attendance. I should say that the death rate at the hands of "occasional operators" would probably be as large as the death rate under medical treatment; perhaps larger. If a surgeon possessing by nature nice surgical instincts, and having manual dexterity, gives himself the benefit of a thorough special education before taking up abdominal work, he will probably save eighty out of his first one hundred laparotomy cases; death rate, twenty per cent. In his second hundred laparotomies he may get down to ten per cent. death rate, in his third hundred to five per cent., and in his fourth hundred to one or two per cent. The little bits of things which go to make up this difference in his percentages will be too small to receive attention by the "occasional operator." They are like the trifling margins of profit which roll up fortunes for large business houses and leave small houses in the lurch. When patients can have the services of the occasional operator only, surgery should be saved for a last resort instead of being tried as a pretty and safe method of treatment.

(5) "What proportion would relapse after surgical treatment?" Relapse would be looked for in cases in which the operator feared to remove the appendix when he evacuated an appendix abscess, and in cases in which a stump of appendix was left at the time of operation.

(6) "How shall we select the operative from the non-operative cases?" By looking at the appendix. There will never be any other way.

Time was when appendix questions were speculative and based on clinical experience. Now that we have exact knowledge of the pathology of appendicitis, the questions have become moral ones only, and each physician who has made a study of this known pathology is guided by his conscience in the disposition of his cases.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET.

Cutaneous Classification.—John Hunter divided skin diseases into three classes: those which sulphur would cure, those which mercury would cure, and those which the devil could not cure.

Thirty Days' Credit.—The doctors of Stanford, Ky., have issued a circular giving notice that hereafter their bills must be paid every thirty days in cash or negotiable notes.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 19, 1896:

	Cases.	Deaths.
Tuberculosis.....	161	115
Typhoid fever.....	50	10
Scarlet fever.....	31	3
Cerebro-spinal meningitis.....	3	5
Measles.....	31	1
Diphtheria.....	126	21
Small-pox.....	0	0

Duration of Life among Physicians.—Dr. Salzmänn, of Essling, Germany, has made researches on this subject among the archives of the German provinces: In the sixteenth century the mean duration of life was thirty-six years and five months; in the seventeenth century, forty-five years and eight months; in the eighteenth century, forty-nine years and eight months; and in the present century, fifty-six years and seven months. These results are encouraging, and show that the favorable increase in the duration of life is due to the progress of preventive medicine and to the diminution of typhoid and small-pox.—*Progrès Médical*.

The Antiseptic Treatment of Typhoid Fever.—It is not to abort typhoid fever, as Dr. Osler apparently believes, that the antiseptic treatment is employed by the large majority of physicians who have faith in it, but because it inhibits the activity of intestinal germs concerned in fermentation and putrefactive processes and perhaps facilitate the spread of the necrotic process induced by the specific organism. To claim that antiseptics are of no value in typhoid fever because, as Dr. Osler states, they are a failure in cholera, is just as reasonable as would be the assertion that they must be efficacious because quinine, an antiseptic, cures malarial fever. There are few measures or means at the command of the physician that fulfil all the indications, and he who adopts a fad to the exclusion of all other effort, be it in the line of antisepsis or hydrotherapy, fails in his duty toward his typhoid-fever patients.—*Pittsburg Medical Review*.

The Blood in General Paralysis.—In an article on this subject in the June number of the *American Journal of the Medical Sciences*, Dr. Capps draws the following very interesting conclusions: In general paralysis, the hæmoglobin and red corpuscles are always diminished; the specific gravity falls slightly below normal; most cases show a slight leucocytosis; there is a decrease in the lymphocytes, along with an increase in the large mononuclear cells. In convulsions and apoplectic attacks, the red corpuscles and hæmoglobin are usually increased at the time of a convulsion; both are usually diminished during an apoplectic attack of long duration; the specific gravity is variable; there is a leucocytosis; the degree of leucocytosis varies directly with the length and severity of the attack; in production of a leucocytosis the large mononuclear cells are increased relatively more than any other variety. The fact that after convulsions and apoplectic attacks in general paralysis there is not only an increase in the number of white cells, but a change in their character, as shown by the differential count and that at times abnormal cells appear, is an argument against the theory that leucocytosis is merely a change in the distribution of the white corpuscles.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

A MANUAL OF CLINICAL DIAGNOSES. By Charles E. Simon, M.D. 8vo, 504 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY. By D. M. R. Culbreth, M.D. 8vo, 818 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

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PRACTICAL DIAGNOSIS. By Hobart Amory Hare, M.D. 8vo, 573 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

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THE TONIC TREATMENT OF SYPHILIS. By E. L. Keyes, M.D. Revised edition. 8vo, 78 pages. D. Appleton & Co., New York.

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A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M.D. Ninth edition. 8vo, 866 pages. D. Appleton & Co., New York.

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A NEW CONTRIVANCE FOR INTESTINAL END-TO-END ANASTOMOSIS.

By J. FRANK, M.D.,

SURGEON TO ST. ELIZABETH'S HOSPITAL, CHICAGO.

THE numerous devices which have been introduced in the past few years for the perfection of operations upon the intestinal tract tend to show the great activity which is displayed in the surgical world in this important subject. As in medicine, in which countless drugs are recommended for one disease, the general conclusion drawn is that almost anything will do, so in this operation each man has his own device, the use of which is followed by a series of successes as well as of failures.

To point out the faults of the different devices in use is not the object of this paper, nor do I wish to convey the idea that what I am about to describe is perfect in every respect; but I will submit the result of my labors for criticism.

An ideal intestinal-anastomosis operation should embrace the following factors:

I. Quickness of operative procedure, as patients demanding this kind of surgical work are generally



FIG. 1.—Decalcified Bone Collar. *A*, inside view; *B*, outside view; natural size.

in a state of severe shock, and every minute saved is to their benefit.

II. Accurate adaptation of the severed or injured intestinal ends, with enough juxtaposition to insure sufficient surface for adhesive purposes.

To obtain this result, enough experimental work has been carried on by various investigators to convince even the most skeptical that with the introduction of some foreign substance which will temporarily hold the parts together, the surgeon's labors are greatly decreased and the patient's chances of recovery vastly increased. This leads us to the subject of material, and without going over the entire field of what each and every one has used, I will begin with a description of my contrivance, in the construction of which I have aimed at three cardinal points:

I. Material which can be safely left in the intestinal canal.

II. Time saving.

III. Simplicity of application.

The apparatus consists of two decalcified bone collars (Fig. 1) with six needle-hole perforations at the apex or shoulder of each collar, and one piece of ordinary pure gum-rubber tubing seven-eighths of an inch in length and five-sixteenths of an inch in diameter, the kind used for drainage. It is prepared for use in the following manner: a collar is slipped

over a piece of rubber tubing of the dimension stated until the apex is brought to a level with the end of the rubber tubing, when an ordinary medium-sized curved needle, threaded with No. 8 braided silk, is carried through each opening and tied; this, as can readily be seen, fastens the collar to the tube (Figs. 2 and 3); the other collar is next fitted snugly to the one already fastened, and is then in a like manner sewed to the other end of the tube. The apparatus is

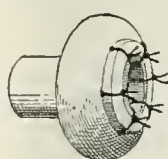


FIG. 2.—Bone Collar Sewed to Rubber Tubing.

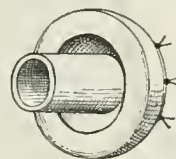


FIG. 3.—Inside View of Collar with Rubber Tubing Sewed on.

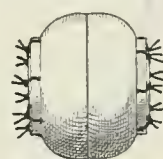


FIG. 4.—Decalcified Bone Collars Sewed to Rubber Tubing Ready for Use.

now ready for insertion (Fig. 4). The rubber tubing to which the collars have been sewed, being hollow, serves subsequently for the passage of the intestinal contents after being placed *in situ*.

It will be observed that the bases of the collars, which are formed into a broadened rim, are being held firmly in apposition throughout their entire circumference. Now the intestinal ends are brought over each collar and crowded between the line of junction of the two; of necessity the latter are forced apart, and the rubber tube is put upon the stretch, affording an adequate amount of pressure to cause a necrosis of the interposed intestines. The collars dissolving in due course of time, but a small piece of rubber tubing is left in the intestinal canal to pass off with the feces.

The following description of how the collars are prepared was kindly furnished by Messrs. Schorse & Co., of Milwaukee, Wis.

The collars are carved out of sound, very compact bone, which is obtained from the lower hind feet of a four-year-old ox. The collars are now subjected to the decalcifying fluid, which consists of a one-per-cent. solution of absolute hydrochloric acid. From this fluid the collars are removed in six hours and placed under a stream of cold water for half an hour to remove the salts which have formed. They are then placed in a fresh decalcifying fluid of the same strength and the process is repeated until they are completely deprived of their calcareous constituents, and they are washed with cold distilled water, so that all

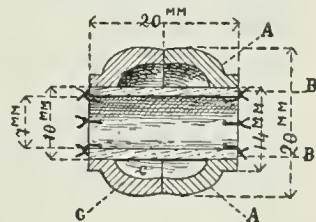


FIG. 5.—Longitudinal Section. *A, A*, collar; *B*, rubber tubing, 10 mm. in diameter; *C*, cavity in collar; *7 M.M.*, inside diameter of rubber tubing; *20 M.M.*, length and width of collar.

traces of acids and phosphates are removed and the collars have acquired an almost transparent appearance. Now they are practically dehydrated by treatment with pure cologne spirits, and finally immersed in absolute alcohol, which renders them sufficiently tenacious for their purpose.

Having described the apparatus, its mode of prepa-

ration and construction, the experimental work upon dogs is next to be explained.

A few general remarks relative to the management of work upon lower animals may not be out of place.

As nearly as was possible, the same aseptic and antiseptic precautions were observed with regard to the hands, instruments, field of operation, and dressings as modern surgery teaches us to observe in a laparotomy upon the human subject. The dogs that were fed upon fluids prior to the operation gave less trouble at the time and thereafter than dogs otherwise fed. A dose of castor oil given the evening before the operation always cleanses the intestinal tract, and the dogs seem to do better after this.

The General Technique.—A median incision from three to four inches in length is made either above or below the umbilicus; the small intestine is drawn out through the wound, and the part to be excised is gently freed of its contents by drawing it between the thumb and index finger, when an intestinal clamp is placed at each end of the portion to be cut away, care being taken not to cut too closely to the

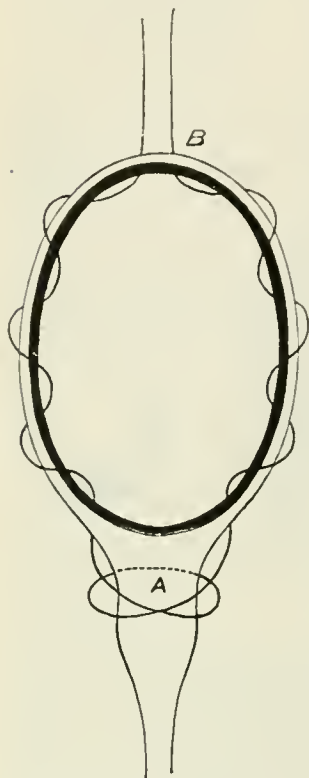


FIG. 6.—Murphy's Running Thread.

clamp, for if this is done there will not be enough gut to bring over the collars, which will necessitate the removal of the clamp farther back. The main mesenteric branch supplying the excised portion is first ligated with a No. 8 silk suture. From two to five inches of the gut may be resected, according to the fancy of the operator.

Upon severing the intestine, it will be observed that there is an eversion of the edge of the bowel and also a contraction, producing a circular constriction at the end of the intestine; this can be easily overcome by inserting a finger into the lumen of the gut and retaining it there for a minute or two, thus producing a temporary paralysis and allowing a much easier manipulation of the parts; this stretching of the gut must be gently performed, otherwise the peritoneal covering will split longitudinally. A straight or curved needle threaded with No. 8 silk is used for inserting Dr. Murphy's puckering string (Fig. 6), a description of which can be found in the *New York Medical Record*, vol. xlii., p. 673, 1892, to fasten the intestine about the rubber tube after the former has been slipped over the collars. The puckering string is similarly inserted into the other intestinal end, and the bone collars, having been previously prepared as described, are taken out of the absolute alcohol in which they were placed immediately after being sewed to the rubber tubing. The operator slips an intestinal end over one of the collars to the line of junction, at the same time gently spreading the collars apart to facilitate the easy access of the gut. An assistant takes charge of the ends of the puckering string, and when the gut has been brought over the collar he makes one knot and draws down until his puckering ligature strikes the rubber tubing, which he will perceive by the resistance offered; the tube will not generally permit a too tight

drawing of the puckering ligature on account of its resiliency, but, to make absolutely sure that the tube is patulous, the end of a forceps or sterilized nail may be passed through the lumen; if this is found pervious the assistant finishes the tying of the puckering string. The other intestinal end is then slipped over the remaining collar and also tied. Of course at this stage nothing can be inserted by which to determine that the tube is not shut off, but, after having tied one side, the assistant will positively know when he strikes the tube. The ligature is cut off short and the clamps are immediately removed, when the operated portion of the bowel will be slowly distended with gas. An interrupted or continuous Lembert suture should be taken around the border with an intestinal needle, threaded with No. 2 silk, which makes the work more secure.

The rent in the mesentery may or may not be sewed. In those cases that were sewed catgut was used; any bleeding vessels should be tied with catgut. The intestine is returned into the abdominal cavity as nearly as possible in a straight line, the site covered with omentum, and the abdominal wound closed in the ordinary manner. The wound is powdered with iodoform and a collodion dressing applied; gauze and cotton are placed over this, and then the bandage.

Experiments.—**EXPERIMENT II.**—May 16, 1896: black Newfoundland bitch; weight, fifty pounds. End-to-end anastomosis with wooden model (the bone collars not being ready). Time of operation twenty-eight minutes. No Lembert sutures were taken, as they were not necessary. The dog was playful after operation.

May 20th, four days after operation, the bowels moved primarily.

May 22d, six days after date of operation, the wooden model passed with a bowel movement. The tube was patulous.

May 23d, seven days after operation, the abdominal wound was entirely united and the dog was well and very playful, and continued in this manner up to May 30th, when it was observed that the animal acted rather sickly. She died June 1st, fifteen days after the operation.

Post-mortem: Perfect union at site of operation. Below this protruded a sharp spiculum of bone; immediately below this was found a mass of hay and hair matted together. The protrusion of bone was caused by a spur in the gut below the site of operation. The cause of death was purulent peritonitis.

EXPERIMENT IV.—May 30, 1896; male Newfoundland; weight, seventy pounds. End-to-end anastomosis with decalcified bone collars. After the collars were *in situ*, a continuous Lembert suture was taken, although there was no gaping, but it was deemed advisable to do this, because the bone collars were not quite hard enough.

June 5th, six days after date of operation, the bowels moved and in the fecal mass the rubber tube was found (Fig. 7), which had held the bone collars together. About the tube were the puckering strings and at each end of it were the sutures which were used to fasten the collars to the tube; no trace of the collars could be discovered. The dog is well and playful to this date, September 14, 1896. Time of operation twenty-five minutes.

EXPERIMENT V.—June 7, 1896; black Newfoundland; weight, forty-five pounds; end-to-end anastomosis. After collars were placed *in situ* a continuous Lembert suture was taken, as the bone collars were still not sufficiently hardened.

June 12th, five days after operation, the bowels



FIG. 7.—Rubber Tubing showing Puckering Thread in Centre and Sutures at Ends after Bone Collars had Dissolved. Experiment No. 4.

moved for the third time, and in the faecal mass the rubber tube and puckering sutures were found.

June 13th, five live pups were born to patient and a dead one.

June 14th, three more pups arrived, making nine in all. The stitches were removed too early and twelve

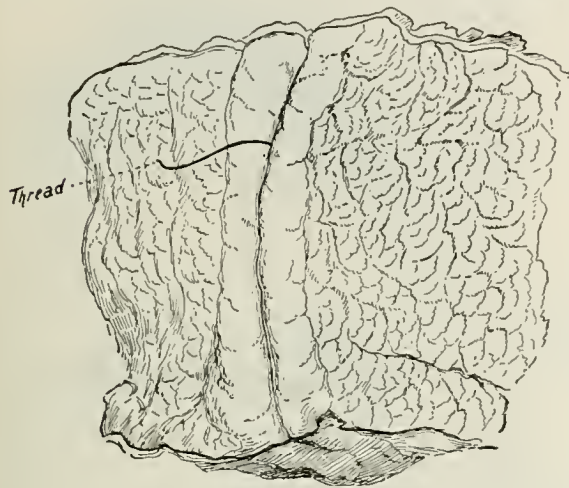


FIG. 8.—Perfect Union Fifteen Days after Operation. Lembert Suture Presenting at Inner Surface of Intestine. Experiment No. 6.

inches of intestine protruded through an opening in the lower angle of the abdominal incision. The protruded gut was inflamed and adherent to the gauze dressing. It was gently freed from the gauze by means of lukewarm sterilized water and replaced into the abdominal cavity, and the lower end of the incision again united.

June 17th, the dog had made a complete recovery, and is alive and well to this date, September 1st. She has a large hernia at the lower site of incision. Time of operation, twenty-four minutes.

EXPERIMENT VI.—June 9, 1896; male; weight, fifty-five pounds. End-to-end anastomosis with decalcified bone collars.

June 15th, six days after date of operation, rubber tubing with puckering strings passed in faecal mass.

June 17th, dog was well and lively.

Post-mortem: June 24th, fifteen days after operation, to see the condition of affairs at site of operation. Union was perfect. There was adherent to the peritoneum at the site of incision an omental mass, free from

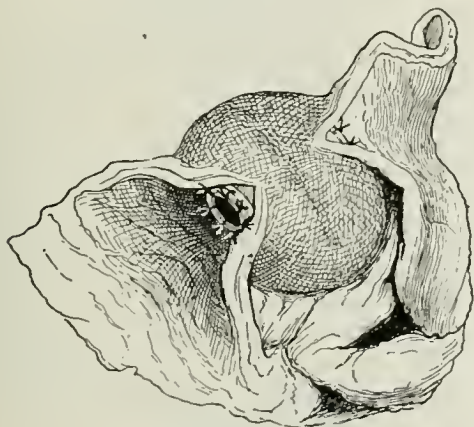


FIG. 9.—Perfect Union Twenty-three Hours after Operation. Decalcified Bone Collar Still in Place. Experiment No. 8.

intestine but including a portion of the pancreas. The site of the operation was eight inches from the stomach. One end of the Lembert suture presented internally (Fig. 8). There was a slight narrowing of the lumen of the bowel at the site of operation, due to the inflammatory condition of the surrounding omen-

tal mass. The mucous membrane was smooth, especially opposite the mesentery.

EXPERIMENT VIII.—June 17, 1896; Newfoundland, female; weight, forty-eight pounds. Dog was killed twenty-three hours after the operation to obtain a specimen of site at an early period. The abdominal incision was united. The site of operation was covered by plastic omental adhesions. No pus, no peritonitis, and no adhesions to abdominal parietes. The site of operation and the adjoining five inches of gut on each side were excised, a fountain syringe was attached to one end, and the stream passed through very readily; the distal end was then clamped and the gut filled to its entire capacity without leakage occurring. The collars were in the same position as at the time of operation and were fairly hard. The mucous membrane in the vicinity of the collars was reddened to a slight extent (Figs. 9 and 10).

EXPERIMENT IX.—June 20, 1896; female; weight, forty-one pounds. Time of operation, twenty minutes. Dog playful after operation.

June 21st, bowels moved.

June 23d, three days after operation, one undissolved collar and the rubber tube, as well as a part of the remaining collar, passed with the bowel movement.

June 24th, four days after operation, dog was killed to

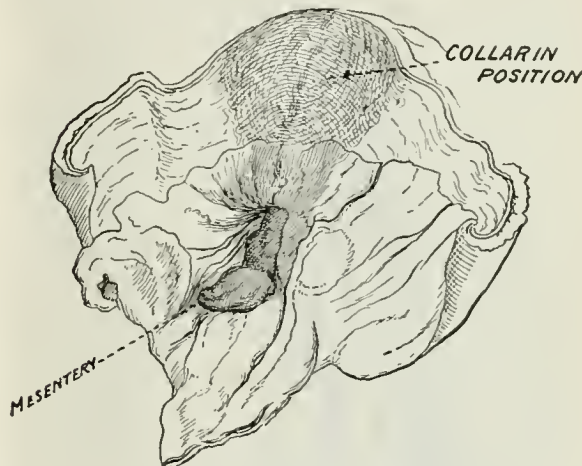


FIG. 10.—Twenty-three Hours after Operation. Showing Line of Union Externally. Experiment No. 8.

obtain specimen (Fig. 11). The abdominal wound was entirely healed; no suppuration nor peritonitis; intestines empty; slight redness about the site of operation, to which was adherent, slightly, part of the omentum and intestine. The intestine at the time of operation was returned to the abdominal cavity in a straight line, but at the post-mortem there was found a bend at the operated portion. Water passed through the gut freely, and was also retained after one end of the intestine had been closed. When the spur (bend) was straightened, part of the Lembert suture presented itself at the mesentery; there was a thickened ring about the circumference of the united intestines; the mucosa was not inflamed. An intussusception, three and one-half inches in length, was found fifteen inches below the seat of operation, through which water passed readily.

EXPERIMENT X.—June 26, 1896; female; weight, forty-five pounds. Time, twenty-one minutes. Chromicized catgut, corresponding in size to a No. 8 silk, was used for the continuous Lembert.

June 28th, fifty-six hours after operation, the dog died. The post-mortem was held immediately after, with the following facts noted: General peritonitis. One collar was partly dissolved, the other only softened. When water was passed through the operated portion leakage occurred at several points through the needle perforations of the Lembert suture. The mucosa was

inflamed and thickened two inches above and below the seat of operation. This dog, after the operation, was placed on carpet which had been used by a dog that died of peritonitis. This may explain the infection.

EXPERIMENT XI.—June 26, 1896; female; weight, fifty-five pounds; time, fourteen minutes. No. 2 silk used for Lembert sutures.

June 29th and 30th, bowels moved.

July 1st, five days after operation, bowels moved again, and in the hardened fecal mass the tube and one partly dissolved collar was found. The dog was playful and seemed to be well. Immediately after the tube had passed the dog was killed.

Result of post-mortem: No peritonitis. Adhesions to the surrounding intestines and omentum had formed. The resected portion of gut adhered to itself so as to form a loop. Water passed through it freely; under great pressure of stream the adhesions gave way, and there occurred a small leak at the line of union. The Lembert suture presented internally (Fig. 12).

EXPERIMENT XIII.—June 30, 1896; female; weight, fifty pounds. In this experiment no Lembert suture was taken. Time, three minutes.

Post-mortem: General peritonitis, resulting from

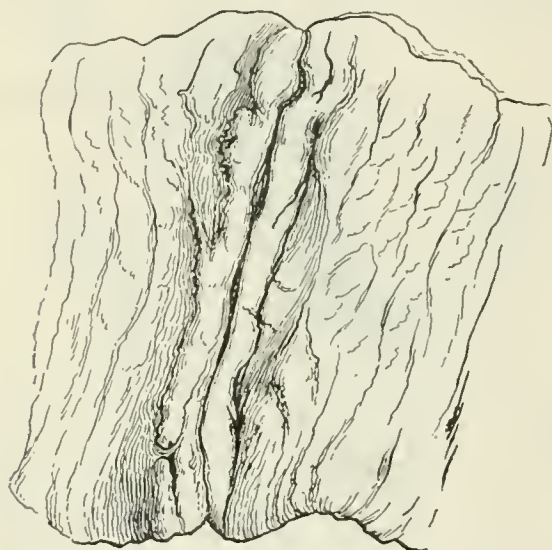


FIG. 11.—Four Days after Operation. Showing Elevation at Seat of Operation Internally. Experiment No. 9.

non-union. The edges of gut had slipped out from between the collars, the latter not having sufficiently hardened.

EXPERIMENT XVI.—July 22, 1896; No. 2 continuous Lembert suture taken; time, twenty-two minutes.

July 26th, four days after operation, the dog died. Post-mortem: Perfect union. Cause of death, intussusceptions, of which two were found. One was twenty-four inches in length, being twenty inches from the anus; at the proximal end of this intussusception one undissolved collar was found. The other intussusception was found nearer to the rectum. Under high pressure water passed through both intussusceptions and reduced them. In one the intussusciens was gangrenous.

EXPERIMENT XVIII.—August 1, 1896; female; weight, thirty-five pounds; time, nine minutes for inserting the collars and twenty-five minutes for entire operation. The tube was passed on the sixth day. Interrupted Lembert sutures were taken with No. 2 silk.

September 10th, killed to obtain specimen. Dog was in fine condition. No adhesions to line of incision. Union perfect. Omentum slightly adherent to intestine opposite mesentery. Seat of operation, thirteen inches from rectum.

EXPERIMENT XIX.—August 1, 1896; female; weight,

forty-five pounds. Interrupted No. 2 Lembert sutures taken. Time, seven minutes for insertion of collars and eighteen minutes for entire operation. Dog acted

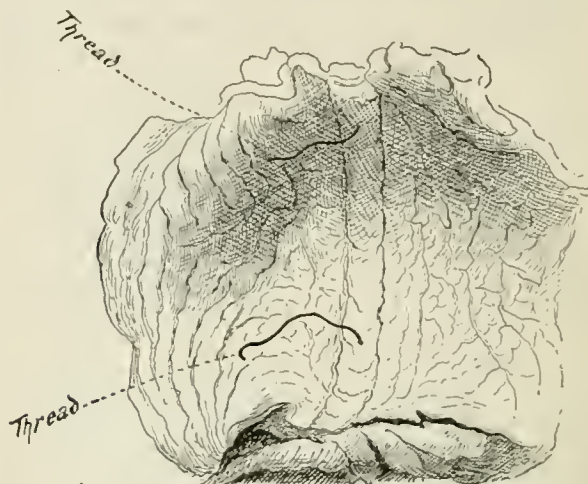


FIG. 12.—Perfect Union Five Days after Operation. Lembert Suture Presenting at Inner Surface of Intestine. Experiment No. 11.

well, but was killed after forty-eight hours to obtain a specimen.

Post-mortem: Beginning peritonitis; collars were undissolved and brittle, but softer than at the time of insertion. Site of operation ununited. The edges of gut were cut off by the collars throughout the entire circumference.

EXPERIMENT XX.—August 8, 1896, male; weight, seventy pounds. Operated by my assistant, Dr. Sylvan Kunz. Four interrupted Lembert sutures taken. Tube was passed the sixth day.

September 10th, forty-one days after operation, the dog was killed to obtain a specimen. There were no adhesions to the abdominal incision. The line of union in the gut was perfect, and a small strand of omentum was adherent to it. The resected portion of gut and the two adjacent inches on each side were excised. Upon passing the finger through the bowel a slight constriction was felt at a point corresponding to the line of

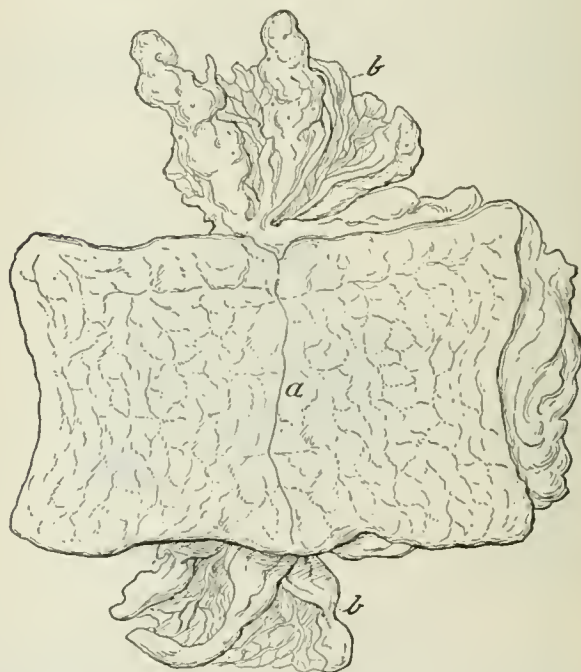


FIG. 13.—Thirty-three Days after Operation. *a*, Line of Union; *b*, Omentum. Experiment No. 20.

union. Upon laying the gut open, a perfectly smoothed mucosa presented (Fig. 13), the line of union being barely perceptible.

Summary of Experiments.—Of the thirteen dogs operated upon, nine made complete recoveries. One dog (Experiment VIII.) was killed after twenty-three hours to obtain an early specimen; from the appearances at the post-mortem the dog would in all probability have lived. In Experiment X. the dog died of general peritonitis, probably infected from carpet upon which he was placed immediately after the operation. In Experiment XIII. the intestines slipped from the collars, owing to their extreme softness, resulting after three days in the death of the animal from general peritonitis. In Experiment XVI. the cause of death was gangrene of the intussusciptions. In the next series of experiments I hope to obtain better results, as I have greatly profited from those just completed.

In conclusion, I beg to state that although I have not yet been able to try the collars on a human subject, I am convinced beyond a doubt that they will prove successful. The small piece of rubber tubing which is left to pass off will certainly not produce any obstruction, nor is it at all apt to ulcerate through the bowel. In regard to the resulting constriction of the lumen of the bowel, I am satisfied that it is no greater than that following the use of any other contrivance. Although the experiments are not very great in number, I am anxious to have them reported, so as to give any one who may see fit an opportunity to try the decalcified bone collars. It is my intention to add to this article from time to time. The series of experiments upon cholecystenterostomy and gastro-enterostomy will be published separately. I am greatly indebted to my student, Mr. Leon Feingold, of the College of Physicians and Surgeons of this city, for his faithful attention and assistance throughout my experimental work.

The longitudinal section (Fig. 5) was kindly furnished by Prof. Herman Haustein, of this city.

THE TREATMENT OF PNEUMONIA.¹

BY BASIL M. TAYLOR, M.D.,

GREENSBURG, KY.

BACTERIOLOGISTS in the last ten or twelve years have shown that acute lobar pneumonia is an acute specific disease due to a specific micro-organism, the diplococcus pneumoniae. They have demonstrated its presence in the exudation in the lungs of patients who have died with acute pneumonia and in the characteristic brick-dust sputum of patients sick with the disease. Clinical experience and research have failed to prove that pneumonia, though caused by a specific organism, is a contagious disease. There are, however, reports of epidemics in countries of dense population and especially in barracks where a good many are crowded together. There is no evidence that one soldier took it from another, but that they were all subject to the same influence. The germ is widely spread, as pneumonia is known throughout the world.

Every disease produced by a specific micro-organism must have that special micro-organism present and that special micro-organism must reproduce the disease when introduced into the system of persons or of animals who are not immune. The sheep, dog, rabbit, and the field mouse are not immune, and when the bacillus is introduced into the lung by injection they die in a few days from a typical lobar pneumonia. Experiments have shown that when the bacillus was injected into the blood of the peritoneal cavity they did not develop pneumonia, but either recovered or died speedily from septicaemia; but when large

injections of the cultures were made directly into the lungs they died from acute lobar pneumonia.

Many, however, deny that this diplococcus pneumoniae is the cause of pneumonia because this germ has been found in the saliva of healthy persons. Many a tubercle bacillus has been swallowed, inhaled, and carried around in the secretions of healthy persons who did not contract tuberculosis, but no one in his right mind will dispute the fact that tuberculosis is produced by nothing but the tubercle bacillus, and that people die every day with tuberculosis. It is out of place here to discuss at length why all people who possess somewhere about them a specific germ do not develop the disease produced by that germ. I merely give this introduction to this paper to show that I think that pneumonia is produced by a specific germ and that that germ is necessary for the production of pneumonia.

Taking it for granted, then, that acute lobar pneumonia is produced by the bacillus crouposae pneumoniae, it is a specific and self-limiting disease. It runs its course like all other specific diseases not having a specific remedy, uninfluenced so far as curing or aborting it is concerned, by any means at our hands. There are cases, however, that run a very short course and seem to be aborted in their incipency; but such cases I think are either not pneumonia, or the micro-organism is not developed properly, or is overcome by some antitoxin in the person affected, or the condition of the lung is not such that the organ offers a favorable place for its development at that time. I do not hold to the opinion that any specific, self-limiting disease can be aborted by internal medication.

Having, therefore, a specific disease produced by a specific organism that causes inflammation of the lung and by its special action produces a toxin oftentimes so fatal to both extremes of life—and the adult also is by no means immune—the only scientific and “the way” to treat such a disease is by an antitoxin that will at once destroy the vitality and development of the bacillus and counteract the effects of the toxin upon the patient. We are now just in the dawn of this scientific principle—orrhotherapy. We will all welcome the day when each specific toxin will at once be met with a suitable antitoxin. Not until then will the physician be armed with the sword of a “sure cure.” Remedies, then, at our hands are only uncertain aids to nature.

Of the ways of treatment as suggested by different writers and the remedies in the materia medica there are many. I suppose every physician has his own favorite prescription that he gives to every patient upon his first visit, whether it be in the first or last stage.

What is indicated in one stage is, perhaps, contra-indicated in another. The strong and robust demand a different treatment throughout from that required by the weak and nervous. Pneumonia, therefore, is a disease for which there is no routine treatment applicable to every case, and the physician who fails to realize this falls far short of his duty to his patient and to himself, and such a physician fails oftentimes to do good and when he does no good he will do harm. We must individualize and not generalize. The physician who prescribes solely from experience has his face turned from professional advancement, and will sooner or later be a source of danger to his patients.

In the treatment of pneumonia there are many things to consider. We must consider the age of the patient, the stage of the disease when first seen, the condition of the patient, whether robust and plethoric or weak and anæmic, and the surroundings of the patient. We must look after the pain, the shock, the temperature, the stimulation or heart depressants, sleep, and the nourishment.

¹ Read before the Green River Medical Society, at Campbells-ville, Ky., July 3, 1896.

In pneumonia, near the surface of the lung, there is always pleurisy, and this is the cause of the pain. Severe pain is capable of killing of itself and always to a certain degree causes shock. Shock, of course, gives the patient a feebler power of resistance. We have many remedies to control pain—opium or its alkaloids in some form, heat or cold applied locally, chloral hydrate, counter-irritants, and the coal-tar preparations.

Morphine stands at the head of the list. It controls the pain, gives the patient rest, and produces quiet and refreshing sleep, prevents shock, stimulates the breathing and heart, prevents vasomotor disturbances in the circulation and thus in a degree keeps some blood from the already overloaded heart and lungs. Quieting the nervous patients, it prevents a higher degree of fever, from which they suffer more than the healthy and robust in a disease of equal severity. Some may object to it on account of its tendency to check the secretions and thus overload the system with waste products. In doses sufficient to quiet pain and give the patient rest, I have seen no such bad effects from it, and its good effects are so many and so noticeable, and so far overbalance its evil effects, that such objections should without hesitation be overlooked. By giving rest and sleep and preventing shock, it many times tides the patient safely over what might have been a fatal period had he been allowed to suffer. Chloral hydrate is of doubtful utility and should be used with caution. When there is no pain and not much depression of the arterial tension, and the patient is restless and nervous, chloral might be given in doses sufficient to quiet. I have had very little experience with hydrotherapy, and, in view of the position that I took in the beginning of my paper, I consider it of doubtful utility, available only to relieve pain and as an antipyretic. Water has no virtue sufficient to cut short or modify the course of the disease. Routine hydrotherapy is capable of doing harm. The treatment of inflammation as laid down in our textbooks of surgery is to apply cold or heat in some way. As pneumonia is due to micro-organism and is a self-limiting disease, water cannot promise anything. A pleurisy might be benefited by the ice bag or coil, but in pleuro-pneumonia it should be used with caution and its effects carefully watched. In the nervous patients who are suffering from a severe attack, and in whom there is decided shock evidenced by cold extremities and rapid breathing and feeble pulse, cold applications on any part of the body will only make matters worse by increasing the congestion of internal organs and exposing the patient to greater shock. Such cases need a dose of morphine and strychnine and hot applications to the body and extremities, which help to relieve the pressure on internal organs already overloaded with blood. Cold applications are to be limited, I think, to those of robust constitution and with a pneumonia near the surface. Cold applications must be used with caution and must never chill the patient. Their field of usefulness must necessarily be limited. They can be used to no advantage whatever in any except the first stage and we rarely ever see a patient in the first stage in time to apply them to an advantage. When the lobe is about filled with exudation, cold water has no place. Selecting, then, a suitable case in the first stage of the disease, cold applications for a day or two only may be of some benefit to the patient, but after the first stage tepid sponging to allay fever and restlessness and to promote the action of the skin is, I think, the only field for hydrotherapy in pneumonia.

The function of the bowels and kidneys must be watched with a never-tiring care. These are the sewer pipes of the system, and if they are hindered in their action our patient may die and we charge it to

the pneumonia. Each case is a law to itself. Routine practice does not guide us here. If there is a diarrhœa, its cause must be looked into and removed, and the diarrhœa checked. It may be from some pill that the patient has taken to arouse his, as he thought, torpid liver; it may be from an attack of indigestion preceding the attack of pneumonia; it may be a case of chronic diarrhœa; it may be the beginning of an attack of typhoid fever; it may be from an ulcer or two in the colon; it may be a vicarious diarrhœa relieving the system of waste products caused by the checking of the function of the skin or kidneys. We must look into the cause and then treat the case accordingly. It is dangerous to check the diarrhœa and leave the function of the skin or kidneys completely checked or embarrassed. Remove the cause and then check the diarrhœa.

On the other hand, if there is constipation, relieve it by giving some mild cathartic. The bowels ought to move once or twice in the twenty-four hours. It is a common practice among physicians to give a dose of calomel at the first visit, whether the case be one of fractured femur or of typhoid fever. I am glad to say that I am not a mercurial fanatic. If the patient has a torpid liver in the first stage, give him a mild calomel purge; but if his liver is acting correctly, keep your calomel in your saddlebags or take it yourself. If you want to move his bowels, give him a good saline cathartic. This will relieve to some extent the congested lung and will not weaken the patient nor make him sick at his stomach as will a dose of calomel. If the patient demands it, keep his bowels loose with Rochelle or Epsom salts.

We must inquire carefully into the action of the kidneys and learn if possible if Bright's disease exists. If we overlook this important duty, the kidneys might be suddenly overwhelmed by the poison in the system and our patient die before we realized what is the matter. Forewarned is forearmed. If you would discharge your whole duty toward your patient and anxious friends, be ever upon the alert, and you will never have the remorse of conscience that tells you that one death is charged to your carelessness and ignorance. The sum total, then, is to keep the bowels, skin, and kidneys constantly performing their whole duty. The temperature of the patient should demand our careful attention and at no time be allowed to remain very high. A temperature of 101° F. does not demand much in the way of antipyretics. Nothing is more dangerous and uncomfortable to a patient than a prolonged high temperature. Many medicines are recommended as antipyretics—quinine in large doses, the coal-tar preparations (of which there are several), aconite, and sponging with cold or tepid water. I have no use for quinine as an antipyretic. Of course if there is malaria, quinine should be given in doses large enough to destroy the plasmodium. In every case in which it is practicable a blood examination ought to be made to determine its presence or absence. In the first stage quinine in small doses often repeated may be of some service. Of the coal-tar preparations antifebrin is my favorite. It acts better and is not so depressing as the others. I give it in from three to five grain doses every three hours, or just as often as is necessary for the reduction of the temperature. Sponging with tepid water, often repeated, is of value.

The cough demands careful attention, for, although only a symptom, it may be very distressing. The sputum is always tenacious and hard to be expelled. The tenacious sputum should not be allowed to collect in the air passages any more than can be helped by remedies at our hands. Expectorants should be given freely until the cough is no trouble to the patient. The mixture that I prefer is composed of ipecac in

small doses, carbonate of ammonium and potassium in from five- to ten-grain doses in syrup of wild cherry, and tolu or brandy every two or three hours, according to the demands of the case. The ipecac promotes expectoration and the carbonate of potassium keeps the tenacious sputum almost liquefied. It thus loses its tenacious character and the patient keeps his air passages pretty free from it with very little exertion. The carbonate of ammonia acts as a heart and respiratory stimulant and stimulant expectorant.

Delafield, in Pepper's "Practice of Medicine," vol. ii., recommends for the treatment of the exudation digitalin and aconitine and, if the pulse demands it, whiskey. This treatment is applicable to only a certain class of patients. I have had no experience with this treatment. Venesection is recommended in those who are plethoric and with a full bounding pulse. When performed carefully and in a selected case, it is useful in the first stage. I have never employed this plan of treatment.

The employment of stimulants requires good, sound judgment in regard to the time to use them and the amount to use. Many patients do not require stimulants in the first stage. If the temperature is kept low and the patient free from pain, he will not need much stimulation until later in the disease. We must judge by the failing pulse. I never give stimulants until I find them indicated. I condemn the indiscriminate use of them—that is, to give stimulants because your patient is sick and you think he must have medicine in some form. When the pulse is rapid and weak I give brandy or whiskey, from one to four tablespoonfuls every three hours, according to the demands of the case. Its effects should be carefully watched, and if the patient show signs of irritation from it it should be withdrawn or lessened in quantity. Just enough should be given to meet the demands of the case and no more nor less. It is useless to give an excess, because it throws more work on the excretory organs. I will call special attention to strychnine as a heart and nerve stimulant. Very often it will be all the stimulant that is required throughout the case. It stimulates the heart, gives the patient more strength, and prepares his system to meet the shock of the disease. I give it as a rule throughout the attack. It acts better hypodermically. It ought to be given in one-thirtieth to one-sixtieth grain doses every three hours during the day.

Sleep is as important as medicine. If my patient can do so, I generally allow him to sleep most of the night undisturbed. Patients in any disease who are aroused every hour during the night to take a dose of medicine will gain very little rest, and if we are not careful they will die from the loss of sleep if not from the disease. I combine my medicines as much as possible. I put heart tonics and diuretics in the same dose and let them be given with the antipyretics, and thus avoid so many different hours. If the case is not desperate, I allow the patient to have a little nourishment and a few doses of medicine through the night, but these only when he awakes himself. A good night's rest will do as much good in many cases as all the drugs in a store. If the patient is kept easy and the temperature low, he will as a rule sleep most of the night. Of course, when the case is desperate and the heart is rapidly failing, medicine must be given regardless of sleep.

The patient should at all stages of the disease be well nourished. His diet should be liquid and easily digested. Milk is the best food when it can be well borne. Beef tea, soups, and koumys may be given with benefit. The diet should be composed of several different articles. If one article alone is given, the patient gets tired of it and his stomach is irritated by its presence. Egg-nog is useful both as a stimulant

and a food, and it is usually relished by all patients. When the stomach is irritable and nothing can be retained, the white of an egg shaken up in a glass of lemonade will nourish the patient and stop the vomiting. Thus no valuable ground will be lost.

I will not speak of the complications and sequelæ here. They must be treated according to the requirements of the case, whether it be medical or surgical. I have given you my method of treatment, which has at my hands proven very satisfactory. All we can do now is to make the best of what we have at our hands and to wait with eagerness the coming of a specific antitoxin with which to meet so fatal a toxin.

July 3, 1896.

SYPHILITIC DISEASE OF THE SPINE.

By L. HARRISON METTLER, A.M., M.D.,

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OUR knowledge of spinal syphilis is limited; it is less than our knowledge of cerebral syphilis. Nevertheless, a sharp distinction should always be made, when possible, between syphilitic disease and other affections of the cord that may resemble syphilis. The former is, as a rule, amenable to treatment, and in its early stages affords a hopeful prognosis; the latter less often so. It should always be remembered that while spinal syphilis has its own pathology and symptomatology, there are many affections of the spine—as, for instance, the various sclerosis and degenerations—which are not strictly syphilitic diseases, though often following syphilis. This is notably the case with posterior spinal sclerosis. In the former, the lesions are purely syphilitic, being produced and maintained by the direct action of the specific toxic element in the blood. In these cases antisiphilitic treatment, that controls the syphilitic infection, exerts a direct and curative force upon the syphilitic lesions. In the latter, however, the lesions are more in the nature of sequelæ, the remains after the storm has passed. They are mostly of the degenerative sort, and, therefore, are not permanently benefited, though occasionally slightly so, by antisiphilitic treatment.

The diagnosis of spinal syphilis can be made at the present stage of our knowledge only from the history of the case and by the exclusion of all other diseases of the cord. Certain gross syphilitic lesions—such as meningeal inflammations (about which, however, there is much controversy) and tumors of the spinal canal and cord proper—are easily recognized and their nature readily comprehended when associated with a history of specific disease. There are those who deny that meningitis and myelitis are ever directly due to syphilitic infection. They also hold that the continuous or tract sclerosis and many of the chronic inflammations are not distinctly syphilitic. There is hardly a spinal-cord degeneration that has not occurred in a syphilitic patient some time or other, but these same degenerations have been found in non-syphilitics as well. Hence it is still an open question just what is syphilis of the spine and what is not. The relationship between syphilis and the spinal-cord degenerations is not yet clearly wrought out, and I will, therefore, not consider these degenerations at present under the head of spinal syphilis.

There are certain manifestations of spinal syphilis that so simulate other affections of the cord, and are in themselves so indefinite and irregular, as to render a diagnosis a matter of extreme nicety. In such cases a course of antisiphilitic treatment has sometimes to be resorted to before any diagnosis can be made. The more we can avoid, however, such indirect empirical methods of making diagnoses and the more we can depend upon the direct manifestations of the disease, the

better it will be for the patient and the more creditable to the science of medicine.

Syphilitic disease of the spine begins within a short time after infection; it progresses slowly, and exhibits a remarkable tendency to improvement as a result of vigorous antisyphilitic treatment. Erb, of Heidelberg, states that its frequency in proportion to posterior spinal sclerosis is as one to ten. Muchin, of Charkow, believes, on the other hand, that it is far more frequent than Erb supposes.

Huebner, writing for Ziemssen's "Cyclopædia of the Practice of Medicine," enumerates four general forms of spinal syphilis:

First, neoplasms of syphilitic origin, including single tumors and small multiple and disseminated formations on the spinal membranes.

Second, syphilitic callus: there being found post mortem a circumscribed induration of the cellular tissue about the cord, generally with adhesions of the dura mater.

Third, simple softening of the cord. This Steenberg describes, though Huebner doubts whether it should be considered a distinct syphilitic lesion. He also doubts the existence of a pure syphilitic myelitis.

Fourth, cases in which symptoms of acute ascending paralysis (Landry's paralysis) occur without discoverable post-mortem findings.

After giving a report of a case which manifested symptoms to classify it with Huebner's fourth series, Wood ("Nervous Syphilis") states that he doubts whether these cases ought to be regarded as syphilitic at all. Certainly his own case, of which it was difficult to obtain a complete autopsy, resembled one of peripheral neuritis as much as anything else. The cases of Huebner and Kussmaul were not examined for lesions of the peripheral nerves, so that the fourth class, as a form of spinal syphilis, has scarcely been established.

In the production of the second and third classes of Huebner, syphilitic infiltration and gummatous formations play an important rôle: so that the softening of the cord and the development of callus should be regarded in the light of secondary effects rather than as direct syphilitic lesions of the cord.

This leaves only the first class to be considered. Syphilitic neoplasms are generally connected with the spinal membranes. They may grow inward upon the cord and produce destruction of the medullary elements and even chronic inflammation and softening; or they may extend outward and cause agglutination of all the spinal membranes, pressure of the nerve roots, and even disease of the osseous vertebræ. There are probably, therefore, two forms of spinal syphilis or gummatous disease of the spine—that in which the membranes are chiefly the site of the disease (Wood), and that in which there is an infiltration of the cord from its own vessels (Rumpf).

When examining a case of suspected spinal syphilis, it is necessary to remember that the lesion may be meningeal, producing symptoms similar to those of non-specific spinal meningitis; and that, on the other hand, it may consist of an infiltration of the medullary substance itself, giving rise to symptoms indicative of destruction of the sensory motor tracts. When the gummatous disease is meningeal, the earliest symptoms will be those of pain or paræsthesia and spasm or paresis, due to compression and irritation of the anterior and posterior nerve roots. Of course, the sensory symptoms will be referred by the patient to the peripheral terminations of the nerves whose roots are undergoing irritation. The principal difference between gummatous disease of the meninges and simple non-specific subacute or chronic meningitis, is that the symptoms of the former are apt to be more sharply defined or localized than those of the latter. The rea-

son for this is obvious, since the former lesion is more in the nature of a tumor with comparatively well-defined limits.

According to Erb, the symptoms of syphilitic disease of the spinal cord closely resemble those of myelitis transversa dorsalis; but the two are, nevertheless, distinguishable by a number of typical signs. The walk, posture, and motion are quite characteristic, and simulate those of spastic paralysis. The tendon reflexes are apt to be marked, without much muscular tension.

The pains, when present, are usually sharp and cutting, and when the lesion is located in the dorsal or lumbar region they assume the girdle form. Not unfrequently they resemble the lightning pains of tabes dorsalis. Rarely are they dull, aching, and continuous. Often there is no pain at all. On account of the usual meningitis accompanying the gummatous deposit, there is more or less local tenderness of the spine on pressure. Wood states that in several instances this local tenderness was attributable to involvement of the vertebral periosteum and vertebræ. All the various sensations common to local meningitis are characteristic of this form of spinal syphilis, such as numbness, formication of the extremities, "pins-and-needles" sensation, and other bizarre paræsthesiæ down to the ultimate condition of complete anæsthesia. There is always distinguishable impaired sensibility, but severe pain is not generally felt, according to the observations of Erb. Atrophy is not present. There is little or no involvement of the head and cerebral nerves. Rarely are the muscles of the eye implicated. There is nothing abnormal psychically.

The motor symptoms are the same as those of localized non-specific irritative meningitis, such as rigidity of the neck and limbs, tremors, exaggeration of the reflexes, severe cramps excited by movement. Later on, complete paralysis supervenes. If the palsy increases rapidly after long-continued disturbance of sensation, it is almost pathognomonic of syphilitic disease, according to Wood. The sphincters are generally included in the final symptoms. Bedsores and other trophic troubles occur, often with elevated temperature and general septicæmia.

In a case of syphiloma of the cord and cauda equina, reported by Osler, death occurred from diffuse central myelitis. There were pains in the legs, particularly in the left, which underwent rapid wasting and presented vasomotor changes. There were pains in the arms, especially the right, without wasting. There was absence of control of the bladder and rectum for two months before death. There were bedsores and arthritis in the knees and ankles. Toward the close of life high fever with delirium came on. There was a gumma in the antero-lateral columns of the cervical cord, opposite the right fourth anterior nerve root. Gummata also involved the third, fourth, and fifth anterior sacral nerve roots, and the second and third posterior sacral roots on the left side. Many of the symptoms in this case were due to the accompanying lesions resulting from the presence of the syphilitic new formations. A differential diagnosis in such cases, though extremely difficult, is important if at all possible. The treatment of simple spinal syphilis, before the advent of the resulting inflammation and degeneration, is a relatively easy matter; but when extensive destruction of the nervous elements has already set in, the prognosis is that much more unfavorable.

In syphilitic disease of the upper cord there may be diplopia, amblyopia, and pupillary irregularity. Tinnitus aurium occurred in a case reported by Weber.

The symptoms of the second form of spinal syphilis, namely, syphilitic infiltration of the cord, are usually slower in their onset and vary according to the location of the lesion. As the latter is more or less dif-

fused, so will the symptoms be more or less indefinite. They will range all the way from hyperæsthesia to anæsthesia, from spasm to paralysis. Spastic paraplegia without much pain is highly indicative. Sometimes the symptoms closely resemble those of locomotor ataxia. True syphilis of the cord does not follow the course of the sensory and motor tracts as do the various systematic scleroses and subsequent degenerations. The symptoms are, therefore, much more mixed and indefinite.

The diagnosis of spinal syphilis is best made by the exclusion of other spinal affections and by remembering that any one of these other affections, associated with a history of syphilis and presenting more or less unusual manifestations, is very apt to be syphilitic in origin. If a case of apparent locomotor ataxia, for instance, shows an absence of the usual fulgurating pains or the presence of the patellar reflex, spinal syphilis rather than posterior spinal sclerosis should at once be thought of.

The prognosis of spinal syphilis should always be guarded, even though great improvement is obtained sometimes by appropriate medication. Occasionally absolute cures have been made. More often, however, the delicate constituents of the cord have been irreparably damaged when the case first comes under observation, and then only a prevention of further injury can be hoped for.

The treatment usually resolves itself into the administration of mercury and the iodides. The object is to neutralize at once the syphilitic poison, to sustain the vitality of the cellular structures, and to remove as quickly as possible any gummatous enlargements that may be exerting a deleterious pressure. Each case is a law unto itself, but in all cases bold, heroic treatment is usually needed to check at once all further damage of the nervous elements. Hot and cold spinal douches, suspension, massage, all have their applicability in the appropriate cases. The indications are the same as in any of the various forms of organic disease of the spine. Spinal syphilis should be managed just as any other disease of the cord and its membranes, plus the administration, heroically and for a long period of time, of the requisite antisyphilitic remedies.

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INFANTILE SCORBUTUS.¹

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A VERY large number of diseases of infants have their origin in errors of diet. The paramount question during the first year of life is proper care and nutrition. A well-born baby of rich possibilities may, on an imperfect food, become stunted and anæmic and permanently deformed. The correct and complete nourishment of the infant is essential to perfect development. During this period of life growth is rapid, cell proliferation abundant and of low resisting power; hence the lack of supply of correct nutritive material soon manifests itself, not only in impaired nutrition, but in actual organic disease as well. Primarily, malnutrition may come about in two ways: by lack of some element or elements of food or by improper digestion or imperfect assimilation of ingested food. Both causes may and usually do operate conjointly. From an important group of diseases having their origin in want of perfect food supply, I select for your consideration one, namely, infantile scorbutus.

The credit of giving this disease a distinct place in

nosology belongs to W. B. Cheadle, of London, who described three cases in the London *Lancet* in 1878 as true scurvy. Previously to this, isolated cases had been noted in Germany by Moeller, Bohn, Hirschsprung, and Senator as examples of acute rickets, and one case in 1873 by Ingeler as infantile scurvy. The first case recorded in England was in 1876, by Mr. T. Smith, and called by him hemorrhagic periostitis. Similar cases were described in 1881 by Dr. Gee, under the name of periosteal cachexia. In 1883 Dr. Barlow in the *Medico-Chirurgical Transactions*, vol. lxi., gave the history of eleven cases under his care and twenty cases from other sources. He also gave very fully the morbid anatomy of infantile scorbutus. As a result the disease is called by his name by a number of writers, Osler of this country among them.

Etiology.—A search of the literature of this subject reveals the following: The disease is never seen in the infant nursed at its mother's breast and probably never in the infant fed on fresh cow's milk. In the cases reported by Cheadle, the greater number of patients were fed on farinaceous foods; some on desiccated patent foods, a number on condensed milk, and several on pancreatized milk. In most of these cases the infant had no fresh food; a few were given a small amount only. Of the cases reported by American writers, I find a few in which the infant had received a small amount of breast milk, but usually it had been weaned, and the diet in the most of the cases was some patent food or condensed milk. An interesting question is this: Can sterilized or pasteurized milk cause this disease? Upon this subject I find a difference of opinion. Cheadle, Ashby and Wright in England, and Osler in this country, say that it can. Professor Rotch, of Boston, and Professor Northrup, of New York, say there is no evidence to prove that it can. All writers agree that the real cause of scurvy is a lack of fresh food. Cheadle believes this lack of freshness to be due to the want of organic acids. The following English writers on children—Ashby and Wright, Carmichael, Eustace Smith, Goodhart, Donkin, and Angel Money—all speak of scurvy as a complication of rachitis, and call it scurvy rickets. It is no doubt true that rachitis is much more prevalent in England than in this country and consequently that the two diseases are frequently associated. Of the cases collected by Northrup, scarcely one-half presented any symptoms of rickets. Professor Rotch states "that his own individual experience has been derived from fifty or sixty cases, and that not more than a dozen presented any symptoms whatever of rickets." Now, as there are many cases of rickets presenting no evidence of scurvy, and, in this country at least, many cases of scurvy presenting no evidence of rickets, it is clearly a misnomer to call the disease scurvy rickets. Both are diseases of nutrition; both have for their cause improper food, and they are often associated, but each has its distinct clinical course. An infant reared on food lacking in fats and proteids will likely develop rickets. Now, let the food lack in freshness as well, and scurvy may manifest itself. On the other hand, a food abundant in fats and proteids will not cause rickets, but may, from lack of freshness, cause scurvy with absolutely no evidence of rickets. The two diseases are, therefore, often associated because of food defects, but they do not bear to each other the relation of cause and effect. Age is an important etiological factor, the age limits being at one extreme four months and at the other three years, almost all cases occurring between the ages of six and eighteen months, just the period when infants are kept on an exclusive diet. We might reasonably expect to find the disease among infants deprived of fresh air, sunshine, and wholesome environment. Frequently this is the case, but

¹ Read before the Nebraska State Medical Society, at Lincoln, May 20, 1896.

let it be remembered that a number of cases have been reported from the homes of the wealthy, where the infant has had every comfort that money could procure, everything needed for health except proper food. These are usually cases in which the infant has been reared on some patent food.

The clinical course of the disease is quite uniform. The precursory symptoms, lasting from four to six weeks, are as follows: anæmia, often associated with an earthy complexion; general and progressive muscular weakness; mental hebetude, the child being easily irritated; gastro-intestinal disturbances, usually diarrhœa, more rarely constipation, loss of appetite, and frequently vomiting of food. Thus far there is nothing significant except perverted nutrition. Among the symptoms especially peculiar to scurvy are "pain on handling and excessive tenderness, especially on moving the limbs;" when approached the child cries from fear of being touched; swelling of one, or more rarely of both thighs; more rarely still, swelling of one or both arms. The swelling is fusiform in shape.

Purpura is noted in a number of cases; hemorrhages into the subcutaneous connective tissues, frequently about the eyes; in some cases hemorrhages from the bowels; in a few cases hæmaturia. The condition of the mouth is peculiarly significant. When teeth are present the gums are swollen and purple; frequently they become ulcerated and bleed freely, so that the breath becomes fetid. In some cases there is enormous tumefaction of the gums, to such an extent that they protrude from between the lips. Before the eruption of teeth the swelling of the gums is slight and there are frequently ecchymotic patches in the mouth. The surface over the swollen extremities is not hot, or feverish, as in inflammatory swellings. It will be noted that all of these essential symptoms have their origin in hemorrhage. The subperiosteal hemorrhage causes the swelling of the extremities and is usually greater in amount just above the epiphysis. This is the most prominent anatomical change. "The diagnosis is to be made from acute rheumatism, purpura hemorrhagica, rickets, syphilis, and spinal paralysis" (from Professor Rotch). In rheumatism the pain and swelling are about the joints; in scorbutus in the shafts of the bones. Rheumatism comes on acutely with fever and hot skin; scorbutus after weeks of failing health, with little fever. Purpura hemorrhagica is often seen in cases of scorbutus, and no doubt, as Professor Northrup says, many cases of scorbutus have gone astray under that name; but in purpura the osseous symptoms and the swollen gums together with the history of the case should lead to a correct diagnosis. In spinal paralysis the pain passes away after the initial symptoms, and tenderness, so markedly prominent in scorbutus, is absent. The onset of spinal paralysis is almost always acute without premonitory symptoms. In rickets the onset is slow, but the enlargement is in the ends of the bones. Pain on handling is very rarely noted in rickets. When scorbutus develops in a rickety child, we have, in addition to the ordinary symptoms, the fusiform swelling of the extremities and the stomatitis. Hereditary syphilis usually manifests itself by the third month; scorbutus almost never before the sixth month. In syphilis the nasal symptoms, mucous patches, and skin eruptions are usually distinctive. The prognosis, when the disease is properly treated, is good. Cheadle has seen but one fatal case out of nearly fifty. The most important fact concerning the disease is that when its true nature is recognized, it promptly yields to treatment, but for want of proper treatment many cases have gone on to a fatal termination in spite of all drug treatment.

Pathology.—The essential character of scurvy consists in perverted nutrition. Owing to the lack of

some element of food the processes of secondary assimilation are perverted and the mysterious harmony existing between the blood and tissues is deranged. No blood changes, either microscopical or chemical, have thus far been discovered. A careful post-mortem examination by Professor Northrup revealed numerous hemorrhages beneath the periosteum of the shaft of the femur, dark, disorganized blood in the stomach, infiltrations of blood in the cellular tissues; no inflammatory changes in either the periosteum or bone were disclosed by microscopical examination, and no evidence of suppuration. In one post-mortem reported by Cheadle, in addition to the subperiosteal hemorrhage there was free blood in the air vesicles, this being the immediate cause of death. In the post-mortems reported by Barlow, the subperiosteal hemorrhage was the most important fact stated. No mention is made of the pathology of scorbutus by either Whitehead, Green, or Ziegler, and but brief mention of the disease in adults by Delafield and Prudden. The subject of treatment will be mentioned in the report of the following case recently under my care:

Infant, male, born November 30, 1894. During the first four weeks of life it nursed at its mother's breast, but, the supply of milk failing, it was put on a diet of modified cow's milk. On June 7, 1895, when six months old, it was taken with acute enterocolitis, recovering in a few days. July 17th it had the second attack. During this period it was still on modified cow's milk, but on the latter date was placed on an exclusive diet of a dry patent food. There was no further diarrhœa, but, on the contrary, marked constipation. During the month of August the infant gradually failed in strength, and, owing to absorption of subcutaneous fat, the skin lay in loose folds. It gradually became more pale and anæmic, cross and fretful, sleeping only for short periods of time. About September 1st I again saw the baby. The mother said it would cry when taken up, but would lie for hours upon the bed when undisturbed. It now had two teeth; its mouth was sore and the gums were red and swollen. September 29th I again saw the child. It still cried when touched or when approached; the right leg kept motionless; the thigh was evidently swollen and very tender to the touch. The sore mouth persisted in spite of treatment by chlorate of potassium and other mouth washes. The gums were now so swollen as almost to cover the two teeth and bled when touched. It now became apparent that this was something more than marasmus. The true scorbutic nature of the case finally dawned upon me, and on October 1st I placed the infant on a mixture of milk, cream, and sugar of milk, giving it three ounces every two hours; also the expressed juice of half a pound of rare steak each day and the juice of one large orange daily. I gave it castor oil daily, as the bowels were still constipated. The only medicine given was a simple elixir of pepsin. Three days after the beginning of this treatment the infant was markedly improved. In ten days it could be taken up without any evidence of pain. The swelling of the thigh rapidly subsided. By November 1st, thirty days after the beginning of treatment, the little patient had almost entirely regained his health and strength, excepting that he did not attempt to walk until eighteen months of age. This patient lived on sterilized milk for five months, when the bowel trouble commenced, and then on an exclusive diet of desiccated food for two and a half months, when well-marked scurvy symptoms developed. There were absolutely no symptoms of rickets in this case. I believe the symptoms and treatment proved beyond doubt that this was a case of true infantile scorbutus.

OXYGEN IN THE TREATMENT OF ACUTE CAPILLARY BRONCHITIS.

BY JOHN L. CORISH, M.D.,

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ACUTE capillary bronchitis in the newly born is a disease which is more common than might be supposed. Many if not nearly all cases of acute broncho-pneumonia take their origin from an attack of acute capillary bronchitis. By some authors these conditions are treated as if they were different stages of the same disease. It is absolutely essential that the catarrhal condition of the capillary tubes should be recognized as a distinct and separate order, and though it may furnish the conditions for a subsequent attack of broncho-pneumonia, yet it can be treated separately, successfully, and practically. The catarrhal condition may arise from change of temperature, exposure, or introduction of noxious gases, or it may be secondary to a primary acute catarrhal rhinitis and pharyngitis. Another cause is found to be the imperfect closure of the foramen ovale. In the latter class the acute capillary bronchitis is secondary to the engorgement of the capillaries with semi-venous blood. The symptoms present all the characteristics of the class of diseases in which there is not sufficient accommodation for obtaining a normal amount of respiratory air—viz., œdema glottidis, croupous laryngitis, the second stage of pneumonia, etc.—except that we have the capillary râles in abundance at the beginning of the catarrhal affection. The dyspnoea is noticeable from the beginning and increases rapidly. The number of respirations rises to 60, 70, or even 80 per minute. The temperature may run up half a degree in the early stage, only to fall to a subnormal condition toward the end. The pulse, at first rapid and throbbing, finally becomes thread-like. Dulness on percussion, such as is present in broncho-pneumonia, cannot be obtained at any time during the attack. In this disease the pathology is easily understood. To be brief, the lining membrane of the lobules becomes engorged with blood and a mucous secretion is thrown out. This collects in the capillary tubes and forms a barricade, so to speak, by means of which inspired air is prevented from penetrating into the lobules. The residual air in the lobules becomes absorbed by the blood and a vacuum is created. The lobules, being unsupported by the pressure internally, collapse, a result known as atelectasis.

The physiological results of the obstruction are the collapse of the lobules; the inability of the blood to extract sufficient oxygen for the bodily requirements; the efforts of the different sets of direct and accessory inspiratory muscles to overcome this condition; the resulting general cyanosis; the indifference with which the child regards the partaking of nourishment, its whole time being occupied in its efforts to obtain air; the gradual exhaustion from want of nourishment and overexertion of muscles; and, finally, the easy death from asphyxiation. How have we treated these conditions when they have been met? Have we treated them symptomatically? Yes. We have been taught to keep the alimentary canal freely open. We have given our great standby, the ammonium salts, as a stimulant and expectorant, and whiskey, also, as a cardiac stimulant. The child bears the ammonia very well in this class of cases. We have used counterirritants to the chest wall. We have ordered the breast to be continued, but the child is unable to perform the function of suction and enforced respiratory efforts at the same time. When there is temporary relief the child obtains an oversufficiency of food, which results in the usual vomiting, followed by passages of undigested or decayed cheese and by various sequelæ. Then these ad-

ditional symptoms must be promptly met. The child relapses into its cyanotic condition, but this time to a greater degree. The physician sees that his cardiac stimulants are having but little effect; the expectorant preparations are of scarcely any avail; all hope of a favorable prognosis has passed.

The following case is an example of one continually met with by the experienced physician in his private practice. On January 5, 1896, I was called to attend a child, whom I delivered three days previously. There were no malformations, and from careful examination I was satisfied of the perfect closure of the foramen ovale. During the evening an acute capillary bronchitis had set in, following an acute catarrhal rhinitis which had existed for twenty-four hours previously. The temperature of the lying-in room varied at times, ranging from 68° to 82° F. The rectal temperature of the child was 99° F.; respiration, 60; and pulse, 150, strong and full. I cleared the nasal passages and ordered one-fourth grain of ammonium carbonate, together with five drops of spiritus frumenti, every hour.

January 6th, 8 A.M.—Respiration, 72, bronchial and shallow. The child refused nourishment. The temperature was 97.8° F. Limbs cold. A general cyanosis had set in; the capillary tubes were filled with mucus, and an acute conjunctivitis in the left eye was also noticed. At 9 P.M. I met Dr. Brandt, of Brooklyn, in consultation. We came to the conclusion that the treatment already adopted should be continued and that the doses should be increased. Accordingly, we gave one-half grain of ammonium carbonate and ten drops of spiritus frumenti every hour. Toward morning there was some improvement in the frequency of the respiration and the cyanosis was less marked. The pulse dropped to 140, stronger; respiration, 50; temperature, 98° F. The stools became greenish and of a mucous character, to correct which a warm enema of boric-acid solution was used occasionally.

January 7th, 8 A.M.—Respirations, 76; cyanosis very marked. The alæ of the nose were dilating, in unison with the other respiratory movements. Abdominal breathing marked. Temperature, 97.6° F.; pulse, 160, thread-like. The ammonium carbonate was increased to one grain every half-hour, which dose the child stood well, with but slight vomiting of mucus. The child had refused to nurse for the past twenty-four hours. Beef extract and whey, to which sweet butter and milk sugar had been added, were injected into the bowels as nourishment.

The case became so desperate that at 3 P.M. I obtained a cylinder of oxygen compound, one hundred and eighty-five pounds pressure. A mouthpiece to be attached to the wash bottle was constructed of an ice bag, cut in such a manner that it could be tightly placed over the vault of the cranium and beneath the chin. Into this was inserted the outlet tube of the wash bottle, fastened with ordinary rubber elastic bands. This rudely constructed affair was placed over the child's face, the child lying in the dorsal position on a table, with the head extended well back. The oxygen mixture was at first applied under a slight pressure. The respirations decreased in rapidity, they became deeper, and in a short time the color of the integument changed from a blackish blue to a normal flush. Then the child cried, something it had not done for forty-eight hours previously. The administration of the mixture was discontinued at the end of three minutes. The respirations had dropped to 42; pulse, 140, full and regular; and the temperature rose to normal. At the end of an hour the respirations rose to 70, cyanosis returning. The oxygen mixture was re-applied, with results similar to those obtained in the former trial, except that the time was shortened to two and one-half minutes. All through the night the mix-

ture was given, with increasing intervals between applications, but with the pressure gradually increased up to one-half an atmosphere. It was observed by the mother, and called to my attention, that immediately after the inhalation of the gas the child cried and took to the breast like a starved youngster, something it had had no time to do previously, as it was too busy with the more important object of obtaining air. From this time on, only the natural nourishment was necessary.

On January 8th the total number of applications given was four, after each of which the child nourished naturally. Bismuth and irrigation allayed the intestinal indigestion. The last application of the gas was given at 3 P.M., and it was at this point that the child was anesthetized by the oxygen, owing to the enormous absorption. The pressure used was one-half an atmosphere, sustained for three minutes. (For what followed, see article in the *MEDICAL RECORD* of September 12, 1896.)

Auscultation of the lungs immediately afterward showed total absence of capillary obstruction, there being present only a few scattering bronchial râles, which from that time grew fainter in character and on January 11th finally disappeared. On January 9th, the day after the oxygen was discontinued, the conjunctivitis of the left eye assumed a purulent character. The right eye has not been affected up to this date (February 24th), except by an acute catarrhal conjunctivitis. An important question for the oculist to consider is: Did the application of the oxygen retard the appearance of the purulent inflammation of the right eye and render the left eye immune?

What difficulties are encountered in this disease, and how shall we meet them satisfactorily? The obstruction of the mucus in the tubes must be removed. The child cannot accomplish this, being unable to inspire sufficiently deep. A pressure of one-half an additional atmosphere will accomplish this. The oxygen, restoring the capillary engorgement to a normal character, will prevent the formation of additional mucous secretion. The collapse of the lobules cannot be remedied by any means brought to bear through the general circulation, but it can by means of the pressure applied. The heart action, which is in a very feeble condition, must be sustained by stimulants internally administered. But oxygen, as is well known, by restoring the capillary circulation to its most favorable condition for normal movements, acts indirectly, but with no less a degree, certainly as powerful, as a cardiac stimulant. The fact that the child refuses nourishment is evidently not because it has no desire in that direction, but it is hampered very greatly in its demand for air by the generally accompanying acute rhinitis, and also by the additional obstruction which the nipple necessarily accomplishes in addition.

As to the final treatment adopted in this case, what physiological results were obtained? The oxygen, being introduced into the system in greater abundance, combated the cyanosis by relieving the reflex vasomotor irritation. The production of secretion becomes thereby lessened. The secretion already in the tubes was forced deeper into the lobules. The collapsed condition of the lobules was remedied by the increased pressure, they being distended to their greatest capacity, and gradually, a normal condition being re-established, this latter action being purely mechanical. After the first application of the oxygen mixture, the child is in a state similar to that of one who has passed through its first night of an attack of false croup. It will go back to its former condition, or nearly so, because we have given only sufficient to maintain the balance of supply and demand for an hour or so.

Some one asks, Will you have to apply oxygen every

time the child becomes cyanosed? Yes. After the child has received sufficient to enable it to nurse, push your treatment. Reapply the gas under increased pressure and expand the lungs to their extreme capacity. The atelectatic condition disappears and the lungs are better able to do normal work. If the oxygen is applied with still further pressure and the child allowed to inhale this alone, for a period of from two to three minutes, the system becomes thoroughly saturated, the breathing ceases, but the pulse is still sustained normally and there is a temperature of 99° F. The integument assumes a rosy hue and voluntary muscular movements cease. This state will last from five to seven minutes, during which time the child will recover a great part of the energy wasted in the diseased condition. When the superabundant oxygen stored up in the system has been used up in the bodily requirements, the respiratory movements will begin again as in the newly born. If it were only required to combat the cyanosis, I believe this could be done sufficiently well, temporarily, by inflation of the large intestine with the oxygen mixture. But the keynote to the treatment of acute capillary bronchitis is to expand the lungs to their fullest extent by pressure from within; to alter the character of the circulating fluid by giving oxygen; and to allow the respiratory muscles sufficient time to recuperate—all of which can be accomplished simultaneously by the administration of the oxygen mixture under pressure.

February 24, 1896.

THE CARE OF THE BREAST IN LACTATION.¹

By CHARLES ROSEWATER, M.D.,

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It may seem strange to some of you that I should bring before this society for its consideration a subject which, by many, is relegated to the domain of the nurse. But this is the very trouble with our medical societies. We spend hours, yes, whole sessions in the discussion of such subjects as laparotomy, hysterectomy, ectopic pregnancy, ovariectomy, or some wonderful but rare operation which perhaps not more than one out of a hundred of us is ever called upon to perform or even to consider; yet the subject of the care of the breast in lactation hardly ever occupies the attention of the members of our profession at their meetings. I dare say, however, that ninety-nine out of every hundred physicians are called upon almost daily for advice and counsel upon this subject, and upon that advice depends the happiness of an anxious mother and the welfare of a new-born babe, not to consider the comfort of an entire household. Many an infant dies during its first year on account of having been deprived of its natural food, when by careful and persistent attention at the right time the mother's breast might have been put and kept in proper condition to supply the food nature intended it should.

In the consideration of this subject the first question which naturally arises is: Does a healthy breast require any preparation for its utilization in nursing? Can we by some means or other aid the mother so that she will be better able to nurse her child? Is there anything which we can do during the latter months of pregnancy to improve the condition of the mother and her breast with special reference to the performance of the function of lactation?

I would answer, "Yes—in a large number of cases we can." In some cases, however, our services are unnecessary and undesirable. Just as many women can go through childbirth naturally and without any

¹ Read before the Omaha Medical Society, on June 9, 1896.

assistance without impairing their physical integrity or vitality, so can many nurse their children without any preparation or care directed toward the breast. This being the case, it is important for us to know when our services must come into requisition. What local or constitutional conditions might require correction by us to make the woman suitable as a nurse for her child?

It is hardly necessary to state that malignant tumors of the breast preclude nursing. It is in fact a great rarity for malignant tumors of the breast to develop during pregnancy, or for pregnancy to occur coincident with such tumors.

The presence of benign tumors of the breast does not necessarily contraindicate its use in nursing, for, while it is a fact that in a large number of such cases the tumors so affect the glandular structures of the breast that their secretion is impaired either in quality or in quantity, yet there have occasionally been cases in which the mammary gland itself was not affected in the least and its secretion continued to be fit for the child and of sufficient quantity. Hence in such instances each case must be considered individually, and no general rule can be laid down except perhaps that the mere presence of a benign tumor of the breast need not preclude nursing when the milk secretion is normal.

The condition of the nipple should next occupy our attention. When the nipple is flat so that the most arduous attempts to draw it out with a clay pipe, breast pump, or some similar instrument fail, lactation is of course out of the question. In many cases, however, in which the nipples appeared flat and useless, and the patients even claimed that other members of their family had been prevented from nursing children on account of similar disability, I have succeeded in making the breast quite serviceable by insisting on persistence in the efforts at drawing the nipple out by means of a clay pipe, these efforts being begun usually during the last month of pregnancy. If the nipple cannot be drawn out at all, the patient will be unable to nurse her child.

If the breast is flabby and secretes no milk, or only a very inferior article, it is far better to furnish the child other means of nourishment.

If the patient is suffering from serious constitutional disease, such as tuberculosis, intense anemia, or recent syphilis, it is better for her not to nurse her child. So also when she is suffering from some serious nervous disease, such as epilepsy, hysteria, etc.

In acute febrile diseases, as a rule, the breast ceases to secrete and lactation must of course be interrupted. Sometimes the interruption is only temporary, even though it may be of considerable duration, as in a case of puerperal fever which I attended several years ago, in which after convalescence was established, the secretion of milk returned and the child was again nursed by its mother after it had been nursed by its aunt for seven weeks.

Many nurses and even some physicians advise the use of astringent lotions, such as a solution of alum in whiskey and water to be applied to the nipples during the last month of pregnancy, so as to harden them and dull their sensibility. I have seen some cases in which this method of procedure seemed to me to result in greater tenderness and dryness of the nipples and finally in the development of fissures, so that I am not in the habit of advising it. It has been my practice to advise that the nipples be rubbed occasionally with vaseline or cold cream to render the skin soft and pliable. When the breasts through their turgidity become very tender, and especially when through clogging of the milk ducts a condition known as caked breast develops, gentle massage together with the application of a snug breast binder, which sup-

ports the breast and prevents it from hanging down, will be a great source of relief.

If the patient has a history of having lost children previously through not having had sufficient good milk for them, she should be put on a tonic toward the end of pregnancy—some preparation especially adapted to improve her general health. Just what preparation should be used in each individual case will depend upon the circumstances.

How soon after childbirth should a mother nurse her child? This depends upon the mother's physical condition and the severity of the labor through which she has just passed. As a rule, a woman may be allowed to nurse her child as soon as she has obtained her first good rest after childbirth. If she has gone through a severe labor, complicated perhaps by severe hemorrhage, it is well to give her plenty of rest, at least twelve hours before putting the child to the breast. Before the child is put to the breast the nipple should be carefully washed, and the child's mouth also. If the nursing is accompanied by severe local pain about the nipple without there being any excoriation or fissure noticeable, then application of a weak solution of nitrate of silver (five to ten per cent.) to the nipple after nursing will so toughen the cutaneous surface and dull the sensitiveness of the parts that the next nursing will be less painful. Sometimes the temporary use of a nipple shield will tide the patient over this period of greatest tenderness, but often children will not nurse through such a shield. Persistence in the efforts directed in this channel will, however, as a rule, be crowned by success, but sometimes leads to maceration of the epithelial covering of the nipple. This condition, which is extremely painful, may also develop when the child is allowed to nurse too often and too long. The feeding of infants at the breast should occur at regular intervals, not oftener than every two or three hours during the daytime and once or twice during the night.

In cases in which the nipples become very sore and tender I usually succeed in overcoming the difficulty by applying a powder of tannic acid or bismuth after the child has nursed and the nipples have been washed. And right here comes another factor largely responsible for the sore breast—the macerated nipple, I mean—that is, the constant moistening of the nipples from the milk oozing out. This can be obviated if the patient will wear some absorbent covering, such as cotton batting, over the nipples at times when she is not nursing the child. The parts should be kept dry between the nursings.

In some cases by the time the physician is called, a fissure has developed at the root of the nipple, causing the patient excruciating pain whenever her child nurses, and so exhausting her strength as frequently to lead to high fever and great prostration. And yet a very little treatment is needed to successfully overcome this difficulty. After cleansing the parts thoroughly I usually cauterize the fissure with nitrate of silver in stick, then neutralize and wash off the superfluity of caustic with a solution of common salt and apply tannic acid dry on the nipple when a state of maceration of the nipple exists, or a glycerole of tannin when the epidermis seems to be too dry. In these cases it is also well for the patient to rest the sore breast for from eight to twelve hours at a time. Usually one cauterizing, such as the above, will suffice.

If, however, infection has already occurred from the fissure, a mastitis may develop, ushered in by a chill or succession of chills, followed by fever, pain in the entire breast and extending up into the axilla, hardening and tenderness of the breast, with usually some alteration of the milk secretion. The latter may be either entirely checked or greatly diminished and

deteriorated, but, no matter how this is, the breast should in such instances be put to rest completely by prompt cessation of nursing. Laxatives and quinine should be given and a firm breast binder applied. Cold applications may be applied with advantage in such cases when suppuration is threatened, but as soon as it is an established fact moist heat should be substituted for the cold, and as soon as pus can be reached it should be let out through a free incision, made in a direction radiating from the nipple and at as low a point on the breast as is consistent with easy access to the pus. From this on, the case should be treated on surgical principles, drainage being necessary in some cases, while curetting and firm packing with antiseptic dressings are necessary in others.

When it is desirable to dry up the secretion of the breast the use of an atropine ointment (one grain to the ounce) or belladonna ointment (fifteen grains to the ounce) has been strongly recommended, but in many if not all cases the simple application of a snug binder together with cessation of the use of the breast is all that is necessary. The breast, not being used, gradually stops secreting milk. It is well in these cases also to give Epsom salts or some other cathartic to carry off the superfluous liquid by other channels.

ARE SANATORIUMS FOR CONSUMPTIVES A DANGER TO THE NEIGHBORHOOD?

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AFTER the publication of my French thesis on sanatoriums for consumptives,¹ in which I endeavored to make a strong plea for such special institutions as one of the best means of curing and preventing pulmonary tuberculosis, I was surprised to hear several of my medical brethren, some of them of high standing, express their disapproval of housing a large number of tuberculous patients in one institution. A few even thought my ideas almost dangerous. The laity in Europe were, of course, still more pronounced in their prejudices, opposing the establishment of sanatoriums for consumptives on the ground that their proximity would prove a source of infection.

To set such fears at rest, I published an article in the *Revue de la Tuberculose* for December, 1895, entitled "Les Sanatoria de Phthisiques, sont ils un Danger pour le Voisinage?" Since my return to the United States I have learned that the same prejudices exist here, which, I am sorry to say, are often shared or even advanced by medical men. To convince them of the absolute harmlessness of the vicinity of a properly conducted sanatorium for consumptives is the object of this article.

In my communication to the *Revue de la Tuberculose*, I mentioned some of the most surprising views expressed by medical and civil authorities, and cited one or two instances which, as they illustrate the case in point, will perhaps bear repeating.

For years it had been the object of some philanthropists in Frankfort-on-the-Main, who have in their vicinity that excellent institution for consumptives in Falkenstein, to open a similar one for the poorer classes. At last their wishes were realized, a building was procured, and things were in running order. Professor Dettweiler had kindly consented to act as physician-in-chief, and a house physician had been appointed. But an aristocratic lady, living a few miles from there, objected to her new neighbors. As

she did not wish to leave her elegant country residence, she offered to buy the house which had been made a sanatorium for far more than it was worth, on condition that the patients should be moved much farther away. The offer was accepted, and to-day the poor consumptives of Frankfort have at Ruppertsheim a large, handsome, comfortable structure, better located and three times as large as the original one. But it is far from the home of the baroness.

Near Vienna existed a place which had been known for years as a health resort for consumptives and persons suffering from similar troubles. Thanks to the efforts of a distinguished professor and specialist in phthiseo-therapeutics and the funds given by a wealthy philanthropist, it had been decided to found a sanatorium for poor consumptives, under the direction of this professor, in the resort mentioned. But the authorities of the community raised such an outcry at the prospect of having this institution in the midst of them, fearing it would drive away the class of wealthy patients who had come there for so long, that the professor, not wishing to go where his sanatorium would not be welcome, chose another locality.

They thought they had done a wise thing; but soon the wealthy patients, thinking that the new place must possess superior advantages to have been chosen by so celebrated a specialist for his institution, began to flock thither; and the old resort, so favored for years, found itself quite deserted.

Here in the United States one will find the authorities of small communities opposing the establishment of a sanatorium for tuberculous patients, but no objection would be made to a home for consumptives, especially if under church supervision. Most of these institutions are the work of the Episcopal Church. I cannot speak too highly of the laudable efforts of these noble men and women to provide a place of rest for poor consumptives, but I have recently visited a few of these "homes," and I must confess that they seem to me a dangerous experiment. There is never a house physician; the visiting physician comes but rarely, and then only to see the most urgent cases. The direction is in the hands of the brother or sister superior or matron. What results in regard to prophylaxis and treatment can be obtained under such conditions? To me it seems an illusion to think that any notable good can be accomplished in such a "home" without a physician. Consumption is a curable disease, and therefore tuberculous patients should be treated and not kept. The excellent results obtained in sanatoriums for consumptives are due to the constant medical supervision and the personal training of the patient. The physician presides at the table, directs the rest cure in the open air, the breathing exercises and graduated walks, the hydrotherapeutic applications, and the many other curative and preventive measures, the *ensemble* of which constitutes the real treatment of pulmonary tuberculosis.

To watch that there may never be any relaxation in regard to the care with the expectoration requires more than the gentle rule of a sister superior. Still, such "homes" seem to be welcome in communities where sanatoriums are shunned, although one is really safer from infection in a properly conducted sanatorium for consumptives than anywhere else.

The most important factors in imparting the disease are the expectoration, the saliva, and other secretions. In a properly conducted sanatorium patients never expectorate except in a receptacle provided for the purpose, a spittoon or pocket flask. Those in bed and too weak to make use of the spittoon are provided with moist rags, which are burned immediately after use. The expectoration and other secretions are destroyed before they have a chance to dry and do harm. Napkins and table utensils are boiled or disinfected

¹ "Les Sanatoria. Traitement et Prophylaxie de la Phthisie Pulmonaire." Par le Docteur S. A. Knopf, Paris, 1895; George Carré, éditeur.

after each meal. Besides this, a scrupulous cleanliness is observed in all rooms, and the furniture is so arranged that a thorough disinfection may be easily carried out.

Repeated microscopical and bacteriological examinations of the dust taken from the rooms of such sanatoriums have proved it to be practically free from bacilli. At Saranac Lake, the great American sanatorium, none of the twenty to twenty-five attendants have ever developed tuberculosis. The contraction of the disease by physicians, nurses, or employees is almost unknown in these institutions.

But the effect of such sanatoriums upon their surroundings is not a matter of conjecture or of opinion. We can bring experience and statistics to our help. In Goerbersdorf, the largest and oldest sanatorium for consumptives in the world, through which some two thousand patients pass every year, the mortality from tuberculosis among the people of the neighboring village has decreased in a wonderful degree since the establishment of the institution. Not only has the sanatorium done no harm to the surrounding population, but it has done good, through the example set before the village people by the patients and the sanitary regulations, which direct all attention to the destruction of the bacillus. To uphold these statements I will repeat from my thesis the official statistics of the village of Goerbersdorf for a hundred years:

DEATHS FROM PHTHISIS PULMONALIS.

1790-1799.....	14	1840-1849.....	6
1800-1809.....	5	1850-1859.....	7
1810-1819.....	9	1860-1869.....	4
1820-1829.....	9	1870-1879.....	5
1830-1839.....	8	1880-1889.....	5

These statistics become still more valuable when one considers that the population of Goerbersdorf has doubled in the last twenty-five years.

Recently Dr. Nahm has compiled the statistics of the village of Falkenstein. Here also the mortality from pulmonary tuberculosis has been reduced from 18.9 per cent. before the establishment of the sanatorium, to 11.9 per cent. after it was opened. I will give the statistics of Falkenstein in full, as they were published by Dr. Nahm:¹

DEATHS FROM PHTHISIS PULMONALIS.

Before the Establishment of the Sanatorium.	After the Establishment of the Sanatorium.
1856-1858..... 17.2 per 100.	1877-1879..... 17.0 per 100.
1859-1861..... 7.7 "	1880-1882..... 14.6 "
1862-1864..... 22.6 "	1883-1885..... 6.0 "
1865-1867..... 14.0 "	1886-1888..... 5.0 "
1868-1870..... 16.7 "	1889-1891..... 13.9 "
1871-1873..... 21.0 "	1892-1894..... 15.1 "
1874-1876..... 33.3 "	

It is the duty of the profession to enlighten the public and the civic authorities on the question of such institutions. Europe has many advocates of the establishment of sanatoriums for consumptives. Foremost among them are Grancher and Letulle, of Paris; Leyden, of Berlin; Schrötter, of Vienna; von Ziemssen, of Munich; and Weber, of London.

In the United States the pioneer work in this line has been done by Bowditch, of Boston, and Trudeau, of Saranac Lake. They both have visited the sanatoriums abroad, especially the one at Falkenstein, and were much impressed with the beneficial results obtained by the hygienic and dietetic treatment in these "closed" establishments.

Last year, Dr. Guy Hinsdale, of Philadelphia, read a most interesting article at the meeting of the American Climatological Association, entitled "Recent Measures for the Prevention and Treatment of Tuberculosis,"² wherein he set forth the necessity of sanatoriums, especially for the poorer classes.

In the MEDICAL RECORD of December 28, 1895, Dr. Irwin H. Hance, formerly assistant to Dr. Trudeau, published the account of an interesting series of experiments with dust taken from various sources (hospitals, sanatoriums, etc.), showing how free from danger one is where the proper precautions are taken in regard to the expectoration, and how little reason there is to fear the proximity of a sanatorium for consumptives.

At this year's meeting of the American Climatological Association, Dr. Edward O. Otis, of Boston, read a very instructive paper, entitled "The Sanatorium or Closed Treatment of Phthisis."¹ In it he speaks of the fears that sanatoriums may be a source of contagion as misconceptions, and considers such properly conducted establishments one of the best means of curing pulmonary tuberculosis and of combating the spread of the disease. Well-conducted sanatoriums for consumptives are not centres of infection; but, on the contrary, places where the tuberculous patient is the most free from the danger of autoinfection, and where there is the least chance of his communicating his malady to others.

349 WEST FIFTY-EIGHTH STREET.

Progress of Medical Science.

Laryngeal Irritation.—

R Alcohol (40 per cent.).....	3 v.
Menthol.....	gr. viij.
Cocaine hydrochlorate.....	gr. ij.
Acid benzoic.....	gr. xv.

M. S. Use as a gargle or spray, by adding ten to twenty drops to half a glass of warm borated water.

—*La Riforma Medica.*

Diffuse Bronchitis in Children.—Dr. Renault believes that a simple and harmless method consists in giving a bath at 100.4° F. for seven to eight minutes every three or four hours, until the temperature taken three hours after the last bath has reached 102.2° F. After a third or fourth bath the fever falls without rising, and the disease becomes a slight bronchitis, without even becoming capillary. Quinine sulphate is given as a general tonic.—*Journal des Praticiens*, 1896, No. 13, p. 205.

Osteomyelitis and Immunizing Experiments.—

Dr. Canon (*Deutsche Zeitschrift für Chirurgie*, xlii., No. 1) draws the following conclusions from a series of experiments: (1) The presence of streptococci in osteomyelitic processes is to be regarded as dangerous. (2) Staphylococcus osteomyelitis is by far the most frequent. (3) Osteomyelitis is to be considered as a staphylococcus pyæmia of the developing period of life. (4) It is possible to immunize animals against a staphylococcus infection by the aid of blood serum from persons just recovering from a staphylococcus disease.

Kidney Wounds.—Dr. Trimble (*Maryland Medical Journal*) says: 1. All kidney injuries are to be considered as serious until proved otherwise. Never sit quietly by waiting for symptoms to develop in order that a diagnosis may be made. When in doubt, explore the kidney; the danger to the patient is not increased by an aseptic operation. 2. In all kidney wounds and wounds in the region of the kidney, the kidney should be examined through a large incision. In serious wounds of the kidney immediate operation is the only thing that will save the patient. The lumbar incision, when it will answer all the requirements of the case, is to be preferred to a laparotomy.

¹ Münchener medicinische Wochenschrift, No. 49, 1895.

² Medical News, August 24, 1895.

¹ New York Medical Journal, June 13, 1896.

Chorea.—Dr. E. De Renzi (*Gazzetta degli Ospitali e delle Cliniche*, 1896, No. 29) has made use of eserine, antipyrin, salol, and ether spray along the vertebral column, but he places his confidence in only three remedies: (1) Absolute rest, the patient being placed in a dark room and avoiding all external excitation whatever. (2) The ascending electrical current along the spinal cord—the best results with a gentle current progressively increased. (3) Arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children and double this amount for adults. The medicine should be continued after the chorea ceases, for the disease readily returns. The nutrition of the patient must be maintained, and good food and gymnastics are useful.

Time of Rupturing the Amniotic Sac in Labor.

—1. In multipara, rupture when os is fully dilated. 2. In primipara, delay until the soft parts are also dilated. 3. In cases of face and breech presentation, delay in rupturing the sac is best. 4. When the pelvis is small and the foetus large, delay rupturing. 5. In premature labor, with a dead foetus, rupture early. 6. Rupture the sac early when the membranes are unusually thick, tough, and unyielding. 7. When speedy delivery is demanded, rupture early and dilate with the fingers. 8. Rupture the sac when an excessive amount of amniotic fluid retards labor. 9. When version is necessary, and can be accomplished by bimanual manipulation, perform this operation before rupturing. 10. Remember that a dry labor is always to be deprecated; hence do not rupture at all, unless for good reasons and the case demands it.—*Atlanta Medical and Surgical Journal*.

Necessary Pocket Instruments.—An aseptic pocket case is a scientific absurdity. A good surgical knife, a stout pair of scissors, a sufficiently large and strong anatomical forceps, a large probe with a button at one end and an eye at the other, and possibly a piece of silk and a needle, are all the instruments that are really necessary. These may be carried in a neat canvas "folder" and the whole contained in a leather pocketbook. The instruments may be sterilized in a match flame and should be dipped in water while hot. The needle and silk may be boiled in a teaspoon over a match flame. Hemorrhage, even from quite a large vessel, may be checked by a silk suture. This device will nearly always take the place of the artery forceps.—*International Journal of Surgery*, June, 1896.

Urinary Examinations.—Dr. Lichty (*Medical News*) holds that 1. A continued low specific gravity must be looked upon with grave suspicion, until it can be proved beyond doubt that the kidneys are normal. 2. In nephritis, especially of the chronic interstitial type, it may happen that at times during the greater part of the disease the urine may contain no albumin that can be detected. 3. Casts may be present in the urine when it is impossible to detect any albumin by the usual tests. 4. Casts are very easily destroyed in the urine by bacteria during the process of fermentation, and unless the examination is made within an hour or two after the urine is passed, the failure to find casts does not prove the non-existence of nephritis. The urine should be more frequently examined, especially after sickness.

Pneumonia.—Dr. Scully (*Journal of the American Medical Association*, June 6, 1896) says: "Do not give alcohol in any form during any stage of the disease. I firmly believe that the use of alcohol has been the chief cause of the high mortality in recent years. Let the fever alone. The danger is not from the fever but rather the heart, and inasmuch as all of the recent antipyretics act as heart depressants, we should be

very cautious in their use in pneumonia. Stimulate your heart if necessary with digitalis, using a good reliable fluid extract, strychnine, or nitroglycerin. Oxygen should always be thought of when there is a tendency toward cyanosis. I have seen such excellent results follow its administration that I unhesitatingly say: Use oxygen in cyanosis and use it freely. I have never taken very kindly to cold packs or compresses, and have resorted to their use only in a few cases. Still in those cases where I have used the cold compresses I was pleased with the result. Poultices are disagreeable things at best, and only tend to worry and fatigue the patient."

Treatment of Red Nose.—Dr. Lassar (*Dermatologische Zeitschrift*) recommends scarification after various methods of exfoliation have failed. Fifteen to twenty per cent. resorcin paste is his favorite agent for producing the exfoliation. A superior method to scarification is acupuncture, done with forty points mounted on a solid disc one centimetre in diameter, worked by an electro-motor and stamping machine like that used in filling teeth; this method leaves only fine scars, and thousands of pricks very light and of desired depth may be made in a few moments. Consecutive treatment is rarely necessary. In rhinophyma, which Dr. Lassar considers as an adenocystic fibroma without epithelial proliferation, he removes the hypertrophied tissue by ablation or decortication, covering the surface with Thiersch grafts, or leaving it under iodoform collodion, which in many cases serves as well.

Relapse in Pneumonia.—Dr. Ruge describes the peculiarities of relapse in croupous pneumonia; he bases his remarks on a study of two cases under his observation, and seven reported by others. Between the two attacks there is an afebrile period of from four to fifteen days. During this time the subjective sensations are those of convalescence. The physical signs disappear, at least partially. The duration of the relapse varies from four to eight days. Usually the same part of the lung is affected as in the first attack. Ruge showed by an analysis of eighteen cases that such cases differ from wandering pneumonia, as this latter is of longer duration. Transition forms no doubt occur. The frequency of relapse in pneumonia is stated by various authors as from 0.18 to 0.45 per cent.—*Charité Annalen*, 1895, p. 184.

Charcoal.—Dr. Robert B. Wild, after a careful laboratory study of this drug, finds that the present antiseptic drugs are both more cleanly and more effectual and are not likely to be superseded by charcoal. Internally it has been used when there is undue decomposition of the contents of the alimentary canal, as in dilatation of the stomach, certain forms of intestinal indigestion, when the alimentary canal contains abnormal toxic substances, and in certain specific diseases presenting local lesions of the alimentary canal. The idea is gaining ground that the serious symptoms in these cases are due not so much to living organisms as to the formation of toxic substances. Charcoal is deserving of further trial from its action by oxidizing the chemical substances formed during abnormal decomposition, or the various toxins produced by pathogenic organisms. It is possible that the oxygen of the charcoal may modify the metabolic processes of the pathogenic organisms themselves and render them or their products less virulent. The power of this drug to remove alkaloids from solution is worth considering. It may prevent auto-intoxication from the alimentary canal, and may act as a laxative or remove mucus from the walls of the alimentary canal. It may be administered in doses of from two to six teaspoonfuls daily.—*The Medical Chronicle*, 1896, No. 6.

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SCIENCE AND MEDICINE.

At the opening session of the British Association for the Advancement of Science, in Liverpool on September 16th, the president, Sir Joseph Lister, delivered an impressive address upon the mutual relations of scientific research and practical medicine.¹ The healing art in all its branches is becoming, he said, more and more based on science as distinguished from empiricism, and he proposed to depart from the usual custom of the presidents of the association of reviewing the progress of science during the year just passed, and to confine himself to the instancing of a few of the most noteworthy illustrations of this scientific basis of medicine and surgery. After a brief reference to the Roentgen rays, in the practical application of which he believed medicine had made but a beginning, he turned to the subject of anæsthesia, of which this is the jubilee year.

"That priceless blessing to mankind," he said, "came from America. It had, indeed, been foreshadowed in the first year of this century by Humphry Davy, . . . but it was not till, on September 30, 1846, Dr. W. T. G. Morton, of Boston, after a series of experiments upon himself and the lower animals, extracted a tooth painlessly from a patient whom he had caused to inhale the vapor of sulphuric ether, that the idea was fully realized. He soon afterward publicly exhibited his method at the Massachusetts General Hospital, and after that event the great discovery spread rapidly over the civilized world." The first operation in England under ether was performed by Robert Liston, in University College Hospital, and it was a complete success. Sir Joseph Lister witnessed this operation, and soon afterward saw the same surgeon amputate the thigh as painlessly by aid of chloroform, which was being advocated as a substitute for ether by Dr. (afterward Sir) James Y. Simpson. Concerning the respective merits of these two anæsthetic agents, the speaker thought that, when properly and carefully administered, chloroform was, on the average, safer than ether.

The next illustration of the debt practical medicine owes to science was taken from the work of Pasteur on fermentation. Cagniard-Latour, in France, and Schwann, in Germany, had independently discovered the yeast plant and had attributed the phenomena of

alcoholic fermentation to the growth of this micro-organism, but these views had been discredited by Liebig. Pasteur, however, proved that these earlier investigators were right, and he went further and showed that lactic acid and all other true fermentations are caused by micro-organisms. He also disproved the doctrine of spontaneous generation, which had been dislodged from various positions which it once occupied among creatures visible to the naked eye, and had taken its last refuge where the objects of study were of such minuteness that their habits and history were correspondingly difficult to trace.

But the most interesting portion of the address—most interesting to medical men, at least—was that in which Sir Joseph Lister spoke of his own great work and of the marvellous change it had wrought in modern surgical practice. He had been often asked to speak on his share in this matter before a public audience, but had hitherto refused to do so, chiefly because he felt an invincible repugnance to what might seem to savor of self-advertisement. But the latter objection now no longer existed, he said, since advancing years had warned him to rest from active labor. He had long been impressed with the greatness of the evil of putrefaction in surgery, for the inflammation preventing primary union was, he had become convinced, due essentially to decomposition of blood within the wound. He had done his best to mitigate this by scrupulous cleanliness and the use of various deodorant lotions, but to prevent it altogether appeared hopeless in face of Liebig's doctrine that its primary cause was the atmospheric oxygen. "When Pasteur had shown that putrefaction was a fermentation caused by the growth of microbes, and that these could not arise *de novo* in the decomposable substance, the problem assumed a more hopeful aspect. If the wound could be treated with some substance which, without doing too serious mischief to the human tissues, would kill the microbes already contained in it and prevent the future access of others in the living state, putrefaction might be prevented, however freely the air with its oxygen might enter."

He had heard of carbolic acid as having a remarkable deodorizing effect upon sewage, and determined to try it in compound fractures. He applied it undiluted to the wound and "had the joy of seeing these formidable injuries follow the same safe and tranquil course as simple fractures, in which the skin remains unbroken." But there was another and unexpected result of this application. Portions of tissue which had been killed by the violence of the injury were no longer thrown off as sloughs, but were absorbed and replaced by living tissue. This suggested the use of animal ligatures with all its manifest advantages. It was soon found that diluted carbolic acid would do as well as the pure acid, and gradually the truth was borne in upon him that the elaborate precautions against the access to the wound of the living atmospheric dust, which lead to the early employment of the carbolic spray, were unnecessary. Experiments showed that the blood was able to dispose of the attenuated forms of microbes existing in the air, and that it was only the grosser forms of septic mischief

¹ Science, September 25, 1896.

that surgeons had to dread. He had hinted, at the London Congress, in 1881, that it might eventually be found possible to disregard altogether the atmospheric dust, and nine years later, at the Berlin Congress, he brought forward what he believed to be absolute demonstration of the harmlessness of the atmospheric dust in surgical operations. "This conclusion has been justified by subsequent experience; the irritation of the wound by antiseptic irrigation and washing may therefore now be avoided, and nature left quite undisturbed to carry out her best methods of repair, while the surgeon may conduct his operations as simply as in former days, provided always that, deeply impressed with the tremendous importance of his object, and inspiring the same conviction in all his assistants, he vigilantly maintains from first to last, with care that, once learnt, becomes instinctive, but for the want of which nothing else can compensate, the use of the simple means which will suffice to exclude from the wound the coarser forms of septic impurity." In speaking of the various antiseptic materials which have been employed and their modes of application, he reiterated his well-known belief that carbolic acid, by virtue of its powerful affinity for the epidermis and oily matters associated with it, and also its great penetrating power, is still the best agent at our disposal for purifying the skin around the wound.

Leaving surgery, the speaker directed the attention of his hearers to the microbic theory of disease. He did not believe that we could look forward with anything like confidence to being able to see the *materies morbi* of every infectious disease, for it is not improbable that the micro-organisms of some diseases are too minute ever to become visible to man, even by the aid of the most powerful microscope; but he affirmed that it can no longer be doubted that such parasites are really the causes of all this class of diseases. Once the cause of a disease has been ascertained, the indications for treatment are obvious, even though they cannot for various reasons be at once met. Sir Joseph reviewed the progress which had been made in this direction and made a profession of faith in the principles of orrhoterapy. Concerning the antitoxin treatment of diphtheria in particular, he said that there are certain cases of so malignant a character from the first that no treatment will probably ever be able to cope with them, but it seems probable that, taking all cases together, Behring's hope that the mortality may be reduced to five per cent. will be fully realized when the public becomes alive to the paramount importance of having the treatment commenced at the outset of the disease.

Finally Sir Joseph Lister instanced the discovery by Metchnikoff of the protection against pathogenic micro-organisms afforded by the white corpuscles of the blood. He believed phagocytosis to be "the main defensive means possessed by the living body against the invasion of its microscopic foes," for, while the power of the system to produce antitoxic substances to counteract the poisons of the microbes is doubtless of great importance, it is inoperative in those cases in which animals enjoy a natural immunity against certain diseases. Here the sole defensive agency seems,

he said, to be phagocytosis. This theory of phagocytosis was ingeniously appropriated by the speaker to explain the fact, which had been discovered in his own field of antiseptic surgery, that the dust of the atmosphere might safely be disregarded in operations. It also seemed to afford a clear explanation of the healing of wounds by first intention under circumstances before incomprehensible. "This primary union was sometimes seen to take place in wounds treated with water dressing, that is to say, a piece of wet lint covered with a layer of oiled silk to keep it moist. This, though clean when applied, was invariably putrid within twenty-four hours. The layer of blood between the cut surfaces was thus exposed at the outlet of the wound to a most potent septic focus. How was it prevented from putrefying, as it would have done under such influence if, instead of being between divided living tissues, it had been between plates of glass or other indifferent material? Pasteur's observations pushed the question a step further. It now was: How are the bacteria of putrefaction kept from propagating in the decomposable film? Metchnikoff's phagocytosis supplied the answer. The blood between the lips of the wound became rapidly peopled with phagocytes, which kept guard against the putrefactive microbes and seized them as they endeavored to enter." But if phagocytosis could guard the system against septic microbes in so concentrated a form, it could hardly fail to prevent infection by the attenuated forms existent in the air.

THE KNEIPP CRANKS.

THAT portion of the community accustomed to view even novelties from a common-sense standpoint was more than surprised at the permission recently granted the followers of a notorious quack to walk bare-footed on the lawns of Central Park. It was looked upon quite naturally as a dangerous precedent for any set of cranks that might desire to foist absurd notions upon any community on the plea of equal rights and individual liberty. It is quite true that only a secluded portion of the park was delivered to them at certain restricted times, but the principle of recognition of the claims of these self-styled health missionaries was as effectually demonstrated as if every public square were placed at the disposal of their nonsensical antics. It was the sacrifice of the rights and privileges of a majority to the tastes, inclinations, and accepted notions of a few, and clearly, from the latter view, controverted the proper use of the parks as expressed in their charters. The true motive of the barefoots, although reasonably suspected, was not until recently openly manifested. It was simply to use the public parks as advertisements for their so-called new cure. The president of the Brooklyn branch now boldly declares the real wishes of his laudably earnest disciples: "We want a large, free, open space to demonstrate to all the world that the Kneipp treatment is a cure and not merely a diversion for cranks." It must naturally be admitted that it is very much more difficult to prove the former proposition than to com-

bat the latter. If the present frightful death rate of the diseases claimed to be curable by this method can in any way be lowered, why not give these wonder workers an opportunity to be seen and heard? That would appear to be the only way out of the present difficulty of finally settling the now momentous question. The mission becomingly borrows an odor of sanctity from the head and front of its humble and modest projector. Faithful disciples, let your light shine by all means, and when the figurative bushel is thrown away with the shoe may you, while knuckling to this work, continue to glisten with the cleansing invigoration of the morning dew and blend your unconfined exhalations with the grassy scent of breezy lawns.

PRURIGO.

THE question of prurigo was considered of sufficient importance to occupy an entire evening at the recent international congress of dermatologists in London. The discussion, which was participated in by E. Besnier, White, Payne, McCall Anderson, Unna, and various others, is summed up by Sabouraud as follows: Prurigo has no proper lesion. The lesions which are seen are polymorphous. Only one of its symptoms, a functional one, is constant—pruritus. Scratching is the important factor in the objective lesion, which varies according to the tegumentary reaction (urticaria, lichen, etc.) of the individual and the secondary infection. At the base of prurigo there is a nervous lesion, the cause of the itching, the result of chronic intoxication, usually of autointoxication of visceral origin. Sabouraud thinks the discussion decided the triumph of the French doctrine (Besnier, Brocq, Jacquet) over that of Vienna (Hebra).

News of the Week.

A Case of Trichinosis was reported to the health authorities of Paterson, N. J., a few days ago.

The Plague has broken out in Bombay and other parts of the presidency. Over one hundred deaths have been reported as due to this disease.

Dr. James E. Newcomb has been appointed lecturer on physiology at the Teachers' College in this city.

An Epidemic of Whooping-Cough is at present giving trouble to the officers of the Colored Orphan Asylum. There have been about forty cases during the past two weeks.

Diphtheria prevails in Salem, Mass., and several of the schools have been closed in consequence. There are at present about thirty cases known to the health authorities.

Utah State Medical Society.—The second annual meeting of this society will be held in the council chamber, city and county building, at Salt Lake City, Tuesday and Wednesday, October 6th and 7th.

The New York State Medical Association will hold its thirteenth annual meeting at the Mott Memorial Hall in this city on October 13, 14, and 15, 1896.

A Monument to Pasteur is to be erected in Munich. A committee consisting of Professors Pettenkofer, Ziemssen, and Buchner has been organized to solicit subscriptions for this object.

A Chapel for Bellevue Hospital.—Miss Annie Leary has built a chapel in the grounds of Bellevue Hospital for the Roman Catholic patients, as a memorial to her brother, Mr. Arthur Leary. It will be dedicated this fall.

The Bicycle as a Therapeutic Agent.—The wheel has joined the ranks of aperient waters, infant foods, and other indispensable aids to health and long life, if we may judge from an exhibit in a Broadway window. In the window is a bicycle, and below the bicycle is the certificate of an honored member of the profession in a neighboring city, whose reputation as a therapist ought to be very valuable to the manufacturers of the bicycle ridden and approved by him.

Civil Service Examinations.—On Monday, October 5, 1896, the New York City civil service boards will hold a competitive examination at their office (new criminal court building), for the position of house physician at Bellevue Hospital. This position requires a knowledge of the treatment of the insane, and pays a salary of \$1,200 per annum. Applicants must be citizens of the United States and residents of New York State. There will also be an examination for the positions of druggist and assistant druggist, on Tuesday, October 6th, at 10 A.M. The candidates must be residents of the State of New York. Applications should be made to William Briscoe, secretary.

Jenner Centenary in Chili.—Upon the invitation of the Medical Society of Santiago, all the scientific associations of Chili united on May 14th in celebrating the centenary of the discovery of vaccination. An entire number of the *Revista Médica de Chile* is devoted to a report of this celebration, which was held in the hall of the National Conservatory of Music, in Santiago. Orations were delivered by Drs. A. Ossego Luco, R. Dávila Boza, E. Rodríguez Cerda, Lucio Córdova, Adolfo Murillo, and Luis Ugarte Valenzuela, and a poem in honor of Jenner was recited by Dr. Carlos A. Gutiérrez.

A Boon to Canadian Druggists.—An Eclectic Medical School of Milwaukee, with a branch office in Chicago, is sending circulars to pharmacists in Canada, offering them a medical diploma with the degree of M.D. for a small sum. The regular price, the letter says, is \$35.00 and the diplomas are "good, lawful, and valid in Wisconsin, Kansas, Idaho, Wyoming, Michigan, and Indiana," but as they confer no right to practise in Canada the price for them in the Dominion is reduced to \$10.00, C. O. D. We were informed by a Milwaukee correspondent that this disgrace to Wisconsin was to be closed, but it seems that the State still protects the diploma mill.

Frau Klafsky, a prima donna well known in this country, died recently in Hamburg as a result, it is alleged, of a needless trephining operation. She was suffering from severe headache, and a diagnosis was made of tumor of the brain. The skull was trephined, no tumor was found, but the patient died.

Yellow Fever in Cuba shows no sign of abatement, the new recruits constantly arriving in the island from Spain furnishing fresh fuel for the epidemic. The disease is confined almost wholly to the Spanish soldiers, only six of the forty-one deaths in Havana during the past week having occurred among civilians. Of the one hundred and five new cases reported during the same period, eighty-seven were among the newly arrived soldiers.

Impure Water in Chicago.—An Associated Press telegram of recent date reports that the public schools may be closed on the order of Commissioner of Health Kerr, because the water supply afforded them by the board of education, without filters, is impure. A heavy rain carried out to the pipes of the various cribs of the city all of the filth of the sewers, and this has been brought back to the school children in the drinking-water which is furnished them in the school buildings.

St. Luke's Hospital Censured.—A man who was being transferred from St. Luke's to the Harlem, one day last week, died shortly after being placed in the ambulance. At the inquest held by Coroner Dobbs the coroner's physician, Dr. Schultze, testified that in his opinion the man would not have died had it not been for the attempt to transfer him. The coroner's jury brought in a verdict that death was due to alcoholism and delirium tremens, and censured the hospital for negligence.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the United States navy for the week ending September 26, 1896: September 23d.—Passed Assistant Surgeon G. A. Lung detached from the *Vermont* and ordered to the naval hospital, Chelsea, Mass.; Passed Assistant Surgeon H. D. Wilson detached from the Chelsea, Mass., hospital, and ordered to the *Bache*; Passed Assistant Surgeon G. H. Barber ordered to the Naval Academy; Assistant Surgeon M. K. Johnson detached from the *Bache* and ordered to the *New York*; Assistant Surgeon F. C. Cook ordered to the *Vermont*.

Jefferson Medical College.—It is given out that the trustees of Jefferson Medical College have secured additional property, to the extent of twenty by one hundred and forty-eight feet, at the southwest corner of Tenth and Sansom streets, adjacent to the present college building. The plans contemplate the tearing down of the present building and the erection of a handsome structure in its place. Before this is done, however, it is hoped to have the new hospital building at the corner of Tenth and Walnut Streets completed. When this is accomplished, it is possible that the present hospital on Sansom Street will be fitted up for college purposes, to be used while the new college building is in process of construction.

A Case of Leprosy in Montreal.—At a coroner's inquest held recently on the body of a Chinaman who died in Montreal, it was found that death was caused by leprosy.

The Late Sister Irene.—At a special meeting of the New York Foundling Hospital, held September 15, 1896, the following minute was adopted:

"The medical board desires to pay tribute to the memory of Sister M. Irene FitzGibbon, late superior of this institution. Several members of the board have served for more than twenty years, and have witnessed the growth of this work, its transference to larger buildings, and its full development. They recognize the fact that the one person who organized, who procured friends and funds, who planned and built the one great foundling hospital of America was Sister M. Irene. Whatever other forces and agencies were assisting, it has been obvious to all that the central figure, the persuasive, tactful genius, the sweet-souled woman who led to this success was she to whom to-day the medical board pays this parting tribute.

"*Whereas*, The medical board, in the death of Sister M. Irene, the sister superior of the hospital, has lost the first executive officer and a long-trying friend, therefore be it

"*Resolved*, That the board causes to be spread upon the minutes of its records these resolutions of appreciation and sorrow, incorporating the words:

" 'This board has lost the best friend any hospital board ever had.'

"*Resolved*, further, that the sympathy of the board be extended to the reverend mother superior and the sisterhood of the Sisters of Charity; also that a copy of these resolutions be forwarded them and be published in the current medical periodicals.

[Signed]

"J. LEWIS SMITH, M.D.

"J. O'DWYER, M.D.

"GEORGE F. CAREY, M.D.

"*President of the Medical Board.*"

Obituary Notes.—SIR JOHN ERIC ERICHSEN, the well-known English surgeon, died on September 23d, at Folkestone, England, from apoplexy. He was born in 1818, and was educated at University College, London. He was a fellow and ex-president of the Royal College of Surgeons, a fellow of the Royal Society, and of the American Surgical Association, and a member of various other learned and scientific societies. At the time of his death he was emeritus professor of surgery and consulting surgeon to University Hospital. He was surgeon-extraordinary to the Queen.—DR. CHARLES MILNE, of this city, was found dead in his bed, on September 28th, by a servant who went to awaken him. The cause of death was heart disease. He was fifty-six years old, and was a graduate of the University Medical College in 1873.—DR. JOHN C. SACKVILLE was killed at Washington, Pa., on September 23d, by being struck by an express train. He was born in England in 1814, and was educated at Oxford. He served as surgeon with the English army in India, and also with the United States army during the Mexican war.

A Victim of the Faith Cure.—The discriminating coroner of Scranton, Pa., has declined to issue a permit for the burial of a child who died of diphtheria while under the care of local Christian Scientists.

Gloucester County (N. J.) Medical Society.—The fall session of the Gloucester County Medical Society was held at Woodbury, N. J., on September 24th. A number of papers were read and a luncheon was partaken of.

Bogus Diplomas.—A man was recently arrested in Germany for selling university degrees. He had stolen the seals of the University of Berlin and had made and sold at least two hundred and fifty bogus diplomas before he was caught. About one hundred of these diplomas were sold in the Scandinavian countries, fifty in England, and twenty-three in Germany.

Against Vivisection.—At a meeting of the American Humane Association held at Cleveland on September 24th, a resolution was unanimously passed recommending the general adoption throughout the United States of laws regulating the practice of vivisection. The members were urged to use their personal efforts to secure the enactment of the necessary legislation in the different States.

Canadian Medical Association.—At the recent meeting of this association the following officers were elected: *President*, Dr. V. H. Moore, Brockville, Ont.; *Vice-Presidents*, Dr. Peter Conroy, Charlottetown; J. F. Black, Halifax; Thomas Walker, St. John; J. M. Beausoleil, Montreal; W. W. Dickson, Pembroke; R. S. Thornton, Deloraine; E. H. C. Rouleau, Calgary; E. B. C. Hannington, Victoria; *General Secretary*, Dr. F. N. G. Starr, Toronto; *Treasurer*, Dr. H. B. Small, Ottawa. The next meeting in 1897 will be held in Montreal, in conjunction with the meeting of the British Medical Association.

Vital Statistics of Philadelphia.—For the week ending September 19th, there occurred in the city of Philadelphia 427 deaths; 42 more than during the preceding week and 61 more than during the corresponding period of the previous year. Of the whole number 158 occurred in children under five years of age. The principal causes of death were as follows: Pneumonia, 37; pulmonary tuberculosis, 36; cholera infantum, 26; diseases of the heart, 22; carcinoma, and inflammation of the brain and membranes, each 19; apoplexy, 17; diphtheria, 16, marasmus, 14; nephritis, 13; old age, 12; typhoid fever, 10. There were reported during the week 57 cases of typhoid fever, 46 of diphtheria, and 10 of scarlet fever.

A Munificent Bequest.—By the will of the late Enoch Pratt, a banker and philanthropist of Baltimore, a sum of money estimated to be upward of two million dollars is bequeathed to the Sheppard Asylum, with the stipulation that the name of the corporation be changed to the Sheppard and Enoch Pratt Hospital. It is intended that the income derived from the fund shall be used to complete the present buildings and grounds and then to erect an additional

building with a capacity of two hundred beds. After this has been done the fund is to be devoted to the care of the indigent insane "free of cost, by the most approved methods known to medical science."

Philadelphia County Medical Society.—At a stated meeting of the Philadelphia County Medical Society, held on September 23d, Dr. E. E. Montgomery read a paper on the "Treatment of Retrodisplacements of the Uterus." He contended that the displacement itself is generally not of so much significance as the accompanying complication, and that no procedure which does not take cognizance of the latter condition will prove a satisfactory method of treatment. The following recommendations were made: In recent cases, when the uterus is freely movable, the use of a medicated tampon or of a pessary. In recent cases, when a plastic exudate is present, together with adhesions, and suppurative salpingitis can be excluded, the employment of massage, supplemented by the medicated tampon, and restoration of the mobility of the uterus, followed by the introduction of a pessary. In chronic cases, when the uterus is movable, the practice of curettage followed by suture of the round ligaments in front of the uterus through anterior colporrhaphy. When ovarian or tubal disease exists as a complication, the practice of curettage, followed by abdominal incision, treatment of the diseased appendage, and fixation of the uterus to the abdominal wall. If adhesions are present, without serious tubal or ovarian disease, the practice of curettage in conjunction with shortening of the utero-sacral ligaments, after separation of the adhesions, through the posterior vaginal incision. Dr. John M. Fisher exhibited a specimen of multiple fibroids of the uterus, in the removal of which a cyst situated in the broad ligament caused some doubt as to whether it was the bladder.

Pathological Society of Philadelphia.—At a stated meeting of the Pathological Society of Philadelphia, on September 24th, the following presentations were made: Dr. J. A. Scott, "Carcinoma of the Pancreas, with Secondary Growth in the Liver;" Dr. D. Riesman, "Atheroma of the Vessels in a Case of Diabetes Mellitus in a Girl Thirteen Years Old;" Dr. A. A. Eshner, "Multiple Aneurisms of the Aorta, with General and Extensive Atheroma of the Entire Vascular System, Death Resulting from Rupture into the Abdominal Cavity; Typhoid Ulceration, Involving both Large and Small Intestine, from a Case Terminating Fatally during a Relapse;" Dr. A. E. Taylor, "Malarial Hæmatozoa; Thrombosis of the Pulmonary Artery in a Child;" Dr. T. S. Westcott, "Urethral Calculi from a Case Terminating Fatally as a Result of Cerebral Hemorrhage;" Dr. F. A. Packard, "Tuberculous Laryngitis, with Abscess on the Trachea, and Slight Involvement of the Lungs;" Dr. C. J. Garitee, "Heart and Kidneys from a Case of Verrucose Endocarditis and Parenchymatous Nephritis;" Dr. J. D. Steele, "Contracted Gall Bladder, with Gall Stones;" Dr. Joseph Sailer, "Perforated Aortic Leaflet from a Case of General Septicæmia;" Dr. A. Hand, "Meningocele, with Congenital Absence of One Kidney and Ureter."

Reviews and Notices.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Volume I., January, 1896. Edited by ANDREW J. MCCOSH, M.D., and WALTER B. JAMES, M.D.

BESIDES the usual statistical report, there are records of clinical histories by the various members of the staff, and a chapter on the preparation of dressings, sutures, sponges, etc., compiled by Miss E. S. Anthony.

THE MULTUM IN PARVO REFERENCE AND DOSE BOOK. By C. HENRI LEONARD, M.A., M.D., Professor of the Medical and Surgical Diseases of Women, Detroit College of Medicine. Detroit: The Illustrated Medical Journal Company. 1896.

THIS is a new edition of Leonard's dose book, printed on thin paper and bound in flexible leather with round corners, making it easy to be carried in the pocket. The book not only gives the doses of all drugs used in rational medicine, but also contains numerous tables of solubilities, poisons and their antidotes, urinary tests, incompatibilities of drugs, etc.

THE AMERICAN ACADEMY OF RAILWAY SURGEONS. Report of the Second Annual Meeting, Held at Chicago, Ill., September 25, 26, and 27, 1895. Edited by R. HARVEY REED, M.D., Columbus, O. Chicago: American Medical Association Press. 1896.

THIS edition of the transactions of the American Academy of Railway Surgeons is a neat little volume of over two hundred pages, well printed and well edited. The papers vary considerably in merit, but all of them bear witness to the interest of the writers in their work, an interest which augurs well for the future of this important branch of surgical employment.

A SHORT COURSE OF EXPERIMENTS IN GENERAL CHEMISTRY, WITH NOTES ON QUALITATIVE ANALYSIS. By CHARLES R. SANGER, A.M., Ph.D., Eliot Professor of Chemistry in Washington University. St. Louis: Published by the Author. 1896.

THE author has endeavored to present in this course a series of experiments teaching practically as well as theoretically as much chemistry as it is possible to teach in the limited time which can be devoted to it in one year at a medical school. No attempt is made to teach the subject from a purely medical standpoint, for, as the author very wisely says, a good theoretical and practical foundation is necessary before taking up the special subject of medical chemistry.

ATLAS OF THE DISEASES OF THE SKIN. By H. RADCLIFFE CROCKER, M.D., F.R.C.P., Physician to the Department for Diseases of the Skin, University College Hospital; formerly Physician to the East London Hospital for Children; Examiner in Medicine at Apothecaries' Hall, London. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

FASCICULUS XVI. of this series of illustrations from original drawings, with descriptive letterpress, has just come to hand, completing the work, whose many excellent features have from time to time been referred to in these columns. The first plate, representing impetigo contagiosa gyrata, strikes one at first as being overdrawn in the definition of erythematous outline of the areola. That the situation of lesions upon the back, as here portrayed, is unusual goes without saying, but, as it is well known that the affection may extend over the entire body, even to parts which cannot be easily reached by the hands, the diagnosis need not be questioned on that account.

Excellent plates of mycosis fungoides and pemphigus are presented, and those portraying the various nail and tongue affections are most instructive.

Acanthosis nigricans, myxœdema, and one-sided lentigo are among the rarer affections reproduced. On the whole, this last fasciculus is in a way the crowning number of the series.

Dr. Crocker deserves the highest commendation for presenting so excellent a work, and the publishers should be complimented upon the manner in which they have brought it out.

MANUAL OF MIDWIFE'RY. For the Use of Students and Practitioners. By W. E. FOTHERGILL, M.A., B.Sc., M.B., C.M., Buchanan Scholar in Midwifery, University of Edinburgh; Late House Physician to the Simpson Memorial and Royal Maternity Hospitals, and Gynecological Wards, Royal Infirmary, Edinburgh; Neil Arnott Prize-man in Physiological Physics; Scottish Universities Extension Lecturer; Honorary Surgeon to the Chorlton-on-Medlock Dispensary, Manchester. New York: The Macmillan Company. 1896.

THIS is a very concise yet complete guide for the student and young practitioner. It is of convenient size, well printed, and well illustrated. While it claims to be "a book for Edinburgh men by an Edinburgh man," we can see no reason why its teachings could not be profitably followed by students elsewhere, since the science of which it treats is universal in its application. The author follows the usual plan of beginning with the anatomy and physiology of the female reproductive organs, then taking up pregnancy, normal and pathological; labor, normal and abnormal; obstetrical operations; the puerperium; and closing with a brief chapter on the hygiene of infancy. The author's style is easy and comprehensible, so that the reader has only to occupy himself with the subject matter and is not distracted, as in so many works by medical writers, by efforts to interpret the English. The affectation of the printer in employing two letters in place of a diphthong is not to be commended.

PRACTICAL POINTS IN NURSING: For Nurses in Private Practice, with an Appendix Containing Rules for Feeding the Sick; Recipes for Invalid Foods and Beverages; Weights and Measures; Dose List; and a Full Glossary of Medical Terms and Nursing Treatment. By EMILY A. M. STONEY, Graduate of the Training School for Nurses, Lawrence, Mass.; Superintendent of Training School for Nurses, Carney Hospital, South Boston, Mass. Illustrated with 73 Engravings in the Text and 9 Colored and Half-tone Plates. Philadelphia: W. B. Saunders. 1896.

THE title of this book indicates clearly the nature of its contents. It is intended to serve as a guide to the nurse in her private work. The writer expresses herself clearly and intelligibly, and the descriptions are supplemented by numerous instructive illustrations.

SYSTEM OF SURGERY. Edited by FREDERIC S. DENNIS, M.D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College; Visiting Surgeon to the Bellevue and St. Vincent Hospitals; Consulting Surgeon to the Harlem Hospital and Montefiore Home, etc. Assisted by JOHN S. BILLINGS, M.D., LL.D., D.C.L., Deputy Surgeon-General, U. S. A. Volume IV. New York and Philadelphia: Lea Brothers & Co. 1896.

THIS final volume of Dr. Dennis' excellent work is fully equal in interest of subject matter, authority of the writers, and beauty of illustrations and typography to any of those which have preceded it. The first article is on "Tumors," by the editor, and following this come "Hernia," by W. T. Bull and W. B. Coley; "Surgery of the Alimentary Canal from the Pharynx to the Ileo-cæcal Valve," by M. H. Richardson and Farrar Cobb; "Appendicitis," by Frank Hartley; "Surgical Treatment of Appendicitis," by Charles McBurney; "Surgery of the Alimentary Canal from the Ileo-cæcal Valve to the Anus," by Lewis S. Pilcher; "Surgery of the Liver and Biliary Passages," by Robert Abbe; "Surgical Disorders and Diseases of the Uterus," by William M. Polk; "Surgical Diseases of the Ovaries and Tubes," by Joseph Taber Johnson; "Minor Gynecological Surgery," by Henry C. Coe; "Symphyseotomy," by William T. Lusk; "Surgery of the Thyroid Gland," by Robert F. Weir; "Surgical Peculiarities of the Negro," by Rudolph Matas; "Diseases of the Female Breast," by Frederic S. Dennis; and "The Use of the Roentgen Rays in Surgery," by W. W. Keen. The volume is concluded by an index to the present volume and a general index to the entire work. The latter has been most carelessly made and is absurdly incomplete, with the result that what would otherwise have been a valuable work of reference is rendered utterly useless as such. As a text-book, to be read and studied by the student and young practitioner whose time is unlimited, the work can be commended.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY.

By A. D. ROCKWELL, A.M., M.D. Illustrated with 200 engravings. New Edition. New York: William Wood and Company. 1896.

FOR twenty years and more the work of Beard and Rockwell has been the leading authority in this country on the subject which it treats. They were the pioneers in the field of electro-therapeutics, and enunciated ideas and methods which have stood the test of time. The present work by Dr. Rockwell is the offspring of the former, and, as he states in the preface, has been thoroughly revised and mostly rewritten, the old stereotyped plates having all been destroyed. The illustrations have been newly drawn and many new ones added, so that the author again offers to the profession a treatise in every way complete and modernized. Electricity in medicine has assumed proportions and an importance which cannot be ignored. When the author of this treatise and his associate, the late Dr. Beard, first began their investigations, the subject of electro-therapeutics was little known. For years it gained ground slowly, but within the last decade it has felt somewhat the great strides made by electricity in its commercial aspect. Instruments of precision and greatly improved apparatus have rapidly developed. Schools of instruction have been established, and he who is still ignorant of the possibilities of electricity in medicine and ignores its claims has failed as a physician to keep abreast the current of the times. The influence of electrization over nutrition, the central idea of the work, and which the authors were the first to enunciate and develop, has received wide recognition and is indeed the basis of its medical use. The chapter on Ohm's law alone will well repay the reader. It is the basis of all electrical measurement, indispensable to the worker in electricity, and so clearly discussed and illustrated as to make this abstruse but most important subject plain to the dullest comprehension.

Among the chapters new or entirely rewritten are those devoted to the Roentgen rays in diagnosis and to static electricity, in which the aid of Dr. S. H. Monell, of Brooklyn, is acknowledged. The work plainly sets forth all the fundamental principles of electricity in its relation to disease, is clear in detail, and cannot fail to aid greatly all who are interested in this department of medical science.

A SYSTEM OF MEDICINE. By Many Writers. Edited by THOMAS CLIFFORD ALBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, etc. Volume I. New York: The Macmillan Company. 1896.

THE first article in this volume, after the editor's introduction, is by Dr. John S. Billings, and two other articles, namely, "Massage," by Dr. J. K. Mitchell, of Philadelphia, and the bacteriological section of "Relapsing Fever," by Dr. Westbrook, of Minneapolis, are from the pens of Americans. The other contributors are British, some of them well known by their writings to the profession in this country, others with a local reputation doubtless, but whose names are not yet familiar in America. The first half of the volume is taken up with a number of short essays on miscellaneous subjects, entitled "Prolegomena." Among these one on the "Medical Geography of Great Britain" is of local interest only, and another on "Nursing" seems as out of place in a work of this sort as would be a collection of cooking-recipes or a chapter on the compounding of prescriptions. The article, which is by Miss Hughes, of Bolton, is an excellent one, however, and if it could be detached from the rest of the volume and somewhat amplified would serve as an excellent book to put in the hands of an amateur called upon to nurse a serious illness. The best of these "Prolegomena," at least those which have interested us the most, are "Inflammation," by Adami; "Fever," by Burdon-Sanderson; "The Laws of Inheritance in Disease," by Hutchinson; and "Principles of Drug Therapeutics," by Leech. The second division of the volume is devoted to a consideration of fevers. The principle of subdivision of labor has been carried here to a rather extreme degree, several of the articles having been divided among two or more writers, and one, that on "Cholera Asiatica," being the product of the combined labors of no less than five authors, two of whom treat of the etiology, two more of the bacteriology, and one of the symptoms, pathology, and treatment. This is a refinement of specialism that might, we think, have been avoided with advantage. As a whole, however, the work is one that can but com-

mend itself as a faithful exponent of British medicine, and one that gives promise of deserving a success equal to that of "Reynolds' System of Medicine," of which it will now doubtless take the place.

A VEST-POCKET MEDICAL DICTIONARY. Embracing those Terms and Abbreviations which are Commonly Found in the Medical Literature of the Day, but Excluding the Names of Drugs and of Many Special Anatomical Terms. By ALBERT H. BUCK, M.D. New York: William Wood and Company. 1896.

NOTWITHSTANDING the appearance of a new medical dictionary every year or two for the past decade, there has been up to the present none in existence which met the needs of the physician and especially the student. Of lexicons in one or several large volumes there is an ample choice, but they can be consulted only in the library, and even then the labor of taking a heavy book from the shelf, and the interruption to reading caused thereby, are often enough to deter one from looking up a half-understood word. Furthermore many busy practitioners have little time for quiet study in the library, but must read their books and journals while riding to their patients, and to such persons a ponderous lexicon reposing on the bookshelf is no more useful than if it were printed in Chinese characters. But it is the student in the classroom who especially feels the need of a dictionary which he can have always with him, and to which he can turn whenever an unfamiliar word strikes his ear. To these, the busy practitioner and the student, this little book will come as a welcome friend. It is really of vest-pocket size, being but two and a half inches wide by three and a half long, and about one-half inch in thickness, yet it contains the definition and pronunciation of over five thousand words. We are aware that there are other professedly pocket dictionaries which contain a much greater number of words, one indeed which bases its claim to the preferences of purchasers on the stated number of words it contains. Of course, the value of such a work, which does not pretend to contain all the terms known to medicine, must depend entirely upon the intelligent judgment of the author as to what words shall be admitted and what excluded. A careful examination of the lexicon has caused us to admire the rare discrimination shown by Dr. Buck in this task. Obsolete terms and the creations of some ambitious word coiner, which would never be encountered in a lifetime of study of contemporaneous literature, have been rigidly excluded, but of the new terms and the old ones still current we have failed to find scarcely one in a most thorough search. In this careful discrimination and selection the book possesses great advantages over similar works which base their claims upon the large number of words they contain. There is quality in Dr. Buck's book rather than quantity. Although the book contains such a large number of words in such small compass, the type is of good size and can be read with ease without the least strain of the eyes. It is substantially bound in flexible leather covers.

Oxygen in the Treatment of Suppurating Surfaces.—Dr. W. Peyre Porcher writes in the *North Carolina Medical Journal* concerning the use of oxygen in the treatment of old wounds and suppurating surfaces of all kinds, as practised by Dr. Stoker. He says that he saw old sores of thirty years' duration, ulcers extending from knee to heel, a burn 10 x 8 inches on the back, all in rapid progress of healing simply by continued exposure to oxygen gas, pure or diluted; ear polyps dried up and dropped off and atrophic rhinitis was materially improved. There were no hard indurations in the cicatrices of these old ulcers, but the surface was smooth and apparently full of blood-vessels. Cultures from the wounds were regularly taken and the progress toward healing noted. At the recent meeting of the British Laryngological Association, cases of atrophic rhinitis and purulent middle-ear disease were shown which had greatly improved under the application of oxygen. Mr. Lennox Browne and several members reported cases in which the treatment had been used with success.

Society Reports.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Twentieth Annual Meeting, Held at the Hot Springs of Virginia, September 8, 9, and 10, 1896.

THE attendance was small, chiefly owing to the fact that many members were absent in Europe, where they had been attracted by the International Dermatological Congress.

President's Address.—DR. A. R. ROBINSON, of New York, delivered an address of welcome, in which he first spoke in glowing terms of the character and ability of the only active member the association has ever lost by death, Dr. Edward Wigglesworth, of Boston. The field which the dermatologist cultivates the speaker looked upon as a most important and extensive one, and still the specialist in this branch does not yet hold the position he should in the eyes of the general profession. One reason of this is the attitude of most medical schools in this country in not looking upon the study of cutaneous diseases as a natural and necessary part of the college curriculum. Medical education, he said, has not yet reached a common-sense basis. The school has no right to pronounce a man capable of treating diseases of which it has given him no knowledge. Classes are habitually too large for proper clinical instruction. The physician graduated without the ability to diagnose and properly treat diseases of the skin is not justified in accepting a fee from a patient with a disease of this nature, if a properly qualified physician is within reach. The English custom of granting one degree for graduates in medicine and another for graduates in surgery, if adopted here would, the speaker held, be a step in the right direction. Attention was called to the many unnecessary operations which result from the family physician calling in a surgeon instead of a dermatologist in doubtful cases, in which the diagnosis lies between sarcoma, lupus, tuberculosis, and syphilis. Instances were quoted to show how slight and often overlooked eruptions pointed to the true condition, and would, if recognized, save the patient from the knife. To obtain proper recognition by the schools, the general practitioners, and hospital authorities, so that teaching and practising in public as well as private may become what it should be, the dermatologist ought to be more aggressive toward notorious offenders, and show by his works the great importance of this special branch to humanity. Papers representing original research should be published only in journals devoted to the special branch, so that the dermatologist could keep track of the subjects; while those intended to instruct the general practitioner or to acquaint him with the fact that the writer is devoting his time to dermatology, can be printed in journals devoted to general medicine. The speaker opposed strongly the reading or publication of papers, the sole purpose of which was to advertise the writer. Admission to the association should be a goal for every true worker in dermatology, to be gained by hard labor. One who writes for notoriety is not likely to bring much credit upon the association, one of whose objects is to guard the dignity of dermatology.

Paget's Disease of the Nipple.—DR. G. T. JACKSON, of New York, read a paper upon this subject, and described a case occurring in a woman, aged fifty-two years. After a dermatitis about the nipple, a tumor developed within the substance of the breast, which Dr. Curtis amputated with good results; but subsequently a similar tumor formed in the opposite gland. Dr. Ely, who made the microscopical exami-

nation, reported that the growth was not cancerous. Dr. Jackson advocated early amputation in Paget's disease as soon as possible after a positive diagnosis had been made, since cancer is so prone to develop.

DR. FORDYCE thought the pathologist's report indicated that a fibrous growth was present in the gland before the eczema-like disease occurred about the nipple, while text-books teach that the disease always begins in the epidermic cells and extends secondarily along the galactiferous ducts.

DR. BOWEN agreed with this criticism.

DR. DUHRING said at first there was an inflammation of the skin about the nipple, clinically identical with eczema. Five years later an entirely different clinical picture was presented. Epithelioma masked the eczema. He had suggested the name "eczematoid epithelioma," since the vast majority of cases became cancerous.

DR. WHITE thought the case described could not be regarded strictly as one of Paget's disease. If improvement does not take place in the latter disease from ordinary remedies, it is proper to advise excision.

DR. ROBINSON said he failed to see that any connection had been shown between the affection of the breast and the nipple changes. There might have been fibroma in accidental combination with dermatitis. He had seen cases diagnosed as Paget's disease, in which without operation recovery took place.

DR. JACKSON said, in closing, that the clinical appearances had been typical, and he thought any one present would have made this diagnosis.

A Pathological and Clinical Classification of the Diseases of the Skin.—DR. L. A. DUHRING, of Philadelphia, read a paper with this title. He presented a table, showing the diseases arranged and grouped according to the views advanced. Nine classes were given: 1, Anæmias; 2, congestions; 3, inflammations; 4, hemorrhages; 5, neuroses; 6, hypertrophies; 7, atrophies; 8, new growths; 9, diseases of the appendages of the skin. The last class was divided into diseases of the (a) sweat glands; (b) sebaceous glands; (c) the hair and follicles; (d) the nails. The structures composing the appendages of the skin, especially the follicles, hair, and nails, were subject to such varied forms of disease that it was eminently proper and useful to lump them together. The classification was based on the pathology, histopathology, and anatomy of the skin, note being also taken of the chief primary lesions of disease, as well as of the other prominent clinical features, with a view to aiding the clinician in recognizing the various diseases of the skin.

DR. WHITE did not think it an improvement on Dr. Duhring's previous classification. He found many affections placed under one head which might as well be placed elsewhere, and the last class appeared to be an "*omnium gatherum*." In the present state of knowledge, the etiological element can scarcely be ignored. It seemed to him more important than the anatomical. Pityriasis rubra and dermatitis exfoliativa, he said, were considered as separate affections.

Various criticisms were afterward made.

DR. MORROW said an etiological classification was the ideal one, and it seemed a step backward to entirely ignore the etiological element. Finding the various tinea in different classes would tend to confuse the students. Morphœa and sclerodermœa, classed as atrophies, he thought, were recognized by all to be primarily hypertrophies.

DR. ALLEN said a satisfactory classification seemed an almost impossible task, and still he thought it a reproach that the association had to rely upon an alphabetical list. He thought Dr. Duhring had attempted a necessary work, and hoped he would persist in his effort to improve it.

DR. ROBINSON thought the classification would not be as useful to the reader or the teacher as Dr. Duhring's original one. It was quite complicated. An etiological classification was at the present time impossible, and probably always would be, because many agents are capable of presenting widely differing pathological processes. The general arrangement seemed correct, showing much serious study, but still presented many objectionable features.

DR. DUHRING, in closing, said that he had given much thought to the matter, and during the past twenty-five years had laid out a half-dozen classifications on different lines. While a few diseases behave well under an etiological classification, the larger number cannot be so classified. It becomes too confusing for the student. The class of diseases of the appendages of the skin have been introduced to give a place for the convenient grouping of a number of diseases. In forming a classification it is not well to depart too far from old lines. The speaker felt sure that he could show a form of pityriasis rubra which would not be considered the same as dermatitis exfoliativa.

A Peculiar Affection of the Mucous Membrane of the Lips and Mouth.—DR. J. A. FORDYCE, of New York, read a paper entitled as above, in which he reported a case of a peculiar mottling of the lips and mucous surface of the cheeks, more noticeable when the parts were put upon the stretch. The condition had existed for two years without subjective symptoms, but the patches had gradually increased in area. The microscope showed a degeneration of the protoplasm of the epithelial cells. The muciparous glands were not involved. The specimen and colored drawings were shown.

DR. MORROW said it was an interesting point that the same condition had been found in several members of the patient's family. The nature could be determined only by the microscope.

DR. WHITE had seen superficial changes suggestive of the case reported.

DR. BOWEN thought there might be a plugging of the glands by the process described, which would account for the yellowish or whitish bodies seen beneath the surface. He had seen bullæ followed by atrophy and attended with the formation of bodies similar to those by plugging up of glandular structures.

DR. ALLEN thought the condition a very common one, but the cases he had observed had not sought treatment. At times it constitutes almost a deformity.

A Favus-Like Eruption of the Oral Mucous Membrane Caused by Aspergillus Nigrescens.—

DR. WINFIELD, of Brooklyn, gave the history of a case which had been referred to him by Dr. Browning, who had had it under observation for some weeks. A small ulcer had first appeared on the middle line of the roof of the mouth, about half way between the incisors and the soft palate. It was supposed at first to be an ordinary canker sore, giving discomfort only when bread-crusts or other hard substances pressed against it. The patch increased slowly in size, and others formed in the neighborhood. Two weeks after its first appearance the patient consulted Dr. Browning, and, as the patch continued to enlarge, a course of antisyphilitics was given, but without good effect. It was then suspected that the inflammation was due to a local parasite, and bichloride and other parasitocides were employed, without avail. A drawing was shown, revealing a lumpy patch extending from just behind the incisors to within one-fourth of an inch of the soft palate. Cup-shaped elevations on the soft palate appeared on either side of the middle line. A firmly attached membrane, giving rise to hemorrhage when forcibly removed, covered the areas. The color of the recent deposit suggested the sulphur-colored scutula of

favus; where it had remained undisturbed it was darker. A few minute ulcers were scattered over the larger patch. With low power the growth was recognized under the microscope as a fungus differing from the achorion. The mycelium network was composed of delicate fibres, bearing perpendicular fructifying hyphæ. Scattered over the field were a number of fruit receptacles and a few spores. The manner of fructifying showed that the fungus did not belong to the oidium, but to the ascomycetous genus. Cultures showed it to be *aspergillus nigrescens* which had caused the inflammation. Upon applying twenty-five-per-cent. ethereal solution of "pyrozone," improvement was immediately noticed. The pseudo-membrane disappeared and new patches ceased forming. After seven weeks' treatment the patient was well. Literature has failed to show a similar case, although many instances were recorded in which *aspergillus* has been found in the human ear. The spores were supposed to have been implanted in the mouth through the medium of cheese, strong and mouldy varieties of which the patient was very fond of eating.

What Effect do Diet and Alcohol Have upon the Causation and Course of the Eczematous Affections and Psoriasis?—

DR. J. C. WHITE, of Boston, opened the discussion on this subject. He said that little new in this line had been brought out at the recent congress in London, the president of which had expressed his continued belief that leprosy was due to a certain article of diet. Some recent discussions have shown that observations of the past have been so inexact that no trustworthy conclusions can be drawn from them. The importance of the bearing of diet upon eczema has been shown to be greatly overestimated. It has also been denied that the existence of eczema proves the coexistence of gout. Improper selection of food, its improper preparation, and the use of food containing toxic properties are all harmful. In certain nomadic tribes the diet is largely animal; among certain religious sects it is almost exclusively vegetable; while it is only recently that certain inland people have had fish as a common article of diet. In spite of these opportunities, the therapeutic test has rarely been applied on an extensive scale. Articles of food which increase the cutaneous circulation or excite the nervous system, and so exaggerate a pruritus, certainly have a bearing upon eczema. The diet in this disease should be the same as in all other inflammatory processes. As he does not recognize any connection between eczema and any so-called diathesis, he would deny the efficacy of systems of diet based upon the existence of such diathesis. He recognized both a direct and an indirect influence on the maintenance of the disease by alcohol, but did not regard it as an important factor in its causation. Personally he believed that diet and alcohol had no influence on the causation and course of psoriasis in general, but in exceptional types they have a temporary importance. The successful treatment of these two diseases is still a matter of empirical experimentation.

DR. FORDYCE said eczema was a general term, including many different conditions. Our etiological knowledge is so meagre that it is difficult to express definite views upon the influence of diet and alcohol on these affections. A study of the natural history of psoriasis would, perhaps, explain the divergent views regarding this supposed influence. In the early progressing stage the development of psoriasis may be influenced by alcohol and, perhaps, by diet. In the stage of decline the disease can be influenced by almost any drug or any food.

DR. JACKSON believed alcohol aggravated eczema and psoriasis. Perhaps we shall soon have to allow the influence of micro-organisms in eczema. The more simple the diet the sooner the cure. He had

seen cases treated by Dr. Fox with all kinds of exclusive diets, and had been unable to observe any decided effect from any of them. Simplicity is of prime importance.

DR. DUHRING said that in so broad a subject only certain points could be touched upon. We must distinguish between food as a cause and food as an injurious factor in disease. He would seriously question food being the cause of eczema, but it may possess a direct injurious influence. In many cases it decidedly aggravates an eczema already existing. As to alcohol, he did not believe it exerted much influence in causation, but all would admit that it was injurious. It was far from being such a potent factor as is food.

DR. DYER said he had repeatedly watched cases of recurrent infantile eczema, notably that attacking the face. Whenever he investigated the dietary he usually found it faulty. Without internal medication and with indifferent applications, a cure was usually effected by regulating the food.

DR. MORROW said that in Honolulu these two diseases were the ones habitually seen, and the diet was almost exclusively vegetable. A certain proportion of subjects of infantile eczema suffer from malassimilation. Some of the elder children are allowed coffee, vegetables, meat, and a piece of bacon to suck. By correcting these faulty conditions, an eczema will show marked improvement. In dispensary practice he gave no instructions as to diet, knowing that they would not be observed. Private patients did better, mainly for this reason. Alcohol injured in eczema, just as it does in syphilis, because of the influence on the circulation. We must recognize the influence of alcohol in favoring relapses in psoriasis.

DR. ALLEN said his hospital experience accorded with that of Dr. Morrow, in that relapses occurred promptly and in a severe form in those who drank spirits as soon as they were discharged. Children with eczema of the face were generally found to have some error of diet, and the disease seemed aggravated by it.

DR. ROBINSON said if one lived upon mutton for a number of weeks the molecular constitution would differ from that after an equal period on a mixed diet. This point was brought forward by Huxley twenty or thirty years ago. The diseases of children are of two classes, toxic and parasitic. There is no direct toxic agent, but the ground is made favorable for the development of such organisms as reach the surface directly. In fermentative forms of indigestion toxins are formed, and in this way a toxic eczema may become established. He especially condemned sweets, and particularly the cheap candies these subjects are often found to consume. Correction of the intestinal disturbance alone almost invariably leads to a disappearance of eczematous eruptions, but more slowly than if local applications are also made, especially if they are such as are unfavorable to the development of parasitic organisms. Urate of sodium has been found upon the skin surface in gout, and he could recall an instance in which internal treatment directed against the gouty condition promptly removed an eczema, which other treatment had failed to influence. In psoriasis he thought food had little influence. He depended upon establishing an alkaline state of the system; as long as the urine remains acid, he is unable to successfully treat such cases. If the diet is properly regulated, less alkaline medication is required.

DR. WHITE, in closing, said we had not as yet any positive knowledge that eczema was a specific parasitic disease. At present that claim was a mere theory. It must not be forgotten that eczema was most frequent in the early months of infancy, while the food was of the simplest nature. Up to the tenth year the complexity of the food was constantly increasing, and still ecze-

mas became less frequent. He would be inclined to draw more serious conclusions from Dr. Dyer's remarks if regulation of diet had been followed by the results without any local treatment.

DR. DUHRING said that food influences the nutrition of the skin in eczema in a notable degree, and hence must be regarded as an important factor in the history of eczema.

Symmetrical Morphœa.—DR. P. A. MORROW, of New York, reported a case of symmetrical morphœa attended with formation of bullæ and ulceration. The striking features of the case were the number and size of the plaques, their symmetrical distribution, the occurrence of bullæ, and the extensive breaking down and ulceration of the affected tissues.

He was consulted in regard to it first by Dr. A. H. Crane, of Waterbury, Conn., who had been called in on the suspicion that it was a case of leprosy, and subsequently Dr. Rodger had brought the patient to his office. He was a man sixty-five years old, whose health had been good with the exception of attacks of rheumatism. One year ago he began to experience stiffness in the right thigh and observed that the skin in this region was changed in color, and felt stiff, hard, and unyielding. Soon after this white patches appeared on the left thigh and later below both knees. In January last similar patches appeared on the lower portion of the abdomen, about the hips, sides of the trunk, and on the back between the shoulders. The patches below the knees became painful and ulcerated, and did not heal for six months. In May (1896) the upper and middle region of the right thigh was occupied by a large irregular plaque covering almost the entire anterior and outer surfaces. It was made up of smaller plaques which had become confluent, their lines of coalescence being distinguishable. Over the opposite thigh the plaques are symmetrically disposed, but not confluent. Band-like patches are seen above Poupert's ligament, extending upward and outward on either side. On the lateral and posterior aspects of the trunk are symmetrical patches; on the right leg the ulcerative process has extended into and above the popliteal space. The patches are round, oval, or of irregular contour. The color is lardaceous white, the older ones having a yellowish or parchment coloration. Each patch is surrounded by a clearly defined lilac border. The skin over the patch cannot be pinched up, there is complete absence of hair, and the secretions are entirely suppressed over the affected areas. There is lancinating pricking pain in the ulcerated surfaces, and a hypersensitiveness to cold is complained of. In August there was marked improvement, the ulcerations being healed. Here and there over the cicatrix small excoriations and ulcerations formed from time to time, due to the rupture of bullæ the size of large peas, of a gray color, giving exit to an amber-colored fluid. The occurrence of bullæ has been a constant feature for two months.

Treatment consisted in giving thyroid extract tablets, fifteen to twenty-five grains daily, along with large doses of iodide of potassium, forty to forty-five grains t. i. d.—replaced after the second visit by salicylate of sodium and Merck's thyroïdin in the same dose as the extract. There has been progressive improvement. Many patches are in process of involution. The skin is softer, more supple, and the patient seems in a fair way to recover.

Mycosis Fungoides and Sarcomatosis Cutis.—DR. J. T. BOWEN, of Boston, read a paper on this subject. There is often very great difficulty in differentiating these two types of disease. The reader possessed a series of photographs illustrating this point. A study of his cases and of others which had been reported would make it probable that there are transitional forms between the two affections, as has been

suggested by Kaposi. A histological study of the papules, which resemble the prurigo of Hebra showed a structure exactly corresponding with the true prurigo papule.

DR. WHITE asked how large these nodules were, and whether the speaker referred to large papules or the secondary large nodules occasionally developed in prurigo.

DR. BOWEN said that he referred to the true prurigo papules.

DR. WHITE thought we must regard the fugitive character of these lesions as common to both mycosis and sarcoma. There was a great difference in the maximum size of lesions in the two affections, but it was only a matter of degree. A nodule the size of a pigeon's egg would disappear rapidly in one case, and one the size of a goose egg would disappear rapidly in true mycosis fungoides. How far this indicated any common nature he was unable to say.

DR. DUHRING preferred the term granuloma fungoides. The diagnosis was simple in most instances when the disease had become fully developed. It was quite different from sarcoma. There was much confusion in the histological condition, and he was not prepared to distinguish clearly between the two. The inflammatory element was more marked in granuloma fungoides.

DR. FORDYCE said there was nothing very distinctive in the pathological anatomy of mycosis fungoides and certain forms of sarcomatosis. Certain forms of spindle-cell sarcoma could be differentiated with the microscope.

DR. ROBINSON did not think that the disappearance of the tumors should exclude the term sarcoma, which really meant only a new growth in the proper sense of the term. He had seen epitheliomatous tumors disappear without treatment, proving that they were not simple new growths. He did not think that certain cases of mycosis fungoides could be differentiated from multiple sarcoma, certainly not by pathological findings alone.

DR. BOWEN, in closing, said the term granuloma fungoides was objectionable, because it had not been shown to be an infectious granuloma. The term mycosis fungoides seemed the least objectionable.

Xanthoma Diabeticorum was the title of a paper next read by DR. ROBINSON, of New York, in the course of which he described the case of a woman, who had never been jaundiced herself and had never had a relative thus affected. During the past ten years, however, she had suffered from gall stones. The eruption first showed itself in 1891, especially upon the anterior surfaces of the forearms and about the elbows, with a few scattered spots upon the knees. With the exception of those about the elbows, they all disappeared. In the present attack about one hundred and fifty lesions made their appearance upon the right arm, and about the same number upon the left; but in the latter there were none over the fingers or joints. About fifty lesions are present upon each leg, from the calf to the middle-thigh region. The face and eyelids are free. The size ranges from that of a pin's point to a pin's head. The color is yellowish, with a tinge of red. On pressure the former is intensified. The urine showed no sugar, but the report of the examiner was that it appeared "glycosuric." It contained twenty per cent. by bulk of albumin and a few granular casts. A photograph of the patient was shown.

In the discussion DR. DUHRING said he had recently seen a similar case, in which the diagnosis was difficult because of the smallness of the lesions, which disappeared under antidiabetic treatment.

DR. MORROW said that sugar was not always found in these cases. In some undoubted cases of this eruption, it could be discovered at one time and not at an-

other. It might be found only after the morning meal. Interstitial nephritis is common, but he had never known it to precede the glycosuria.

DR. FORDYCE reported a similar case, seen in Dr. Elliot's clinic.

DR. ALLEN said that if the urine was persistently examined in Dr. Robinson's case, he would expect sugar to be found eventually. He had seen instances of intermittent glycosuria.

DR. WHITE said that while the old English works laid much stress upon the association of xanthoma and jaundice it was in reality seldom observed. English physicians had told him that the combination was also in their experience exceptional.

DR. ALLEN said that he had observed an instance of most intense and long-lasting jaundice in the most extensive case of xanthelasma about the lids he had ever seen. The man died. The only post-mortem examination permitted was a small incision over the liver. A small piece of the latter, which was much enlarged, was taken, but was lost in the laboratory. Its surface was mottled and xanthoma was strongly suspected from its gross appearance.

DR. ROBINSON thought it remarkable that while diabetes was comparatively frequent, xanthoma was rare. When he reported his first case it was the tenth on record, and till now but twenty-nine have been recorded. The patient had a parenchymatous nephritis, but the speaker had never observed sugar in this condition.

Some Glycosuric Dermatoses.—DR. CHARLES W. ALLEN, of New York, read a paper with this title. The writer considered that while many different dermatoses depended upon glycosuria and disappeared when sugar was no longer present in the urine, the number of dermatological conditions which could be looked upon as peculiar to the disease diabetes was so limited that a class of diabetides could scarcely be said to exist.

Some unusual cutaneous eruptions occurring in subjects of diabetes were described, such as multiple areas of cutaneous gangrene, and states suggesting acne varioliformis and acne cachecticorum, with pigment spots and exaggerated hairy growths corresponding to the areas affected.

DR. WHITE said, in opening the discussion, that the writer had failed to mention that form of dermatosis which he regarded as characteristic, viz., the very acute eczema about the genitals, occurring especially in stout women. He also referred to an acute evanescent form of erythematous eczema, like that seen in association with œdema of the lower extremities. The skin furnishes a good nidus for the development of the furunculus coccus without the existence of a so-called diathesis.

DR. DUHRING had not found glycosuria in such frequent connection with furunculosis as some had.

DR. FORDYCE asked if the patient with xanthoma and discolored skin had presented symptoms of Hodgkin's disease.

DR. ALLEN said he had found no evidence of such a condition.

DR. MORROW said these eruptive troubles had been explained on the assumption that they were due to the local contact of saccharine urine, favoring fungous and parasitic growths. Others besides Dr. White had mentioned eruptions on parts remote from the genital region where there was no contact with saccharine urine. Sugar in the blood modifies its chemical properties and its power of maintaining nutrition of the tissues. It had been asserted that sugar was excreted by the cutaneous glands, producing irritation. Many eruptions could be explained by the foreign substance in the blood, just as in drug eruptions.

DR. WHITE spoke of grocers' itch, due to handling brown sugar.

DR. DUHRING thought the dermatitis due to the mite found in such sugar.

DR. DYER thought it a trade eczema due to the irritation of the sugar itself.

DR. WHITE said experiments with the sugar mites had given negative results.

DR. WINFIELD had observed that sugar workers who kept their hands out of the sugar water were exempt.

DR. ALLEN, in closing, said he had omitted to read that portion of his paper which touched upon the genital pruritus and dermatitis. He had not meant to imply that he always found sugar in furunculosis, but he always made it a point to examine for it. He agreed with Dr. Morrow that local contact of urine was the cause of eruptions about the genitals, but at a distance excretion by the skin would explain the irritation. Vergely had found two and a quarter grams of sugar in one hundred and ninety cubic centimetres of fluid collected from an ulcer on an œdematous limb showing such excretion.

Hypertrophic Rosacea (Pachydermatosis), Resembling Tubercular Leprosy, Cured with Thyroid Extract.—DR. DYER, of New Orleans, reported a case of this nature. The patient, aged sixty years, was suspected, from his appearance and from the fact of his living in a community where leprosy is endemic, of being a subject of this disease. The nodose appearance of the face was much that of the leonine countenance of tubercular leprosy, but the limitation of the affection to the face and to the dorsum of the hands furnished the first points which determined the exclusion of that disease from the diagnosis. The skin of the face was much thickened in rugæ, in mostly parallel lines, crossing each other at intervals of an inch or less apart, producing a tessellated appearance. There was extensive scaling and almost constant itching. The color was dull red. There were no tubercles nor telangiectases. The patient drank beer sparingly. The infiltration and thickening in regular nodosities suggested the name pachydermatosis. No treatment had influenced the condition, and after two months or more the reporter concluded that this case was identical with one depicted in the atlas of the St. Louis Hospital as hypertrophic rosacea, the early history being that of a progressive rosacea which had been neglected. Thyroid extract in five-grain doses three times daily was now ordered and for local use resorcin, $\mathfrak{v}$ i.; rose water, $\mathfrak{v}$ iv.; lanolin, ad $\mathfrak{v}$ vi. After two months of almost constant treatment there was decided improvement, the skin being soft and normal to the touch and the color being greatly improved both in face and hands. In July the patient was discharged cured after some three months of thyroid medication. Photographs showing the condition before and after were presented for inspection.

DR. WHITE said the report did not recall to his mind any ordinary case of pachydermia he had seen. He asked if there were other evidences, as myxœdema.

DR. DYER replied in the negative.

DR. DUHRING said the term pachydermia seemed appropriate, but he did not see how the diagnosis hypertrophic rosacea could be made.

Iodoform Dermatitis.—DR. FORDYCE, of New York, showed two water-color sketches of an unusual form of iodoform dermatitis occurring in a man with pulmonary tuberculosis and following the application of the drug to a contused finger. It consisted of large patches of grouped tubercles, papules, papulo-vesicles, pustules, and elevated erythematous spots, involving the hands, forearms, neck, and face. A colored drawing of an eruption resulting from the internal use of iodide of potassium was shown, in which almost identical regions were involved.

Multiple Papillomatous Tumors.—DR. FORDYCE then exhibited several colored drawings illustrating an unusual form of granuloma, occurring on the anterior surface of the leg, the popliteal spaces, the penis, the scrotum, and over the sacrum. The tumors developed on an eczematous surface and presented many of the features of mycosis fungoides.

DR. FORDYCE also showed colored drawings of cases of symmetrical keratosis of the cheeks, tinea barbæ, psoriasis of the palms, atrophy of the skin following involution of molluscum fibrosum tumors, congenital nævus of the eyelids, epithelioma of the scalp with papillary outgrowth, epithelioma of the auricle, mycosis fungoides in the stage of tumor development, lupus erythematosus of the cheek after frostbite, and a case of erythema multiforme of the arms, of toxic origin. Photographs of pityriasis rubra (of Hebra), ichthyosis, nævus papillaris, molluscum fibrosum, and of complete alopecia resulting from early syphilis were shown, together with a number of photomicrographs of pathological conditions.

The Relation of Dermatitis Herpetiformis to Erythema Multiforme and to Pemphigus.—DR. L. A. DUHRING, of Philadelphia, read a communication on this subject, of which the following were the conclusions: (1) Dermatitis herpetiformis is in most instances a disease with well-defined and tolerably constant clinical features. (2) In most instances it is more closely allied to erythema multiforme than to any other disease. (3) The bullous variety of dermatitis herpetiformis possesses features which resemble those of pemphigus vulgaris, from which latter disease, however, it differs in the peculiar inflammatory character of the cutaneous lesions, as well as in the tendency to polymorphism, in the irregular evolution of the lesions, and in its course.

DR. FORDYCE said we had been unable to classify recurring eruptions of multiform type frequently leaving pigmentations until we recognized this separate and distinct type of dermatitis herpetiformis, now generally accepted.

DR. JACKSON had been in accord with the writer's views. He believed many cases reported as pemphigus belonged to this class.

DR. WHITE thought the term multiformis far better, because of the great multiformity of the lesions and because of the variations assumed by the disease in different recurrences in the same individual. The term "herpetic" seemed a misnomer. No case he had seen presented an area which he would mistake for an expression of the lesions which characterize herpes, nor did we see the self-limitation of the lesions as in herpes. Many cases, too, have no suggestion even of herpes. He could not agree with the reader that individual cases could be so easily distinguished from pemphigus. In observing a case over a considerable period, we should always be able to make the diagnosis.

DR. ALLEN said the paper had cleared up one or two points about which there had been doubt as to Dr. Duhring's exact views. He had believed and expressed himself in writings that multiformis was the preferable term, since three or four primary lesions may appear together and none of them closely resemble herpes, and he had further suggested the general adoption of the designation "Duhring's disease," which would do away with all controversy as to the name. He knew of no reason why we should speak of lesions following certain nerves rather than lymphatics or blood-vessels.

DR. ROBINSON said that if the term dermatitis was to be used at all he was strongly in favor of using it in the connection in which Dr. Duhring had employed it. Dermatitis multiformis means nothing at all. He was astonished that Dr. Duhring should use the argu-

ment of the neurotic nature of the affection, as though it were an accepted view. It was an instance of choosing the name of a symptom for the name of a disease. He believed it most certainly a parasitic disease or a toxic disease manifesting itself through the blood-vessels or the nervous system.

DR. DUHRING, in closing, said he thought the causes varied. He could not state just what the causes always were. The name was important and he thought the "herpetiformis" more exact. Herpetiformity was an essential of the disease, but it did not mean that it resembled herpes or zoster. The original meaning was a creeping disease. Herpetiform expressed a broader meaning than herpetic. He admitted a relationship of pemphigus in symptoms and probably also in etiology. He had only said the cutaneous nerves were implicated, not that the eruption followed their course. Implication of the cutaneous nerves gives rise to the peculiar evidence described under the term "herpetiform."

Impetigo Contagiosa Universalis.—DR. C. W. ALLEN, of New York, read this paper. He based his remarks upon the case of a young girl whose vesiculobullous eruption, extending over almost the entire body, was shown in photographs presented. The lesions had begun to appear as vesicles upon the arm very shortly after vaccination, and from then until the patient was cured some nine months later had continued to crop out in various regions as bullæ extending at the periphery or drying down with formation of crusts, with smaller blebs or vesicles in their neighborhood. She was first seen four months after the disease began. There were infiltrated and pigmented areas where the lesions had existed. The disease bore a resemblance to pemphigus, and the same condition is called epidemic pemphigus or pemphigus contagiosus when a number of cases coexist. The diagnosis was based upon the benignity of the process, the non-effect of arsenic and internal medication, the origin in vaccination, and certain lesions upon the chin which were clinically identical with those of ordinary impetigo contagiosa. Cure was finally effected under the use of ichthyol in collodion as an occlusive dressing.

DR. DYER said he had been interested in the paper because it called to his mind a series of similar cases after extensive vaccination in New Orleans. In the first case he supposed the condition to be true dermatitis herpetiformis. The photographs exhibited are identical with those of his own case, excepting that in the latter the bullæ became hemorrhagic. The urine contained a large percentage of albumin. During two years there were recurrences of a true impetiginous type. He had seen three other cases, in only one of which the urine was free from albumin. Judging from Dr. Duhring's paper, perhaps after all the correct diagnosis was dermatitis herpetiformis.

DR. WHITE asked if there were any similar cases in the patient's immediate surroundings.

DR. ALLEN said there had occurred an almost identical case, as he had been told, in the same part of the city, and he had subsequently seen a number of impetigo cases near by and was told it was very common.

DR. WHITE said that cases in which there are widely distributed staphylococci present features very different from those here described. He thought it unfortunate that no examination had been made to establish the presence of the staphylococcus, about which so much had been said.

DR. DUHRING said no proof had been brought forward of contagion or of the existence of micro-organisms which militated against the diagnosis. From the photographs alone he would be inclined to make the diagnosis between pemphigus and dermatitis herpetiformis. In children the latter was milder than in adults, but there was a special tendency to bleb forma-

tion. He was strongly inclined to exclude impetigo contagiosa.

DR. ALLEN said, in closing, that he believed the bullous form of impetigo existed and that his was an example of such cases. There might be bullous lesions, but none such were present in this instance. The origin in vaccination, starting in the immediate neighborhood of the crusts, was a strong point in favor of impetigo. There was nothing in the distribution or in the appearance which could be described as "herpetiform," unless one spoke of the creeping undermining of epidermis in this sense. The element of contagion was lacking, but if we admit the possibility of accidental inoculation along with vaccination it seems not so important. The communication from one surface of the body to another by scratching, etc., was almost as good proof of its communicable nature as though transfer to a second person had been shown in the history.

He would ask Dr. Duhring if he regarded vaccination as an important etiological factor in dermatitis herpetiformis.

DR. DUHRING said he did not.

Election of Officers.—Dr. James C. White was elected *President*; Dr. Louis A. Duhring, *Vice-President*; Dr. John T. Bowen, *Secretary* and *Treasurer*.

The next meeting will be held in Washington, D. C., in connection with the congress of American physicians and surgeons.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Twenty-Fourth Annual Meeting, Held in Buffalo, N. Y., September 15, 16, 17, and 18, 1896.

First Day—Tuesday, September 15th.

THE association assembled in Ellicott Square, and its deliberations were presided over by Dr. Eduardo Liceaga, of Mexico, president of the superior board of health of that city.

DR. STEPHEN SMITH, of New York, the first president of the association, was introduced and made a few remarks with reference to the progress the association has made from its beginning.

DR. ERNEST WENDE, commissioner of health of Buffalo, cordially welcomed the association in behalf of the local committee of arrangements.

Report of the Committee on Car Sanitation.—This was read by DR. C. PROBST, in the absence of DR. G. P. CONN, of Concord, chairman. The report states that any one who takes an interest in car sanitation will soon become convinced that there is something lacking in the manner in which cars are cleansed and kept in condition for the travelling public. Ignorant and untrained help may and does destroy a great deal that should be cared for, and thus the expenses of this department are far beyond what is actually necessary.

Observations on the Cleaning of Railroad Passenger Cars.—By DR. DOMINGO ORVANANOS, of the City of Mexico. To afford any security against contagion or infection from railroad cars, it is necessary that the cleansing operations shall be carried out several times a day. To attain these objects, the author thinks passenger cars ought to be constructed in a manner very different from the present one. The bed clothing, including the blankets and curtains, should be changed daily, as well as the mattresses.

Possibilities of Contagion from Venereal Diseases in Railway Cars.—This paper was read by DR. TOMAS NORIEGA, of the State of Chiapas, Mexico, in which he cited the case of a married man, thirty years

of age, who arose from his berth in a Pullman car and, as was his custom, washed his face in the lavatory. Two days thereafter he felt the first symptoms of purulent ophthalmia, for which he consulted a physician. The patient was treated energetically, but in spite of all efforts the right eye was lost. Other similar cases were reported.

DR. FREDERICK MONTIZAMBERT, of Montreal, general superintendent of the quarantines of the Dominion of Canada, presented the report of the committee on steamboat and steamship sanitation.

Infectiousness of Milk.—**DR. JAMES KENNEDY**, of Des Moines, Ia., read a paper on this subject. Cow's milk alone was considered, since no other kind of milk is used by many infants and adults, and since it is the almost universal and, under proper conditions, the best substitute for human milk in the feeding of children. In Berlin, in giving the certificates of death of children under one year, the fact must be stated as to whether the child was fed from the breast or brought up artificially. In ten thousand deaths thus reported, it was found that two-thirds, or seventy-six hundred and forty-six infants, were artificially fed. The author emphasized the importance of a sanitary inspection in addition to, if not to the exclusion of, the mere commercial examination.

Report of the Committee on Animal Diseases and Animal Food.—This was read by the chairman, **DR. D. E. SALMON**, of Washington, D. C. Animal diseases are now more intelligently managed by sanitary officers than ever before, and the meat-inspection service has been steadily extended and perfected. Outbreaks of anthrax among the domesticated animals are apparently becoming more frequent. The contagion once introduced into a pasture remains indefinitely. A disease so fatal to man and beast should be promptly repressed whenever it makes its appearance, and precautions should be observed to prevent infection of new territory.

Pathogeny, Etiology, and Prophylaxis of Typhus.—**DR. FRANCISCO DE P. BERNALDEZ**, of Mexico, contributed a paper on this subject. This disease arises from a microbe not as yet discovered. Throughout all the districts which are called the hot country in the Mexican republic, the infection of typhus does not exist, while in the temperate regions at a higher elevation it occurs in endemic form.

Report of the Committee on Nomenclature and Forms of Statistics.—By **DR. SAMUEL W. ABBOTT**, of Wakefield, Mass., chairman. The report dealt with the need of a uniform system of classification and nomenclature. Before advising the general acceptance of any one system for general use, the committee recommended that the association collect and compare the systems now in use and employed by the different national, State, and municipal authorities in this country, in order that these may also be compared with the systems in use in other countries, so that a general system can be recommended for adoption throughout the States and countries within the bounds of the association.

The Nomenclature of Diseases and Forms of Statistics.—**DR. EDUARDO LICÉAGA**, the president, read a paper on this subject. The board of health of Mexico City had, from the year 1879 up to the year 1887, classified the diseases resulting in death in a certain number of groups. In the year 1888 he, as president of the board, proposed the adoption of the provisional nomenclature adopted by the Royal College of Surgeons of London. This nomenclature was adopted because it was the one then followed by almost all the English-speaking nations, and so the Mexican tables of mortality might be compared with those of such nations.

On the Need of Uniformity in the Meaning of

the Term Stillborn.—By **DR. JESUS E. MONJARAS**, of San Luis Potosi, Mexico. The laws of different countries were cited by the author, after which he proposed the following: (1) That there shall be included under the term stillborn all children of more than six months of intra-uterine life that are born dead. (2) That there be added to the nomenclature of the causes of death the term that shall represent all children that die within seventy-two hours after birth without known cause, and that they be designated by the term "died at birth without known cause." (3) That the committee on nomenclature of diseases and forms of statistics be authorized to recommend this modification of the existing nomenclature in all the countries of the American continent. (4) That these modifications once adopted in said continent, the same would doubtless be accepted in Europe and elsewhere.

Dengue.—A paper on this subject was read by **DR. HENRY D. HORLBECK**, of Charleston, S. C. The disease was defined, after which the author said the object of the paper was to put on record a brief account of a widespread outbreak of this malady which occurred in Charleston in 1895. During its prevalence from July until November, it is estimated that fifty thousand of the inhabitants were afflicted with the disease. Men and women seventy years of age and infants had it, and yet the malady was not prevalent a few miles away from them. Notwithstanding the suddenness of the onset and severity of the attack, death is rare.

Municipal Responsibility for Healthy Schoolhouses.—**MRS. ELLEN H. RICHARDS**, of Boston, contributed a paper on this subject. Local agitation of this question might do some good, but to the author it seemed as if the time had come for some concerted action, compelling city authorities to keep schoolhouses in good condition. A most efficient way would be to bring to bear the power of the law, and to insist that such buildings as are flagrant violations of the law shall be closed, as private buildings would be.

Addresses were delivered by the mayor of Buffalo and the **REV. THOMAS SLICER**, both of whom spoke of the benefits of sanitation.

Presidential Address.—The president, **DR. LICÉAGA**, then delivered his address. He first thanked the members for the distinguished honor conferred upon him, after which he said that the preservation of health, the prolongation of life, and the physical improvement of the human race were the ideal principles that ought to be kept in view. Coming to the question of epidemics, he stated that they can be suppressed at their inception by isolating the first patients and disinfecting the objects which they have contaminated, whether these objects be the clothes they have used, the furniture found in their respective rooms, or the rooms in which they were kept during the disease. Isolation in cases of diphtheria must be absolute and complete. A proposition which demanded special study was the technique of disinfection. Lastly, the speaker cited examples to show the advisability of organizing a committee to study the periods during which each contagious disease is transmissible, and the time during which every patient who has suffered from such disease is dangerous to the community.

Second Day—Wednesday, September 16th.

Report of the Committee on the Disposal of Garbage and Refuse.—This was presented by **MR. RUDOLPH HERING**, C.E., of New York City, chairman, and was followed by a paper entitled "Disposal of the Garbage and Waste of the Household," by **COL. W. F. MORSE**, of the same city. In considering the matter of the final disposition of garbage, the author said that no record of methods could be complete unless

those means were considered by which the waste of the family was destroyed in the home where it was produced. An apparatus in the form of a carbonizer for the disposal of garbage was described.

A Plea for the Domestic Disposal of Garbage.—DR. N. E. WORDIN, of Bridgeport, Conn., read a paper with this title. Fire is the best destroyer. It leaves no filth and no germs behind. The different methods of disposing of garbage were tabulated as follows: 1. The most wasteful—sea disposal. 2. The most offensive—hog feeding or fertilization. 3. The most economical to operate—reduction. 4. The most sanitary and complete—cremation. Reduction and cremation were the only methods worthy of consideration for any city.

DR. WILLIAM S. TREMAINE, of Buffalo, explained the results of practical experiments with one of the garbage crematories in Buffalo. This crematory successfully disposes of garbage and excrement without occasioning any odor.

Report of the Committee on Transportation and Disposal of the Dead.—By the chairman, DR. CHARLES O. PROBST, of Columbus, O. The committee is of the opinion that it is quite possible to so prepare, with promptitude and but little expense, a body dead of infectious diseases as to make it transportable without any danger of transmitting infection; and it is the duty of the association to develop the simplest methods by which this desirable end can be obtained, in order that the sentiment of respect for the dead may be maintained without any danger to the living. If, however, all dead bodies are to be allowed transportation, it will be necessary to provide that the preparation of bodies dead of contagious disease shall in each instance be under the direct supervision of the health authorities.

The Quick or the Dead.—DR. BENJAMIN LEE, of Philadelphia, read a paper with this caption. Health authorities should be very slow in relaxing any of the precautions and restrictions at present in force attending the transportation of those dead of contagious diseases. He thinks the true solution to the question of transportation is to be found in the cremation of all bodies dead of contagious diseases.

On Measures for the Prevention of Blindness.—By DR. AUGUSTINE CHACÓN, of the City of Mexico. Statistics, cited by the author, prove that a great deal more than half of the cases of blindness might very probably have been avoided, if proper measures had been taken in time. The two diseases of the eyes which cause the loss of sight in the largest number of patients were atrophy of the optic nerve and purulent ophthalmia. These two diseases were considered at length. Special attention ought also to be given to hygiene of the sight in schools.

Miasmatic Fevers in the State of Sonora.—DR. ALBERTO G. NORIEGA, of Mexico, read a paper on this subject. The author spoke of the origin, treatment, and some of the peculiarities of the symptomatic characteristics of fevers of miasmatic origin in the State of Sonora. He proposed the following prophylactic measures: 1. The planting of thick woods around the township, with the idea of suppressing the paludic miasma where the trees grow. 2. The houses ought to be built on the highest places, in order to keep them as far as possible out of the reach of the gases from the pools and marshes. 3. The front of the houses must not face the direction of the dominant wind, and the houses themselves ought not to be in the way of the winds coming from the pools. 4. To avoid the watering of the floors, in order to maintain the interior of the houses as dry as possible. 5. The workmen in the fields must not commence their work until the sun is well up, and they must retire from the fields before the sun sets.

Summary of Sanitary Legislation in the State of Mexico.—This paper was read by DR. M. ALVAREZ, of Mexico. The author said that the philosophy of sanitary legislation rested on three bases: 1. Those which attempt to endow the individual with good health. 2. Those which take precautions against diseases of all kinds. 3. Those which require the partial sacrifice of individual liberty in favor of the general community. The author then entered exhaustively into a consideration of drinking-waters, vaccination, and vaccination laws, paying particular attention to the obligatory-vaccination law of Mexico.

Obiter Dicta Concerning Sanitary Organization.—DR. A. WALTER SUITER, of Herkimer, N. Y., read this paper. He said a system of health administration without effective organization was like a ship without a rudder, subject to the mercy of every pestilential storm. Dr. Suiter made a strong plea for an arrangement so systematized that sanitary direction may be administered in the most practical and advantageous manner without conflict of authority. The public should be educated to a point of proper appreciation of the importance of the service required.

Some Thoughts Relative to Sanitary Legislation.—DR. U. O. B. WINGATE, of Milwaukee, Wis., read a paper with this title. The author believes that laws pertaining to sanitation should differ very materially from other laws, inasmuch as they voice a scientific fact, and if applicable in one locality they should be also applicable in all localities. Attention was directed to the great need of a system of statistics, not only pertaining to births and deaths, but to sickness or the prevalence especially of contagious and preventable diseases. A strong plea was made for a department of public health at Washington.

The Sanitary Administration of Unincorporated Districts.—In a paper with this title, DR. HENRY MITCHELL, of Trenton, N. J., presented the following propositions: 1. By law provide that in each township, or other local political division outside of municipalities, the sanitary authority should be exercised by one official. 2. The local health officers should be selected under civil service rules, and their term of office should be five years. 3. The examination of applicants for the office of township health officer should be conducted by the State board of health. 4. The appointment of the health officer in each township should be made by the governing body of the district, from an eligible list to be furnished by the State board of health. 5. No health officer should be removed except for cause, and vacancies should be filled for the unexpired term in the manner provided for original appointments. 6. Local health officers should be required to conduct all of their official operations in accordance with rules and regulations approved by the State board of health, and they should also make weekly reports of their doings to said board and annually to the local governing body. 7. The local health officer should be paid for his services by the local governing body. 8. All suits for the violation of any local sanitary rule, regulation, or ordinance should be brought at the instance of the local health officers, and they should be prosecuted by the district attorney or prosecutor for the county; but no such suit should be begun until the necessity for its being instituted has first been agreed to by the State board of health.

Report of the International Committee on the Prevention of the Spread of Yellow Fever.—DR. FELIX FORMENTO, of New Orleans, read this report which embodied the following recommendations of the committee: 1. Extreme measures of local sanitation in yellow fever foci. Modification of the soil, improvement of harbors, etc., by all means known to sanitary engineering. 2. Putting in perfect sanitary condition all home seaports and towns most ex-

posed to infection. 3. A rigid and efficient system of quarantine against the introduction of the disease. 4. Abolishing forever the abominable system of interment and disinterment practised in Spanish-American countries. 5. Wherever practicable, yellow-fever hospitals should be established beyond or above yellow fever foci. When this cannot be done, these hospitals should be established at a distance from centres of population in a desirable locality and perfectly isolated. 6. Compulsory cremation of all bodies of persons who have died of that disease, and incineration of all infected material.

The Study of Yellow Fever from a Medico-Geographical Point of View.—DR. LICÉAGA said that this was the fourth paper he had presented on this subject, and his object was to enable the association to realize the true situation of the Mexican republic as regards yellow fever. With the aid of facts, he disproved the erroneous idea which for so many years had existed, that it was a country in which this disease was always found throughout the entire extent of its territory.

A Contribution to the Study of Yellow Fever in Relation to Epidemics in Córdoba.—DR. G. MENDIZABAL, of Orizaba, Mexico, followed with this paper. The author presented a *résumé* of the number, intensity, duration, and mortality of each of the epidemics of yellow fever which had desolated during three centuries the above-mentioned city. This city, besides its climate and soil, its constant humidity, its proximity to Vera Cruz, and many other causes which favor the propagation of the morbid germs, has a great scarcity of potable water of the requisite purity. It is the duty of the municipal authorities to improve the hygienic conditions of the people of this city, to provide them with potable water, to make the soil sterile to the germs of the disease, and thus forever close the doors against this desolating plague.

Isolation Hospitals.—DR. JOHN L. LEAL, of Paterson, N. J., read a paper, in which he spoke of the utility of isolation hospitals in the restriction of preventable diseases, and illustrated his remarks by views and plans of the Paterson Isolation Hospital.

Third Day—Thursday, September 17th.

Pollution of Water Supplies.—MAJOR CHARLES SMART, surgeon of the United States army, Washington, D. C., chairman, read the report of the committee on the pollution of water supplies, in which he referred to the bacteriological convention held in New York City and the work accomplished by it, and said that when a description of the standard methods recommended by this convention is in the hands of the bacteriologists of this country, the committee will then be in a condition to define its lines of action for effecting an organization for co-operative work, as suggested at Montreal.

DR. PETER H. BRYCE, of Toronto, chairman, presented the report of the committee on river conservancy boards of supervision. The committee was not as yet prepared with such data regarding individual cases of pollution to present practical suggestions with reference to such a board for any particular stream, but desired, by laboring in conjunction with the committee on pollution of streams and with various engineering associations to collect material which might give to the committee's report in another year some practical value.

DR. CHARLES N. HEWITT, of Red Wing, Minn., as chairman, presented the report of the committee on protective inoculations in infectious diseases.

The Serum-Diagnosis Test for Typhoid Fever.—By DR. W. JOHNSTON, of Montreal. The author demonstrated a modification of Vidal's method of serum

diagnosis in this disease. He considered the test very reliable from a diagnostic point of view and thought it would prove of considerable value for public-health work, and that it would lead physicians to report their cases more frequently and promptly.

Prophylaxis of Typhoid Fever was the title of a paper by DR. JOHN E. WOODBRIDGE, of Cleveland, O. Typhoid fever was characterized as a water-borne disease, and every attack was considered the child of a previous one and was *prima facie* evidence that the victim had eaten or drunk unsterilized human excrement or some of the products thereof. The government of the United States, he said, will not have discharged its whole duty to the people, will not have attained the zenith of its greatness, until through a department of public health, aided by wise legislation, it has taken every possible precaution not only to protect the health and foster the highest physical development of its citizens, but to guard well the purity of the air they breathe, the food they eat, and the water they drink.

DR. F. C. ROBINSON, of Brunswick, Me., read a paper in which he spoke of the practical use of formic aldehyde as a disinfectant.

DR. E. A. DE SCHWEINITZ, of Washington, D. C., demonstrated and exhibited a convenient lamp for generating formaldehyde gas; while DR. J. J. KINYOUN, of Washington, D. C., followed with a preliminary note on the use of formaldehyde for room and car disinfection. His results so far obtained from its use were very gratifying. Dr. Kinyoun also exhibited and described an apparatus of his own design for generating this gas.

Malaria.—Two papers were then read, one on the prophylaxis of paludism, by DR. A. R. ERDOZAIN, of Mexico, and the other on paludism in the State of Morelos and its prophylaxis by sanitary measures, by DR. A. GAVINO, of Mexico.

Public Health in Tabasco.—DR. JUAN MULDSON, of Mexico, read a paper on public health in Tabasco. He presented the following conclusions: 1. The sanitary condition of Tabasco in general is good. 2. Paludism is the principal disease, but it is satisfactorily treated. 3. Yellow fever is not endemic; it occurs in isolated cases, being generally imported and not finding a good soil for its propagation. 4. Isolation and other hygienic measures have successfully prevented propagation of the disease. 5. Natives are not so easily attacked by yellow fever as foreigners are, and people accustomed to the climate who have lived there for many years also acquire this immunity. 6. The climatological conditions notably modify the clinical history of certain diseases, among which forcibly calling our attention is the benign course of septicæmia.

Prevention of Diphtheria.—DR. J. J. KINYOUN, of Washington, D. C., chairman, presented the report of the committee on the cause and the prevention of diphtheria. The committee recommends the following:

1. That there should be uniform rules and regulations adopted by all the States and provinces for the prevention and control of diphtheria. The several governments should assume the responsibility and act in unison in preventing the spread of the disease from one country to another and assume authority over interprovincial and interstate communication.

2. That it should be the duty of the health authorities to provide facilities for determining the diagnosis in all suspected cases by the establishment of inexpensive laboratories for each health jurisdiction: to agree upon a system and means of transmission of material for diagnosis through the mails.

3. Compulsory notification of all suspected cases and the abolition of the terms croup and membranous

croup, unless diphtheria has been excluded by culture and microscopic examination.

4. Compulsory isolation of all cases, domiciliary or in hospital, until the recovered cases show the absence of the diphtheria bacillus.

5. That the medical inspection of schools should be inaugurated under the direction and supervision of the health authorities, by making daily inspections of all school children in the larger cities for the detection of infectious diseases. (The plan advocated by Dr. S. H. Durgin, of Boston, at the last meeting of the association, was highly commended.)

6. School buildings, books, etc., should be subjected to a reliable method of disinfection at least once a month, and oftener if suspected of being infected.

7. The early treatment of those ill with diphtheria with antitoxin, the administration of preventive doses to those who have been exposed to infection and have the bacilli in their throats.

8. Prompt and effective methods of disinfection of infected articles and apartments, to be carried out under the supervision of the health authorities.

Diphtheria in Chihuahua.—DR. M. MARQUEZ, of Mexico, contributed a paper with this title. He said that diphtheria was one of the infecto-contagious diseases which was most observed in Chihuahua, and in such a degree that it sometimes caused a panic among families. The author formulated twenty-four rules to be carried out to prevent the spread of the disease.

Bacteriological Diagnosis as Governing the Admission and Discharge of Patients in Diphtheria Hospitals.—By DR. E. B. SHUTTLEWORTH, of Toronto. The isolation hospital at Toronto was established in 1891, and up to June 30th last, there were admitted one thousand six hundred and ninety patients said to be suffering from the disease. Diagnosis by bacteriological methods was begun in February, 1895, and since July of that year the discharge of patients had also been governed by this means of investigation. The statistics for this period covered five hundred and sixty-five cases, and when compared with those for the preceding time, afforded an opportunity for ascertaining the practical value of bacteriology when applied to the purposes indicated.

DR. CHARLES N. HEWITT, of Minnesota, presented the report of the committee on causes and prevention of infant mortality.

The Mortality of Children, Its Causes, and Means of Diminishing It.—DR. S. GARCADIEGO, of Mexico, followed with a contribution on this subject. The speaker classified the causes of mortality of children under three heads—crime, carelessness, and ignorance. The author believes that the mortality among children can be diminished by the institution of lying-in hospitals or obstetrical departments, by which means it has been proved that infanticide nearly disappears, and also by establishing orphanages and homes for foundlings under the care of the government, and of religious people. In each of these asylums a limited number of children should be allowed in order to be properly cared for and attended to. For the feeding of infants in these institutions, the mother's milk should be replaced by that of the goat, or other nearly as proper as the former, using the utmost care in the cleaning of bottles. Mothers who abandon their children should be severely punished.

DR. FELIX FERMENTO, of New Orleans, presented the report of the committee on the use of alcoholic drinks, which was substantially that presented last year at the Denver meeting.

The Bicycle in Its Sanitary Aspect.—DR. ALBERT L. GHON, of New York, read a paper on this subject. The author criticised the posture and saddles used by riders of the bicycle. After presenting arguments for and against the bicycle, he ventured the prediction

that a light three or four wheeled vehicle, propelled by some easily managed motor, inexpensive enough to be generally available, would be the means of progression for pleasure purposes in the future, covering long distances without fatigue, permitting sight seeing and outdoor exposure without labor, and adding the charm of companionship and participated enjoyment, while the rational instrument of exercise for exercise's sake alone would ever be a pair of sturdy human legs.

DR. H. L. CHASE, of Brookline, Mass., read a paper on public bathing-establishments and gave a description of the new public bath in Brookline; while DR. W. H. TOLMAN, of New York, gave an illustrated lecture on public baths.

DR. CARLOS SANTA MARIA, of Durango, Mexico, read a paper on the part that public instruction should play in the way of precaution against contagious diseases. It was a plea for the general teaching of the elements of hygiene in the public schools.

Fourth Day—Friday, September 18th.

At this session the following papers were read: "Report of Committee on the Relation of Forestry to Public Health," by Prof. R. C. Kedzie, of Lansing, Mich.; "Report of Committee on Transportation of Diseased Tissues by Mail," by Dr. Henry Mitchell, of Trenton, N. J.; "On Statistics of Vaccination and Mortality from Small-pox in the City of Mexico," by Dr. Jose Ramirez, of Mexico.

DR. A. N. BELL, of Brooklyn, N. Y., read a paper on drunkenness, which he considered as a vice, and said that it should be so treated.

Protection of the Innocent from Gonorrhœa.—DR. F. C. VALENTINE, of New York City, read a paper on this subject. He said that if justification were needed for the discussion of this matter, it could be found in the statistics of the German empire for 1894. These show that of the women who died of uterine or ovarian diseases, eighty per cent. were killed by gonorrhœa. They further show that of children hopelessly blind, eighty per cent. went into a life of darkness from gonorrhœa. Gonorrhœal patients should be educated in incontrovertible facts, the physician ever choosing terms within the range of their intelligence.

Several other papers on the programme were read, some of them by title.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. H. B. Horlbeck, of Charleston, S. C.; *First Vice-President*, Dr. Peter H. Bryce, of Toronto; *Second Vice-President*, Dr. Ernest Wende, of Buffalo; *Treasurer*, Dr. Henry D. Holston, of Brattleboro, Vt.; *Secretary*, Dr. Irving A. Watson, of Concord, N. H.

Place of next meeting, Philadelphia, 1897.

Masturbation and Spermatorrhœa.—I do not believe it safe for a physician to prescribe fornication. It is not safe nor curative, apart from the moral aspect of the matter. It has always struck me also as pretty small business, for a man to purposely select a wife to relieve him of the results of a weak will and vicious sensual indulgence. If marriage comes in the natural course of events, as it often does, so much the better. But to select a wife as a remedial agent for masturbation is unjust to the woman and a confession of moral and mental feebleness. Man is distinguished from the brute by his self-control. Let him bear the fact in mind and raise himself by a determined effort of the will. Pure thoughts and chaste associations, vigorous physical exercise, and a resolute effort to act a manly part will always be successful.—DR. CHARLES L. DANA, *Text-Book of Nervous Diseases*, p. 460.

Therapeutic Hints.

Cardialgia of Hysteria and Neurasthenia.—Tincture of piscidia erythrina in daily dose of twenty drops.—*Deutsche med. Woch.*

Clinical Thermometers should always be cleansed with antiseptic care after using. This is neglected by many physicians, even after use in the mouths of patients ill with infectious diseases.

Dyspepsia.—

R Acidi hydrochlor. dil. 3 ss.
Tinct. nucis vom. 1 j.
Liq. potass. arsen. gr. lxxij.
Ess. of pepsin q. s. ad 3 vi.
M. S. Two teaspoonfuls in water after meals.

Amenorrhœa.—

R Aloes pulv.,
Ferri sulphat. exsic.,
Terebinth. alb. aa gr. xv.
M. et ft. capsul. No. xvi. S. One capsule an hour after each meal.

Much better effects are obtained from the iron by giving one hour after meals instead of immediately after.—DR. PARVISS.

Seasickness.—

R Cocain. hydrochlor.,
Ext. opii aa gr. iss.
Powd. marshmallow root. q. s.
Mix and divide into pills No. x. S. One pill every second hour.

Hyperidrosis of the Feet.—

R Liquor. ferri chloridi 3 i.
Glycerini 3 iiss.
Olei bergamotte 3 v.
M. S. Apply topically with a brush.

—DR. LEGOUX, *Deutsche med. Woch.*

Chronic Pyelitis when Pain is Present.—

R Venice turpentine,
Powdered camphor aa 3 iss.
Extract of opium gr. v.
Extract of aconite root gr. iij.
Mix and make into twenty pills. One pill to be taken every eight hours, and at the same time a small glassful of infusion of uva ursi, slightly sweetened.

—DR. A. ROBIN, *Progrès Médical.*

Epilepsy.—

R Codeinæ 3 i.
Potass. bromid 3 ij.
Infus. adonis vernalis. 3 iv.
M. Dose: From half a teaspoonful to a teaspoonful thrice daily.

—*Gaz. hebdom. de Méd. et de Chir.*, 1896, No. 17.

Nettle Rash.—

R Sugar of lead gr. xv.
Dil. hydrocyanic acid 3 iv.
Alcohol 3 viiss.
Distilled water. q. s. ad 3 ij.
M. S. To be applied on cotton wool.

—*Dublin Journal of Medical Sciences.*

Broncho-Pneumonia in Children.—

R Sodii benzoatis gr. viij.
Ammonii acetatis gr. xxiv.
Spiritus vini (cognac) 3 ij.
Misturæ acaciæ,
Syrupi simplicis aa 3 iss.
S From one-half to one fluid drachm every two hours.

—DR. MARFAN, *Rev. Internat.*

Ichthyol Varnish.—

R Ichthyol 25 parts.
Carbolic acid 2 1/2 "
Starch 50 "
Water 22 1/2 "
Dissolve the ichthyol and carbolic acid in water with heat, then add the starch.

—UNNA.

Influenza.—Creosote, fifteen to seventy-five minims daily.—ISELIN.

Lympho-Sarcoma.—Full doses of arsenic.—SCHLESINGER.

Lupus Erythematosus.—Continuous large doses of arsenic up to the point of systemic poisoning effects.—HUTCHINSON.

Pemphigus.—Treat locally as a burn. In acute pemphigus, sulphate of quinine. If patient is robust, blood-letting. In chronic pemphigus, tonics.—CHAMBERD.

Hydrotherapy has proven successful.—HEBRA.

Pruritus Ani has become a frequent affection among bicyclists. Wash frequently with alcoholic lotions; change linen often. In severe forms apply a solution of caustic potash.—STAFFORD TAYLOR.

Chlorosis.—In true idiopathic chlorosis, when iron is ineffectual, sulphur will produce a marked amelioration. After using sulphur, iron can again be resorted to, and it becomes very beneficial.—DR. SHULTZ, *London Medical Times.*

Conjunctives and uterine chloasmata are improved by:

R Aq. oxygenat. 20-40 gm.
Vaseline 20 "
Lanolin 10 "

Pruritus Vulvæ.—After local bath apply:

R Ex. cannabis ind. 2 parts.
Pulv. zinci oxid. 6 "
Potass. brom. 10 "
Glycerite of starch. 30 "

Hæmatemesis.—

R Pulv. plumbi acetatis 0.20 cg.
Morph. hydrochlorat 0.10 "
Pulv. sacch. alb 5. gm.
M. et ft. cht. div. No. x. S. One every two hours.

—BAMBERGER.

"L" Line Favorite for Burns.—

R Lanolin 1 part.
Lard 2 parts.
Lime water 3 "
—ALLEN.

Borosalicylic Cream.—

R Borosalicylate of sodium 20 gm.
Glycerole of arnica 40 "
Lanolin 18 "
American vaseline 22 "
—BERNEGAW.

Hemorrhage after Tooth Extraction.—Ferripyrin (a combination of antipyrin, sixty-four per cent., and chloride of iron, thirty-six per cent.) not only stops bleeding, but diminishes the pain when applied by means of a pledget of cotton.—FROHMAN.

Guaiaicol as an analgesic should be mixed with an equal part of glycerin, and covered with impermeable tissue to prevent evaporation. To secure antithermic results, it must be used pure or in a vehicle capable of being absorbed by the skin.—FERRAND.

A New Thermometer without visible scale until the tube is covered with an outer case has been presented by Dr. Mercier to the Zurich Medical Society. It is intended for use in cases of inquisitive patients when it is thought best that they should be kept ignorant of their thermic condition.

Prolonged Gestation.—Reckoning from the cessation of the last menses, the first feeling of life, and the objective signs, Dr. Szaszy reports a case in which gestation lasted three hundred and thirty days. The child was normally developed, and forty-nine centimetres long.—*Gyogyaszat*, 1894, No. 39.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE WATER FAMINE ENDS—SANITARY INSTITUTE—
OFFICERS OF HEALTH—PORT SANITARY AUTHORITIES
—LAWSON TAIT ON VIVISECTION—MRS. TAIT ON
THE MATERNAL EXPRESSION—ARMY SURGEONS.

LONDON, September 11, 1896.

A RAINY week has put an end to the so-called water famine, which I have previously mentioned. It is to be hoped that the company will not be allowed to escape its responsibilities, for this is the third time in 1895-96 that it has failed in its duties. When the contract to supply is broken, surely payment should not be expected; and in the case of such a necessity as water, a serious failure should entail forfeiture of the monopoly. A representative of the *Times* has rather taken the part of the company, and harped on the wastefulness of the locality and the necessity of cisterns. He does not seem to know that household cisterns have long been tabooed by sanitarians, and talks of fifteen gallons daily per head as a sufficient supply. New York, which has, I believe, between eighty and ninety gallons, would demur to his estimate. Why, it takes thirty to forty gallons for a comfortable bath. The East London Company has failed again and again. There is no need of delay for inquiry. The time for action has come, and their monopoly should be ended. The water question must come before Parliament again.

The Congress of the Sanitary Institute, of which I reported the opening by the Duke of Cambridge, was fairly successful. Milk supply, water supply, the grievances of sanitary officers, the need for a minister of health, and various similar subjects were discussed. Drs. Waldo and Walsh urged that medical officers of health should devote all their time to the duties of the office. Professor Corfield held that compulsory vaccination ought to be strictly enforced, in order to prevent the spread of the most dreadful infection the world has seen. Earl Percy, the new president, said he always thought after one fine it would be better to send a recalcitrant to prison, which would show whether his objection was really conscientious. Dr. Newton also spoke on this subject. Bovine tuberculosis was treated by Mr. W. Hunting, ex-president of the Royal College of Veterinary Surgeons, who ably argued that it was absurd to try to protect the public by inspecting meat and milk while doing nothing to control the source of infection in the animals from which the meat and milk are obtained.

The conference of officers of health was presided over by Dr. A. Hill, who pointed out that diphtheria is increasing in this country, and that this is the more important, inasmuch as the proportion of this disease to small-pox, measles, scarlet fever, whooping-cough, and typhoid is also increasing.

The conference of port sanitary authorities was presided over by the chairman of the port of London authority, who pleaded for a wider recognition of the work of those who were keeping the front door of the country against the importation of infectious diseases.

Mr. Lawson Tait has long been numbered among the opponents of experiments on animals with a view of applying the results to surgery. Such a course, he considers, would lead to serious error. He has now cast in his lot more decidedly with the antivivisectionists. Their magazine, *The Animal's Friend*, for August, opened with an article by Mr. Tait, entitled "Why I Oppose Vivisection." He says Syme and Fergusson, who differed whenever they could, were right when

they asserted that surgery had in no way been advanced by experiments on animals. He then observes that the opinions first enunciated by these eminent surgeons, and entirely shared by himself, "have since their time slowly percolated through the profession and will some day soon be completely recognized by the whole body officially." The last word scarcely adds to the value of the assertion, as we have no official interpreter of the whole body; and whether the "some day" will be "soon" is open to question. Then comes the statement that the governing influence of the Royal Society has been the biological school, and of late years this may be admitted; as may, perhaps, the accompanying statement that hospital physicians and surgeons covet the F.R.S. less than formerly. Mr. Tait goes on: "This, however, has still to be said, as it might have been said any time this last twenty years, that any one holding the views I do on the subject of experiments on animals might as well stand for the presidency of the United States as for the fellowship of the Royal Society—and of this no secret is made." The introduction of this personal allusion will bring a grim smile to the faces of some of his enemies, who may exclaim, "*Hinc ille lacryme*," but Mr. Tait cares for nothing of the kind, and is not likely to mince his words. This he shows a little further, when, having quoted Sir Edwin Arnold's speech from the *British Medical Journal*, he adds: "The editor of this journal is a Mr. Abraham Hart, a Hebrew with a past, and his rancor on the subject . . . and his animosity toward those who support the movement in any way, has been most remarkable, even among those of his race who are noted . . . for their support and their practice of vivisectional research." This fling would, perhaps, have been as well reserved for the ethical meeting at Carlisle.

Passing by all hard words, which will have no more effect on his opponents than on himself, I find little in Mr. Tait's contribution to *The Animal's Friend*, until he mentions his position on ectopic gestation and his views concerning the uncalled-for experiments of a German vivisector. Certainly here Mr. Tait speaks to the point. But his opponents will draw a distinction between the use and abuse of experimentation.

He says he does not take up the sentiment of the question. This point, however, is illustrated by his wife in a subsequent article in the same magazine. Mrs. Tait gives some interesting reminiscences of her sensations and of her cats. She also professes to recognize a "peculiar look impressed by maternity upon the female of all animals." This "special expression is common to us and the lower animals," says Mrs. Tait, and she sees it in the Madonnas of A. del Sarto and of other painters, as well as in the cold marble of the wolf suckling Romulus and Remus, at Florence. I cannot emulate Mrs. Tait as a judge of physiognomy, but have, I fancy, quite as kindly feelings toward animals. But I draw the line where perhaps she would, too. A lady living near me treats a cat to fresh sole and other expensive articles of diet daily. That, too, when human children starving do not touch her sympathy. Truly, human beings are strange creatures!

I hear that between sixty and seventy army medical officers, having completed their six years' foreign service, are now entitled to be relieved. With the dearth of doctors at home and only half the number of candidates for the vacancies, the officials will be puzzled to make proper provision. It is not the first time such a deadlock has been brought about by the stupidity of military prejudice. The *Admiralty and Horse Guards Gazette*, which reflects the follies of so-called combatants, has lately pretended that the army surgeons are too brusque to be favorites. The discovery is worthy of the combatant who "seldom drinks and never

swears," or of the journal that is content to play sycophant to snobs.

The contest with clubs¹ still goes on with varying fortune. In some places the profession has triumphed, but only where a united front has been maintained.

THE SECOND INTERNATIONAL CONGRESS OF GYNECOLOGY AND OBSTETRICS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The medical profession is, perhaps, the most truly co-operative international body on earth. Its members all work toward one aggregate result and rule of practice. When, therefore, the full report of the Geneva Congress is published, we shall have the latest opinion of the best professional minds of the world on the subjects discussed.

You will already have received the special report of proceedings. But until the volume of transactions arrives, it is premature to estimate the scientific result of the meeting. It must suffice to touch its surface phases.

"Scientists are all compatriots," said Péan, in his toast; and this sentiment was realized thoroughly in the social aspect of the congress, though hardly in the set meetings. Some of the *contretemps* here were almost farcical. In the first place, there was no discussion. The papers on the set subjects were printed and distributed in advance, and then rapidly read in the mother tongue. Nearly all the members, other than the compatriots of the speaker, would scamper at the opening of an uncomprehended paper—excepting, perhaps, our own courteous countrymen, whose sense of decorum made them more than attendants upon a mere national section of an international congress.

Then, the "ten-minute" discussions, so-called, were also short essays printed and distributed beforehand; giving, it is true, the author's opinion, but in no sense debating previously expressed views. The one virile exception was Péan's extempore response to Doyen, of Rheims, who claimed priority over the giant hysterectomy in describing the vaginal operation. Here the interest was real, instant, and international, and reached a climax in the trumpet-like note of wrathful denial from Péan, while his adversary still held the floor. Its significance made it of no import that he had already exhausted his right to respond. The denial was thoroughly before the jury.

This, with a few similarly interesting episodes, lightened the tedium of the polyglot monotony. A president of one tongue would sometimes preside entertainingly, yet disastrously, at the reading of a paper in another. One gentleman, turning to illustrate a point on the blackboard, found himself stranded with his drawings and his successor well into a new subject, because the president had fancied his paper concluded. Orators with individual communications on subjects other than the leading ones before the congress were shown to a room apart, where they might read their papers, to themselves at least, in default of better audience.

But these trifles, occasioning hardly a ripple of feeling, served only to accent the cordiality of the banquet board and to demonstrate that in the social comings and goings rather than in the amphitheatre was to be found the worker's heartiest recognition. For here each great man button-holed each other great man, and compared grandeur. Consequently, it was man to man—Frenchman to German, Russian to Italian, American to Spaniard, though oft in pigeon tongue—that the real discussions of the congress were held. It

was this near touch which will enable men to judge of the reliability of the views and statistics of all these familiar names and now familiar faces, when the edited transactions come to be perused in the quiet of the home library. It was this personal contact which allowed the scanning of the statistic makers for truth and conscience and absence of vainglory—for the zeal for science more than zeal for self.

The best men should have the shortest lists and the worst statistics. A zero mortality is easy to a conscienceless man bent on personal éclat. A large mortality is necessary to the conservative man who operates only on desperate cases, and whose ambition is to see how few instead of how many of the women coming before him he can put to the knife. This is why statistics lie. This is why personal knowledge of the operator interprets his figures.

Whether or not great addition to the scientific store has been made, the congress from this social point of view was pre-eminently successful. It showed the arena to the gladiators: man measured man; and from this atmosphere of the leaders in the science of gynecology and obstetrics, one must return to the local clientèle stimulated to renewed labor, taught the vast difference between mere well-fed local success and the honor of contributing even a mite to a world's science.

And humanity profits, although all of the gray heads of the second may not be present at the third international congress.

EUGENE COLEMAN SAVIDGE, M.D.

PARIS, September 10, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 26, 1896:

	Cases.	Deaths.
Tuberculosis.....	170	114
Typhoid fever.....	25	10
Scarlet fever.....	33	3
Cerebro-spinal meningitis.....	3	3
Measles.....	34	0
Diphtheria.....	127	20
Leprosy.....	1	0

According to the Text-Books.—A bright young "dresser," whose knowledge of anatomical illustrations seems to have exceeded his acquaintance with the operating-table, was asked the other day how he could distinguish between a vein and an artery in an operation. "By the color," quickly responded the youth. "What is the difference?" asked the surgeon. "The veins are a beautiful blue, and the ——" but the remainder of his interesting statement could not be made out owing to the altered condition of the class.—*Medical Press.*

Tobacco.—Tobacco, one of the curses of the world, as pronounced in its malignant influence as dirt; not so hoary-headed with age as filth, but considered more respectable; only the proverbial peck of dirt, the amount allotted to each individual, but no limit placed on the amount of tobacco used; the average chewer consuming nine hundred pounds of the weed, causing an expectoration of about forty-five barrels of saliva; the average smoker consuming seventy-three thousand cigars; the smoke ascending from the cigars and pipes of the world ravalling the fumes of the bottomless pit.—H. M. OCHILTREE, M.D., *Kansas Medical Journal.*

¹An obvious misprint in my letter on this subject in the MEDICAL RECORD, August 5th, may be corrected. The annual sum was printed £2.6s to £3.6s instead of 2s. 6d. to 3s. 6d. It is a case of pence, not pounds—dimes, not dollars.

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Original Articles.

PRACTICAL POINTS REGARDING THE SENILE INSANITIES, WITH SPECIAL REFERENCE TO PROPHYLAXIS AND MANAGEMENT.

BY RALPH LYMAN PARSONS, A.M., M.D.

NEW YORK.

OF all the mental aberrations and degeneracies, none are more worthy of the attention and study of the general practitioner of medicine than those which occur at advanced periods of life; for while under normal conditions the mental powers should outlast the physical, remaining unimpaired in their essential qualities until the end, it is nevertheless true that in many of the aged the mental faculties fail with or before the physical; and, furthermore, that many of these failures might have been prevented, or at least delayed, if wise counsels had been obtained and followed; and that no one can be so well fitted to give such counsel and advice as the family physician, who is in a position to see and duly estimate the causes which are leading to these failures. And when, in due time, the family physician shall be habitually retained as an adviser of the family in health as well as in disease, as he should be, and as lawyers are now often employed to look after the interests of the family property when it is neither in litigation nor in danger, the physician can render still greater service in warding off the mental diseases to which the aged are exposed. Another reason why this subject deserves the especial attention of the family physician is that the aged are more disturbed by removal from customary habits and surroundings than younger persons, and a proper and laudable respect for their age and for the services of a lifetime demands that their feelings in this regard should be respected in so far as is compatible with their best interests; and so that they should remain longer under the care of the family physician than would be advisable or desirable in the case of younger persons.

We are quite accustomed to expect that mental deterioration will take place *pari passu* with the physical weaknesses that are inevitable at an advanced age. And yet we not unfrequently meet with aged persons who are on the verge of physical dissolution, but whose mental faculties remain unimpaired in quality, and as active as at any other period of life when the body is in a like state of debility from any cause. In fact, the normal brain which is free from disease, in a well-constituted body, ought to be the very last of the organs to fail in its functions. And mental force often proves itself to be the conservator of the physical forces. In proof of this, it is sufficient to note the fact that people who are apparently hopelessly ill and who are told that their recovery is beyond hope, sometimes stubbornly dissent from that view and actually do recover; and when there can be no more doubt that they would have died but for their mental resistance, than we can doubt that of two drowning men of equal physical powers one may save himself by his deter-

mination to do so, while the other is lost by his lack of mental force. And this mental force or its lack does not depend entirely on the original quality of the brain substance itself, but in part, at least, on the sort of training to which the mental powers have been subjected. If these well-constituted brains are less active in later than in earlier years, this can be readily accounted for by the fact that bodily weaknesses hinder and prevent prolonged activity; and also that former incentives to activity no longer exist. It is generally admitted that persons of advanced age are often of better judgment than the young. Nor is it correct to assume that every failure of the memory is an evidence of failure of the mental powers. There are different sorts of memory, and some of these may fail while others persist; those which persist being the ones in which the person takes the greatest interest, or which have been oftenest repeated. And then, with increased years, the number of things to be remembered also increases, and the impressions which have been the fewest in number will naturally be the first to fail in the memory. The impressions of earlier life excited great interest from their comparative fewness in the past, or they have had many repetitions and so have induced a cell habit favoring a reproduction of the impression. Proper names—that is, specific words which are applied each to one specific person or thing—are the soonest forgotten of words, for the simple reason that they are specific, and so of infrequent application. It is only an exaggerated or an essential loss of memory in the aged which should be considered as involving the integrity of the mental faculties; as when the names of near relatives are forgotten, or when the conventionalities of daily life are no longer remembered. And it is even possible for the reasoning powers to subsist with the ability to perform the ordinary duties of daily life, when there is an entire lack of ability to construct a single intelligible sentence or to recall the names of intimate friends.

But it must be acknowledged that with the accession of the physical infirmities and changes incident to old age—the loss of muscular strength, the loss in weight, the wrinkling of the skin, the arcus senilis, the trembling of the hands, the emaciation, the failing appetite, the impairment of digestion and nutrition, the weakening of the action of the heart, the diminished tone and resiliency of the vascular system, attended oftentimes by organic changes of the vessels; the dulling of the special senses, especially of the hearing; the disturbed sleep at night, or the hebetude by day—that these, existing in varying degrees, are often attended or soon followed by important changes in the mental processes—changes which, although they cannot yet be fairly considered as pathological in character, are still an evidence of a weakness that forebodes impending danger. As examples of these mental changes may be mentioned irritability of temper, imperiousness, disturbance of the emotions without sufficient cause, or an undue diminution of emotional excitability, extreme loss of memory, great diminution of the power of attention, diminished power of abstract thought, fickleness, or perversity of disposition.

When many of these signs and symptoms are manifested in a marked degree, the border line of unmistakable mental alienation cannot be far distant. But it should not be inferred that the border line must of necessity be passed. Under wise advice and suitable conditions, the crisis may never be reached; and the reason may be conserved, without essential impairment, until the end. Nor should it be inferred that because the border line has unmistakably been passed, a recovery is impossible on account of the advanced age of the patient; for, in fact, the aged are nearly or quite as likely to recover from an acute attack of insanity as those persons who suffer an attack at other periods of life, when the ratio of persons living at this period is taken into consideration.

And at this point it is well to note that senility is not altogether a matter of years. Some persons are physically and mentally as old at fifty as others are who are ninety or even a hundred years of age. Some families have greater vitality than others; and so their members are likely to live a greater number of years and to become senile later in life. The age to which any individual can possibly survive under the most favorable conditions depends upon the amount of vitality he has inherited from his ancestors. This amount can never be increased, although it may be and often is diminished. And herein lies the indication for means to delay the approach of premature senility and decay, whether on the physical or on the mental side—the removal of influences which are prejudicial and the substitution of those which are advantageous.

The acute mania of the aged differs so little from the acute mania of earlier years as to require only a passing notice, save that the physical resistance to prolonged excitement and loss of sleep is sometimes marvellous. Complete recoveries are not infrequent; and these may be enduring or may give way to subsequent attacks. The maniacal attack is often preceded by a period of mental depression.

The cases of mild maniacal exaltation that are sometimes observed in the aged usually have their origin at an earlier period of life, and cannot be considered as characteristic of senile insanity.

Melancholia in the aged is more insidious in its onset, and may be either a simple mental depression, melancholia without delusions; or it may be characterized by insane delusions. In either form suicidal impulses are common. The simple form of the disease is of frequent occurrence, and recoveries are also frequent. It should be noted, however, that such false ideas, as that some great calamity is impending, that they are becoming impoverished, that they have ruined their friends, that their souls are lost, or that they have committed the unpardonable sin, should not be ranked as essentially insane delusions—that is, as delusions which are in themselves diagnostic evidences of insanity. The essential characteristic of this form of insanity is the emotional depression. The gloomy ideas are the direct outcome and result of the depressed emotions, and not their cause.

In the delusional form of melancholia, in the aged no less than in earlier life, the delusions are of an essential character, as that their most devoted friends have become their malignant enemies, that their food is being systematically poisoned, that they are to suffer a violent death, or that their bowels are inhabited by snakes. Incredible delusions of this sort are indicative of a profound mental degeneration, and recovery is very much more rare than in the simple form.

If recovery from these acute forms of senile insanity takes place, subsequent attacks are liable to follow, especially if care be not taken to avoid the exciting causes. The same predisposition which was the basis for the first attack must still persist, and in a

brain already weakened by the previous attack. If recovery does not take place, the patient usually passes into a condition of consecutive dementia, from which recovery is not to be expected.

The typical insanity of the aged is a primary dementia, which differs from the primary dementia of earlier life in that it is incurable; depending, as it does, on organic changes in the tissue of the brain. Primary senile dementia is in many particulars similar to general paresis, its characteristic condition being one of weakness.

Oftentimes this form of senile insanity is very insidious in its onset. In the earlier stages it may be very difficult to distinguish the approaches of a dementia which leads inevitably to a condition of fatuity, from the mere lack of mental activity which accompanies the physical infirmities of the aged while the reason still remains unimpaired. In this stage of the disease the demented person often performs acts which are foolish in the extreme, and which may lead to serious medico-legal complications. He becomes penurious, depriving himself of the comforts and necessities of life, or he disposes of his property without reason or consideration; he makes unwise marriage engagements, or makes improper proposals to women, or, more likely, he makes indecent assaults on little girls. The sexual instinct often persists in the aged dement when the power has become nearly or quite extinct.

Later on, both body and mind inevitably fail in strength, especially the mental powers. The dement then wanders aimlessly about, meddling with whatever comes within his reach, or he busies himself with placing and replacing articles without value. He loses all ideas of the conventionalities of life, of decency, of persons, and of places; he removes his clothing, urinates in a corner of the room, or he passes his excrements unconsciously; or he becomes utterly stupid and apathetic, with, perhaps, alternations of excitability and depression. And from this condition there is no reprieve until the end.

The causes of the senile insanities, some of which are coincident with the causes of the other insanities, may be conveniently considered under three categories—those which are so remote as always to have been practically beyond our control; those which are in action at the earlier periods of life; and those which are in action when senility is already impending.

There can be no question that heredity and congenital influences are important factors in determining the mental status in any period of life. If these influences are beyond our control, their consideration may be an important aid in making our prognosis and in advising such measures of prophylaxis as may be required.

The second class of causes is also worthy of consideration, not only with reference to prognosis, but also because, although somewhat remote, they may still be controlled or modified if only timely advice be given and heeded; and it is at least barely possible that here and there a person may be found who will profit by advice bearing on the yet remote future. These causes are, for the most part, such as tend to produce organic changes in the vessels of the brain or to bring about a state of exhaustion of the physical or mental powers—as chronic alcoholism, syphilis, gout, rheumatism, venereal excesses, great and prolonged physical strain, intense and long continued mental application, with anxiety or worry; and lack of self-control, as indulgence in the passions of grief or of anger. A mere mention of these causes is enough to suggest the measures of prevention that may be required. On the other hand, a life of self-control and moderation in all things is the best possible safeguard against a premature breakdown in advanced life.

The causes, however, which are in operation when at a somewhat advanced period of life the infirmities of age begin to make themselves felt are of more immediate importance; because the advice of the physician is then more likely to be sought and followed. Some of these causes are the same as those pertaining to an earlier period of life, and are only of more importance now because the power of resistance has been diminished. Others are especially pertinent to the advanced period of life. It will be a matter of convenience to consider measures of prophylaxis in connection with each, in turn.

When the physical powers begin somewhat to fail, with advancing years, giving notice of the greater disabilities that are soon to follow, there is oftentimes a great disinclination to heed the warnings thus received; a tendency to engage in exhausting labors in competition with those who are still in the prime of life, and to encounter hardships and exposures which might have been borne with impunity in earlier years, but which now involve a strain which is likely to prove injurious in its results. There seems to be a sort of pride in appearing not to have lost anything of pristine vigor. Although it may be evident enough to others that a moderate pace should now be taken, advice to this end will usually be required.

But the opposite extreme should also be avoided. The entire giving up of accustomed physical activities may be even worse than their continuance. It is often observed that those who suddenly and entirely cease from their accustomed work fail more rapidly than do those who continue their labors, only there should be a diminution in the amount and hours of physical activity, in due accord with the bodily failing and disabilities.

Although mental work with a well-constituted brain may usually be continued more fully and later in life than physical work, this should also be diminished with advancing years; both because the brain then requires more rest and more time for recuperation, and also because severe mental work is of itself exhaustive of the bodily powers. But here, also, an entire giving up of mental work may be more injurious than its full continuance. What is required is a continuance of mental activity with such changes in amount and quality as are in accord with its diminished powers of endurance. And these changes in habit, both mental and physical, should be made not after this has become compulsory through loss of ability, but when the first intimations of the coming necessity begin to make themselves observed and felt.

Among the premonitory symptoms and the immediate causes of insanity in persons who are becoming old, lack of proper and sufficient food and lack of sufficient sleep are prominent. With advancing years, a certain degree of insomnia comes on, the nights are restless, and so the sufferers from insomnia remain sitting up or wandering about, because they thus seem to be less uncomfortable than when tossing about in bed with inability to sleep. When they finally lie down and fall asleep, their sleep is disturbed and unrefreshing, and they awaken with or before the early dawn, having secured only a moiety of the sleep they really require; or, after an almost restless night, they fall asleep after daybreak, when others are just beginning the occupations of the day. And thus the vicious circle is commenced of turning night into day and day into night, with all its inconveniences and drawbacks; for the nighttime, with its quietness and freedom from causes of disturbance, is a much more favorable time for normal, restful sleep than the daytime, with its many causes of disturbance. And yet, if sleep will not come at night and does come by day, this is certainly better than no sleep at all. But every possible means should be employed to break the

vicious cycle and to secure a sufficient amount of restful sleep during the hours of night. It will often be found that a short nap taken once or twice during the day will favor better sleep at night, by relieving the nervous irritability which tends to prevent sleep.

And then there are many things that the aged sufferer from insomnia may do to promote sleep. A warm bath taken just before retiring, with cold applied to the head, may be an efficient aid. A cold douche to the feet and legs, or a wet pack to the abdomen, is sometimes useful. A light supper just before retiring is usually of advantage.

Babies and brute animals are usually somnolent when their stomachs are well supplied with food, the activity of the stomach withdrawing the excess of blood from the brain, where it is not needed during sleep. On the other hand, people who are very hungry usually find it difficult to sleep. And, then, a habit of sleep at a regular time and during proper hours should be cultivated in case this habit has been lost. In accomplishing this, the attainment of a favorable state of mind is of great importance. Sleep cannot be enforced by a direct exercise of the will. The very effort of the will to command sleep is enough to render its attainment nugatory. The mental state to be encouraged is one of quiescence, one of indifference, a feeling that the recumbent posture is a proper one for rest, and that if the thoughts are disposed to continue active they may be safely allowed to take their course without any effort toward control. This state of mind and thought is next akin to dreams, and dreaming is next akin to sound sleep. Many mental methods have been advised and put in practice for the purpose of securing sleep, the design being to turn the thoughts from objects of interest to a condition of monotony; as by mentally repeating well-remembered phrases or sentences, or by counting. But the state of indifference, if this can be obtained, is likely to be the most efficient, as being the least active. The mere mention of these simple methods will be sufficient to suggest others equally effective.

Equally important with restful sleep is the taking of a sufficient amount of nutritious and easily digestible food at proper intervals; for one of the usual forerunners of a mental breakdown is loss of appetite or neglect in the taking of food. Not that the stomach should be overburdened with food, for this, too, would be prejudicial; but that a sufficient amount of suitable food for the purposes of nutrition should be taken at proper intervals. If the nights are restless, a glass of milk and a biscuit may often be taken with advantage on awaking in the middle of the night or toward morning; or a glass of warm milk in the early morning before rising.

In case an actual attack of insanity should supervene, one of the first questions to arise will probably be whether the patient can be better treated and managed at home and among his own friends or away from home. The conditions and circumstances vary so greatly in different cases that each one must practically be considered by itself. In a general way it may be said, however, that the acute cases usually do better under skilled treatment away from their homes and their intimate acquaintances. And since these patients have a fair prospect of recovery, they should be given every advantage that tends to secure this desirable result and without too much regard to their feelings or wishes in the matter. If it is decided, however, to treat them at home, their domicile should be made a private hospital, in so far as may be required for their successful treatment, or until all reasonable expectation of recovery has passed away. Especial attention should be given that they get sufficient food and sufficient sleep; and inasmuch as the melancholics almost always have suicidal propensities,

these should always be under efficient supervision. In case food is persistently refused, resort should be had to forcible feeding; and there should be no unnecessary delay in doing this, for the longer the delay the more obstinate is the refusal likely to be, while with delay the physical powers are liable to become too much impaired to admit of recuperation. But, before resort is had to forcible feeding by means of the œsophageal or the nasal tube, every possible means should be employed to induce the patient to take food with something of volition, by persistent and strong persuasion, or by an assurance that force will certainly be used if required. If forced alimentation be required, the œsophageal tube has the advantage of being safer and of admitting the use of more solid food, an advantage in itself if the feeding is to be long continued. In addition to the means already mentioned for securing sleep, drug treatment may now be advisable; the various well-known hypnotics being employed in turn, in order to avoid the danger of establishing a tolerance for any one of them and thus limiting the means of relief at our disposal. Another reason for a frequent change in the hypnotic drugs administered is that, inasmuch as all potent remedies have their disadvantages, each in some particular way, as well as their advantages for the specific need, the disadvantageous action of the remedies will be distributed and thus reduced to a minimum. Opium is rarely to be recommended as a hypnotic. It may be of use, however, in very small doses, as a stimulant in cases of melancholia.

The wet pack is also sometimes useful, acting as a revulsive from the head, relieving the dryness of the skin and at the same time securing a state of bodily quiescence which is favorable to sleep. The application of some form of the electric current, or suitable massage may also be of advantage. Those little monotonous attentions which are well known to be so soothing in the care of restless children should not be forgotten. The mere presence of the nurse as a bedfellow, with a hand resting on the person of the patient, may afford a sense of security or relieve a sense of lonesomeness, and so promote sleep.

It is always to be understood, as a matter of course, that all concurrent and intercurrent diseases will be treated in accordance with the requirements of each.

The decision of the question whether the subject of senile dementia should be treated at home depends chiefly upon two considerations: First, whether this can be done without too seriously compromising the welfare of other members of the family; and secondly, whether, all things considered, the patient can be made as comfortable and as happy as at some available place elsewhere. But, there may be no suitable home; there may be neither relatives nor friends who are willing and competent to undertake the necessary supervision and care; for, however kind and willing the friends of the patient may be, the task may involve too great a strain upon their sympathies and on their powers of endurance. Or, as often happens, the patient may be less tolerant of the necessary measures of care and restraint at the hands of relatives than at the hands of others. All these considerations should be carefully taken into account by the physician who is called upon to advise. If, however, these two questions can be answered in the affirmative, inasmuch as a cure is no longer to be expected, there can be no doubt that such of these patients as have a home and devoted friends ought not to be removed elsewhere for care and treatment.

It often happens that the relatives of the aged dement are quite competent to give all the care and nursing that may be needed. If not, suitable nurses should be employed; and, even for the care of men, female nurses are to be preferred, if competent for the per-

formance of the required duties. Or if, as sometimes happens, kind-hearted neighbors volunteer their services as nurses, these untrained volunteers, as well as the family of the patient, need to be especially instructed regarding the nature of the service to be done. A neglect of this precaution has sometimes led to disastrous results, from a failure in the proper observance of sanitary measures, when the patient has become bedridden and can no longer control his evacuations. And so instruction will usually be needed in regard to the proper ventilation and cleanliness of the apartment occupied by the patient; the removal of carpets, curtains, and upholstered furniture; the immediate removal of all evacuations and other sorts of filth; scrupulous cleanliness of the person; the prevention of bedsores, and so on. In other respects, no special experience is required for the proper management of this class of patients.

APPENDICITIS—TO OPERATE OR NOT TO OPERATE.¹

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DESPITE the trite maxims that doctors are prone to disagree, and that many men incline to many minds, no one, whether layman or practitioner, can fail to be astounded at the wide and positive divergence of the opinions which have prevailed and still do prevail as to the proper management of the condition termed appendicitis.

One may readily recall numerous medical and surgical topics upon the details of which authorities have been in far from complete accord, but it is perfectly safe to say that during our generation at least no equally clear and definite condition has been faced by two partisan and nearly diametrically opposite camps of advisors, who have often met the views of each other with almost brutal bluntness if not with apparent contempt. Candor compels me to admit that the assertions of both medical and surgical partisans appear more ardent than accurate and that one often meets with cases which exhibit the sad results of an absurd partisan teaching and preaching of abstract nonsense rather than modest scientific study of the cases in hand. On the one hand are cases "cured" into irreparable intestinal adhesions and complications by the scouts of surgical treatment, and on the other hand precipitated into the hereafter by indiscreet, incipient disciples of the shouters of "always operate."

I have said one is at first glance amazed at the diametrically opposed views so generally set forth on what might appear to be, as medical problems go, a relatively simple and now fairly understood condition, but further scrutiny shows this problem, like most great pathologic and therapeutic equations, far from as simple as the disputants seem to indicate. To label a train of pathologic events as variable as those comprised in appendicitis with a name and to place opposite it a specific treatment or operation is but to incite the hordes of comparative ignorance, inexperience, and impracticability to pernicious activity rather than to invite candid, patient study of phenomena and sensible adaptation of remedies to specific conditions and surroundings.

You may have listened, as I have, to medical extremists who report scores, even a hundred consecutive cases of appendicitis cured without operation and

¹ A paper read before the Mississippi Valley Medical Association, September 18, 1896.

without a death. To most of us this would appear a very rash statement, even on first thought—one calculated to impair our confidence in the veracity or judgment of the reporter. Yet nothing is easier to understand. These good people only mean to say that all those cases which they have recognized as appendicitis have appeared to recover. To such I would reply, we surgeons may learn one thing from you, namely: that an astonishing percentage of these cases, and even most threatening ones, recovers more or less completely from the acute attack. But you have two lessons to learn from us; first, you clearly fail to recognize a small percentage of appendicitis cases, namely: those fulminant cases of peritonitis, the appendical origin of which is well known to surgeons experienced in abdominal work. Second, if you carefully follow your patients long enough you will find that a large proportion of them are far from being cured; indeed, some die suddenly after being cured from one to half a dozen times; while others become invalids from a great variety of obscure ailments due to intestinal adhesions and other sequels of the natural cure, which are sometimes difficult, if not impossible, of subsequent relief.

After a considerable experience with the disease treated without operation as well as on the operating and post-mortem table, I must admit that the clearly overdrawn assertions of these medical extremists astonish me less than those of some of our prominent surgical teachers. I say this, because the surgeons by their opportunities of direct observation ought to be, and in general are, more practically familiar with the whole course of this disease than are medical clinicians.

Turning to the latest surgical monograph at hand, "A Treatise on Appendicitis," Deaver, 1896, I find, page 113, "It is true some cases will eventually recover by medical treatment (sixteen to four hundred according to Ribberts) and a slightly greater number will apparently recover from an attack."

Now, so long as we advise upon such absurdly extreme views as these, we must appear to give each other the lie direct, and as between the medical and surgical enthusiast the patient must take his choice, while the comic daily editor does the rest. As already remarked, the views of the surgical extremists are on the whole the most enlightened, and, hence the greater harm of their often absurdly overdrawn and rashly stated dogma.

If the line of a surgeon's personal experience leads him so overwhelmingly into surgical cases as to justify such a doctrine as just quoted, the very positive observations of the medical brethren, although doubtless and even clearly containing elements of error, should receive sufficient respect to admonish more caution and less dogmatic teaching. Just so long as a surgeon of eminence holds as a fair statement of the non-operative treatment that but sixteen out of four hundred cases may be expected to recover permanently, and, more especially, that but a slightly greater number will recover from one attack, just so long may we expect every sound-headed general practitioner to scout, or at least heavily discount, the opinion of surgeons, because his personal experience leads him to know better with absolute certainty, and, having found surgical teaching clearly false in this particular, naturally to turn his ear from other facts which surgical experience could furnish him and of which he ought to be cognizant in giving wise advice to his patient. So long as surgeons say to these men, What you observe to be white is perfectly black, there is no ground for assimilating facts or for advancement of practice.

If this line of treating the subject drives the experienced general practitioner to a dangerous and obstinate suspicion of surgical treatment, it leaves the young and inexperienced practitioner, of late with a much overgrown and rather unhealthy surgical ten-

dency, to face the overdrawn dangers of appendicitis with ill-timed, ill-placed, or ill-executed operations which may easily prove yet more dangerous. My own experience leads me to know that one great class of practitioners greatly underestimates the dangers of appendicitis, while another, becoming almost as numerous, as greatly overestimates it.

Another class of surgeons has tried to quash the whole discussion of the treatment of appendicitis by a simple application of logic, thus: Some cases of appendicitis can only be saved by early operation. No one may infallibly distinguish these cases from those which may recover without surgical interference. Ergo, always operate at once; the diagnosis is made. Logically, and on paper or in discussion, I find this position fairly good. The rule is certainly easy and simple and removes a multitude of difficulties from the practitioner, but I fear only transfers them to the patient. In all practical matters of this life one finds none so fallible as those who strive after and adopt infallible rules of action. Such individuals err about as frequently as less positive mortals, and when they do go astray their blunders are often those of genius, such as a modest fool could not commit. In practice such a simple rule finds many and serious objections. Time forbids a discussion of the proposition directly and I shall seek a shorter refutation in the general axiom that any treatment which takes nothing into account but a single disease factor, giving no heed to the patient himself, his circumstances and surroundings, is on its face unworthy of the consideration of practical scientific men. Circumstances alter cases. True, if we try each case on its own merits and strive to operate when, where, and in such manner as the indications and the circumstances interpreted by keen observation and toiling skill seem to dictate to be for the individual's welfare, we shall sometimes fail to have done the best thing at the right time. But will the advocates of "always operate" at once prove any nearer infallible? When they shall have proven so and have been able to say: "Do as I bid and I can assure you of recovery," then I shall yield. But till then I prefer to seek indications—now operate at once, now delay; or again not operate at all. Time forbids boring you with statistics, and besides they are, as mostly used, the tools of error quite as often as of truth. Suffice it to say that during the past six years I have had to do with more than one hundred and fifty cases of appendicitis and have operated myself upon about fifty cases. Of those not subjected to operation many have passed out of sight, but a good number have been kept track of from one to five years. From such observations as I have been able to make, I conclude:

First, that a small percentage of cases of appendicitis, possibly between five and ten per cent. of acute attacks, is absolutely fatal unless promptly relieved by surgery. Here to be very successful the interference must usually be undertaken very early, generally within forty-eight hours of the onset, or at least of the onset of the threatening symptoms. The condition is so dangerous that surroundings and imperfect operative advantages need not have the influence they must claim in subjecting a patient in less peril to a preventive operation. While it is perfectly true that it is difficult always to recognize the sudden perforative form, a good and careful clinician may by study of the onset and the course of the disease during the first few hours distinguish these cases as accurately as most other internal diseases. The operative technique places the least demands upon the operator and the peril of the patient justifies the less perfect operative installation of an emergency operation.

Second, in the other ninety or ninety-five per cent. of cases the emergency is not so great. However, the patient is in the clutches of a treacherous disease and

it is always well to mount the guard and prepare for action. If conditions are in every way the most favorable—the best of surgical attendance, the best of hospital advantages—and the patient upon a just and fair statement of the facts consents, I believe appendectomy is the most certain and complete course. On the contrary, if operative conditions be not very perfect, to rush upon such a patient an operation will not much improve the general mortality rate and quite certainly sometimes lessens the individual chances. I have many times refused to operate because the patient was in a most critical state, such that with the surrounding conditions one would rather trust to the *vis medicatrix nature* than to surgery, and I have been surprised to find that patients sometimes recover entirely, and at other times reach a more favorable stage for successful operation.

Third, when as a consultant, or otherwise, one is called in to a case after the fourth day and up to the tenth or fifteenth, when the symptoms indicate a localization of the trouble I am particularly inclined to conservatism, and in this stage, I think, one should never "always operate," but should always hesitate and feel the way unless there are pretty clear indications for interference. A case having progressed to the fourth day favorably, *i.e.*, without alarming symptoms and with evidences of strict localization, we may be unable to predict the final outcome, but the chances are less than one in ten that the patient will fall into a sudden danger. An abscess may later need to be opened, but a very large majority will, at least temporarily, recover or reach a stage where a safer and better operation may be performed. The periods of election for appendectomy are very early or very late, or between attacks. The direct dangers are less at these periods and completer operations may be made with better closure of the abdominal walls.

Fourth, again in this intermediate stage, great care and judgment are necessary in the operation in order to do just the best thing. As a rule, with some exceptions, the operation should consist simply in opening and draining without attempt to remove the appendix or without breaking down protective adhesions. Here experience and skill in operating and in the after-management are very necessary to the best results; for, while nothing can be simpler than to open and drain many of these abscesses, in others to do a little too much, or a trifle too little, will sacrifice the case. In one we open the pointing abscess with a stroke or two of the knife; in another we explore with the utmost care, find an extra-peritoneal opening which will really drain the irregular, variously located, perhaps multilocular collection, and in others it will be best after this to remove the appendix. For the most part, however, these are incomplete operations and it may or may not be necessary to subsequently remove the appendix, or repair a hernia, or both.

Many of the milder cases of appendicitis appear to reach their acme by the third or fourth day and gradually to subside during the following week. But it is not rare for others to show little general improvement before the end of eight or ten days and yet recover very completely.

Fifth. But as a rule, if at the end of ten or twelve days there is not some progressive abatement of the disease, I think we may assume that an abscess exists which it is in general useless as well as dangerous to leave to nature and which should be opened without entering the general cavity.

Sixth. In all relapses, certainly after the second, it is good advice to operate either after the attack has subsided or on the first symptom of the relapse. It is well known that these cases form the most favorable class for operative interference: first, as regards the mortality, which ought not to be above two or three

per cent., and second, because the operations may be completed as a rule without drainage and with the most perfect closure of the abdominal walls. Next to operations during the early hours of preliminary acute attacks, those between the attacks are the simplest and most definite in technique. Often an operator with good theoretical training and little experience in abdominal surgery will find such cases easy, but occasionally they present complications in the way of intestinal adhesions, sequestered appendix, etc., which renders the experienced surgeon an easy victor where the novice would fail or expose the patient to entirely unnecessary dangers.

Thus, I do not find the indications for operation in appendicitis or not to operate in a fixed rule based upon logic, upon the day of the disease, the temperature range, or any other single rule of thumb; but upon broad clinical principles, aiming to estimate as closely as possible the conditions present and to meet them by such means as the variety and stage of the disease, the condition of the patient and his circumstances may seem to demand. By such a course it is not possible to avoid occasional errors of operating too early as well as too late, of doing too much as well as too little. But I feel sure a good clinician, guided by a wide knowledge of the pathologic and the clinical course of the affection, will be able to feel his way with as few mistakes as the positivist who acts upon an absurd rule, however laconic, whether that of "always operate" or "never operate."

I am able to say that of about one hundred cases not subjected to operation, the direct mortality was less than ten per cent. A considerable number appear to have made complete recoveries, lasting from a few months to five years. Very many are known to have had relapses; some have been soon lost to view. My impression is that scarcely half have remained perfectly well. In fifty-two cases selected for operation upon the lines here laid down there were four deaths. In thirty-eight the appendix was removed and in fourteen it was not. Some years a score of cases have been seen without meeting one submitted to operation. Again, for some months most of the cases have appeared to demand operative interference; at one time a number of relapsing or chronic cases present; again, a dozen or more consecutive acute suppurative ones. Of the fourteen incomplete operations, six have occurred consecutively in the past few months; indeed, four of them in one month. Hence, in my experience, appendicitis is not a condition to be dogmatically treated of by a few sweeping assertions, but one presenting a very varying aspect, to adequately meet which broad judgment, broad clinical knowledge, and experience are necessary. On the whole, it is far more a surgical than a medical disease. I have more quarrel with the prognosis of the surgical extremists than with their treatment, for, though my experience leads me to know that the probable mortality of an attack of appendicitis is not, in considering a large number of cases, very greatly above ten or fifteen per cent., the probabilities of cure are quite otherwise, and I have no doubt whatever that at least the minority ought soon or late to be subjected to surgical treatment.

This absurdly false prognosis leads to great misunderstanding and inopportune interference. On the other hand, the quite as inaccurate claims of medical extremists, that because a patient gets up from an acute attack he should be regarded as a cure, a living reproof to surgeons, and a dazzling medical trophy, leads to quite as disastrous sins of omission. I would have the medical brethren look for some of the medical cases which are a shame rather than a glory to medicine and admonish surgical extremists that insisting upon an absurdly grave prognosis retards rather than advances sound practice.

PREGNANCY COMPLICATING OPERATIONS ON THE UTERUS AND ITS APPENDAGES.¹

BY R. STANSBURY SUTTON, M.D., LL.D.,

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On March 30, 1891, Dr. Bell, of Butler, Pa., brought to my private hospital Mrs. S—, aged twenty-six years. She was three and a half months advanced in her sixth pregnancy, five of which had terminated in three living children and two miscarriages. After the cessation of each of these periods of utero-gestation, a tumor could be felt to the left of the uterus. Upon examination, a well-defined cyst was distinguishable, occupying the abdominal cavity. Below and to the right side of it the pregnant uterus was located. Upon opening the abdominal cavity, I encountered a large cyst of the broad ligament on the left side. Its contents were evacuated and the cyst was enucleated.

After the enucleation, which was tedious and difficult, there was tolerably free bleeding. The cavity was irrigated with hot water, and the wound was closed with two rows of buried catgut sutures and a superficial row of interrupted silkworm-gut sutures. She was discharged twenty-three days after the operation. Her pregnancy went on without interruption, and she was confined at term, her child living.

Notwithstanding that this patient had aborted in two subsequent pregnancies, the operation failed to provoke any trouble in this, her sixth pregnancy.

On February 13, 1893, Mrs. D—, aged thirty-four, widow for ten years, mother of one child, thirteen years old, was sent to me by Dr. Beatty, of Alleghany, Pa., for operation. At her menstrual periods she had cataleptic seizures, and frequent attacks of severe pain in the ovarian regions. She was incapacitated for work, and protracted treatment and all remedies applied had failed to relieve her. She stated that her last menstruation had occurred two weeks prior to this date. A digital vaginal examination revealed a linear contraction at the juncture of the upper and middle third of the vagina, which arrested the finger. The finger was now transferred to the rectum, and by the aid of the superimposed hand I made the following diagnosis: Lacerated cervix, subinvolution of the uterus, chronic salpingitis and ovaritis.

Five days later I made a very short incision in the median line, and through it removed the ovaries and tubes. I noted the supposed subinvolution of the uterus with the fingers, and closed the wound. The patient recovered promptly, and left the hospital. About ten months after her discharge from the hospital, her attending physician informed me that in nine months less forty-one days after the operation, he had attended her in confinement. She gave birth to twins, healthy children.

Occasionally an ectopic and a uterine pregnancy coexist. The great majority of such cases have, in the past, ended fatally. In the future, the question of doing abdominal section or an operation for tubal gestation is much simplified, in this fact, at least, that the coincident uterine gestation is not a complication worth serious consideration, and hereafter a diagnosis in any case of tubal disease or suspected ectopic gestation may be elucidated safely—although uterine pregnancy exist—by an exploratory incision.

The fact that twin pregnancy, one fœtus in the uterus and one in the tube, has occurred many times; that such a condition has usually proven fatal; and, further, since in all recorded cases a correct diagnosis has been arrived at only four or five times, the question of intra-abdominal operation in the presence of uterine pregnancy is swept of its terrors for the future.

¹ Read at the meeting of the Mississippi Valley Medical Society, St. Paul, September 15-18, 1896.

Intra-peritoneal operations made directly on the pregnant uterus, with the expectation that such operations will not disturb the progress of the pregnancy, require a much more critical consideration and greater caution, for not only is the life of the fœtus involved, but the life of the mother may very easily be sacrificed.

In the myomectomies done thus far on the pregnant uterus, nearly sixty per cent. of the mothers have been lost, and enough of the children have been lost to swell the mortality to more than one hundred per cent. Unless, therefore, the tumors have but a slight attachment to the pregnant uterus, myomectomy under such circumstances had best not be done.

In three cases of pregnancy, dangerously complicated by the presence of fibroid tumors in the body of the uterus, I have done supravaginal hysterectomy, by Chrobak's method—in each instance sacrificing the fœtus and saving the mother.

It is a remarkable, and yet a natural consequence, that a uterine myoma is usually stimulated to a very rapid growth by the process of uterine gestation. I say a natural consequence, for what difference is there, histologically, between a pregnant uterus and a myoma? Practically they are identical.

In one of my cases—all of which are published in the Transactions of the American Gynecological Society—the tumor weighed ten pounds. It is a somewhat remarkable fact that in these three cases all the women were primiparæ.

Recently I have seen a fourth case, in which there has been up to this date no surgical interference. This patient is also a primipara, and in the sixth month of gestation. She is so located that she can be temporized with, in the hope of doing a Cæsarean section and thereby saving both the mother and child.

Believing, as I do, that the existence of myoma in the uterus of a woman before marriage is a source of the greatest danger, if marriage is contemplated I hold that the tumor should in every instance be destroyed, either by myomectomy, enucleation, hysterectomy, removal of the ovaries and tubes, or by ligation of the uterine arteries; and also that it is the duty of the medical man to advise against marriage until a cure has been effected.

The Indications for Ventral Fixation of the Uterus.—The following indications for ventral fixation of the uterus are given by Dr. G. M. Edebohls in the *Medical News*: 1. Vaginal fixation of the uterus does not come within the sphere of legitimate operations in women liable to future pregnancy. 2. The indications for ventral fixation of the uterus should be limited to the utmost degree in women liable to subsequent pregnancy. 3. Ventral fixation is never indicated in uncomplicated retroversion of the uterus. 4. Inability of an operator to perform shortening of the round ligaments may be an indication for ventral fixation, but not in the case of one claiming to be a specialist in gynecology. 5. Ventral fixation is indicated, as an adjuvant, in the performance of combined operations for prolapsus uteri et vaginæ. 6. Ventral fixation is indicated as a closing step in all cœliotomies in which the adnexa are removed and the uterus is left. 7. Ventral fixation may be indicated, under exceptional conditions, in cases of adherent retroversion, with tubes and ovaries in good condition. 8. Ventral fixation may be indicated in the most aggravated cases of uncomplicated sharp retroflexion. The writer has not met such a case not amenable to successful treatment by shortening the round ligaments. 9. Ventral fixation is indicated, under certain conditions, in cases of uterus unicornis.

TWO CONTRIBUTIONS TO THE SURGERY OF THE GALL BLADDER.¹

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THE rapid development of surgery of the gall bladder and the frequency of operative procedure for the relief of disease of this viscus almost preclude the possibility of anything new being said on this subject. Accuracy and amplification of our knowledge, however, are only obtained by experience; therefore, it is much to be desired that every case bearing upon this subject should be reported, to the end that an analysis of a series of cases may be of benefit to the profession. For this reason the two following cases of gall-bladder disease, that have recently been under my care, are presented to your notice.

CASE I.—Mrs. S—, aged fifty-four years, was brought to me by her family physician, Dr. O. M. Looker, of Hillsdale, Ill. For some four years she has been complaining of pain and tenderness in the region of the stomach and liver. This ever-present soreness was accompanied at intervals by attacks of severe and almost unbearable pain, followed by nausea and vomiting. As time progressed these attacks increased in frequency and severity. Jaundice, which at first was present only after an attack of colic, now became almost constant, and the only rest obtained was that produced by narcotics. When she was first seen by me, her appearance was indicative of great physical sufferings—debilitated and emaciated in the extreme, face pinched and anxious and jaundiced in color—altogether not presenting a condition likely to withstand a severe operation. Upon examination of her abdomen, a large, hard, nodular mass was found occupying the space between the eighth and ninth costal cartilages and the umbilicus, the entire tumor tender and painful to the touch. At the lower portion of this neoplasm was a smaller circumscribed tumor which could be readily outlined from the remainder. This portion was exquisitely tender to the slightest pressure. The previous history of the case, together with the condition found on examination, left the diagnosis between gall stones and malignant trouble of the pylorus, or both. She gladly accepted the proposal of an operation, in hopes of alleviation of her suffering.

December 21, 1895, under ether anaesthesia, an incision in the median line was made and the diseased mass was exposed. The pylorus was found to be the seat of a large carcinoma, and the left lobe of the liver was also infiltrated with carcinomatous nodules. The walls of the gall bladder were diseased, thickened, and friable. The gall stones now could be readily felt, filling the bladder to its utmost capacity. The viscus was incised and twenty stones were removed, some of which are here presented. The incision was closed by a row of interrupted sutures. The friable condition of the walls rendered the coaptation of the serous surfaces very difficult, and some apprehension was felt that leakage would occur; but, happily, no such accident followed. The abdominal wound was closed in the usual manner, and the patient made an uninterrupted recovery from the operation, being discharged from the hospital on the nineteenth day. For some weeks succeeding the operation she was free from pain and more comfortable than she had been for years; but the respite from suffering was cut short, and in a few days over three months she succumbed to the disease.

CASE II.—Mrs. C—, aged forty-six, was referred to me by her family physician, Dr. Eddy, of Milan, Ill. This patient gave a history of six years of inter-

mittent suffering—spasms of hepatic colic, accompanied by temporary icterus, vomiting, and general prostration. These attacks usually confined the patient to bed for from one to three weeks, the soreness and tenderness resulting from the acute pain remaining for some time. The intervals between attacks were generally comfortable, with the exception of more or less indigestion. The increasing frequency of the spasms, their intensity being such as to endanger life from collapse, led her to seek surgical relief from her suffering. When she was first seen by me, her general condition was fair, although she was somewhat weak from her last attack of colic. Upon examination of the abdomen, no circumscribed tumor could be felt, as in the case of Mrs. S—-. Deep pressure, however, revealed an undefined swelling. By passing the tips of the fingers under the free margin of the liver, a hard nodule could be felt. A diagnosis was made of impacted gall stone. Under ether, the median incision was made. As soon as the edges were retracted, the enormously distended gall bladder came into view, in size some five to six inches in length, and of the circumference of a man's wrist. The contents, a mucoid fluid, were drawn off through a cannula, and the bladder was incised. A stone weighing sixty-nine grains was removed. The cystic duct was found impacted with a stone, about the size of a joint of the little finger. Considerable difficulty was experienced in crushing and removing it. The duct was now pervious, but the inflamed and hardened condition of the walls determined the use of the Murphy button in making an anastomosis with the duodenum. This was accordingly done, and the viscera were returned. Considerable bile had escaped, notwithstanding careful gauze packing; therefore the peritoneal cavity was thoroughly flushed with hot water. The abdominal wound was closed with three tiers of stitches and dressed with aseptic dressings. The operation lasted two hours, owing to the difficulty in removing the stone from the duct. The patient bore it well, and made an uneventful recovery. The stone removed is a hexagonal cube, four sides of which have been worn smooth by constant rubbing upon the face of the stone in the duct.

The clinical histories of these two cases are entirely different. The conditions present upon examination were equally dissimilar. They emphasized the diagnostic points already laid down by writers on this subject, and especially those given by Mayo Robson, in his paper on "Surgery of the Gall Bladder," read before the international medical congress in Rome in 1894. He says that in all cases of malignant disease with jaundice the gall bladder formed a perceptible tumor, while in jaundice dependent upon gall stone alone no marked tumor was present. In the first case here reported, the tumor was perceptible to the slightest touch; while in Case II. it was only by deep pressure under the liver that a tumor was recognizable, and that only because of the large size of the stone. The jaundice in the first case was almost constant, while in the second it only followed the acute attack of colic. These two cases illustrate how unjust it is to both the patient and the physician to allow disease of the gall bladder to be treated by medical means alone, until the patient is reduced by years of pain and suffering to such physical condition that surgical relief is only a *dernier ressort*. It is safe to say that the irritation produced by gall stones, either in the bladder or in the ducts, is an important etiological factor in the production of carcinoma of the stomach and liver. When jaundice has become constant and cachexia has developed, we have a class of cases very unfavorable for surgical relief. The danger from collapse in the intense spasms seen in the second case offers sufficient reason for operative procedure in similar cases. Ulceration and perforation of the duct are accidents liable to oc-

¹ Read before the Central District Medical Society of Iowa and Illinois, at Rock Island, Ill., April 9, 1896.

cur when the impaction is so complete as in this case. Erosion of tissue will soon follow the constant pressure here observed. The foregoing cases are not unfamiliar types of gall-bladder disease, and are reported with the hope that in making up the sum total in these operations they may serve some end.

THE TREATMENT OF ACUTE ABSCESES.

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THERE are many abscesses of larger or smaller size which follow the infection of the genitals, and the treatment of which has not been satisfactory to me until lately. The abscesses to which I refer are suppurating glands in the inguinal region of both sexes, and abscesses of the vulvo-vaginal glands in the female.

The dissecting out of these glands is not always practicable, and requires an etherizer and one assistant. The opening of the glands by a free incision, thoroughly curetting and packing the cavity with iodoform gauze, and using a wet or dry dressing, is a long, slow way to recovery and disables the patient for several days. Patients coming to our clinics are of the working class, and generally are obliged to attend to their household duties or nominally appear at their work. If a small incision is made, which allows the patient to get about, and the abscess is packed with iodoform gauze, when the next dressing is done (in twenty-four or forty-eight hours) the gauze has become so saturated with the discharge and so adherent to the line of incision that the drainage is practically *nil*.

A more desirable dressing is one which will allow free drainage and can easily be kept in place. I have found narrow strips of gutta-percha tissue to answer this purpose admirably. My routine treatment now for suppurating vulvo-vaginal glands and inguinal adenitis is to make a small incision, depending on the size of the abscess—a larger incision for a larger abscess—to press out as much of the pus as will easily flow out, and to pack the cavity comfortably with long strips of gutta-percha tissue, about one-fourth to one-half inch in width, slightly twisting and folding the gutta percha as it is packed into the cavity, and to leave the end of the packing outside the wound. If the packing shows a tendency to work itself out, the end can be tucked within the incision. The opening will not close as long as the cavity is packed with gutta percha. For the patient I order ung. hydrarg., fifty per cent., with the instruction to apply the ointment liberally over the abscess morning and night, and cover with a cloth to protect it from the clothing. When the skin is tender, an ointment of equal parts of ung. ichthyol, ten per cent., and ung. hydrarg., ten per cent., can be used.

The packing is to be kept in twenty-four or, better, forty-eight hours; then the patient returns and a new packing is inserted. The patient is told to go about her regular duties. When she returns for the first dressing, it is generally with the report that she has no pain and can get about very comfortably. On removing the gutta-percha strips, one is struck by the clean, healthy, granulating appearance of the abscess; and this seems to have been brought about by the movements of the surrounding muscles, which keep the gutta-percha tissue moving about in the abscess cavity, gently curetting the abscess. The curetting work is done more satisfactorily if the incision into the abscess is not too long and the packing is not too tight. Rarely is it necessary to pack an abscess in this way more than two or three times, before the

healthy, rapidly growing granulations are ready to fill up the cavity. The packing is then discontinued, though the application of the ointment is kept up.

In using the packing the gutta-percha tissue should not be twisted too closely, but the cavity should be comfortably filled with partly twisted and partly folded strips of tissue. Better results are obtained when the cavity is not irrigated with an antiseptic solution before packing.

This mode of drainage has also been used most satisfactorily in deep infected wounds under strong fascia, as in the palm of the hand, even though these wounds are accompanied by a marked cellulitis. The drainage in these cases is much better than when iodoform gauze is used. The infected wound is opened thoroughly, packed with strips of gutta-percha tissue, and the surface is covered with a compress, kept constantly wet, of a solution of acetate of aluminum. The acetate of aluminum is made up as follows:

R Pulv. alum. 3 v.
Pulv. plumbi acet. 2 xxv.
Aque destil q.s. ad O iv.
M.

There is a precipitate when this solution is made up, and the bottle should be shaken before its contents are used.

The gutta-percha tissue is best prepared by being cleaned, then folded, and put into a 1 to 1,000 solution of HgCl_2 , in which it will keep indefinitely. When used, a strip of the folded tissue is cut off, unfolded, rinsed in plain water, and packed into the abscess, as above described. The gutta-percha tissue should not be used with carbolic solutions, as they destroy it.

Having used this dressing for abscesses for a year and more in my clinic at Roosevelt Hospital, with satisfactory results, and not knowing of its being used before, I suggest it for trial by others of the profession.

20 WEST FORTY-THIRD STREET.

Clinical Department.

LARYNGEAL PAPILLOMA IN A CHILD—REPEATED INTUBATION—DEATH.

By F. LOHRSTORFER, M.D.,

FORT HURON, MICH.

T. P.—, aged three years. Ten months ago the parents first noticed some difficulty in the child's breathing, but attributed it to asthma. The obstruction gradually increased and when the child was brought to me it presented an appearance identical with that of one suffering from severe diphtheritic stenosis. The voice was whispering. A laryngoscopic examination was unsatisfactory on account of the fractious disposition of the patient, and a like attempt under chloroform nearly terminated fatally from suffocation. An intubation tube was at once inserted, with complete relief. Six days afterward the tube was removed, when dangerous dyspnoea at once supervened. This, however, soon passed off and in two or three days the breathing was quite free. The relief lasted four weeks, when stenosis again returned, worse than before. An O'Dwyer tube was again inserted. Four days later as the child was playing in the street it coughed the tube out and the dyspnoea became at once urgent. I then introduced a larger tube, which gave perfect relief. The child's condition was normal in every way except for its loss of voice. This third tube remained undisturbed for three weeks, when, fearing injury to the larynx, I administered chloroform and removed it. Instantly on its withdrawal the face

became cyanotic, the pupils dilated, and the most strenuous efforts of the patient failed to provide air. Tracheotomy was at once performed and the immediate danger was over. I had intended an operation for the radical removal of the obstruction on the following day, but in the night the child was suddenly seized with dyspnoea and died in less than a minute, probably from some obstruction in the cannula, although both inner and outer tubes were removed in succession by the attendants. The autopsy, twelve hours later, showed a broad-based papilloma entirely encircling the interior of the larynx at the level of the vocal cords and completely blocking the passage. In spite of the last intubation tube remaining in three weeks, there was not the slightest trace of irritation of the larynx or trachea.

CONGENITAL IRREDUCIBLE UMBILICAL HERNIA—DOUBLE UTERUS.

By JAMES HARVEY RAYMOND, M.D.,

WAILUKU, H. I.,

GOVERNMENT PHYSICIAN FOR THE DISTRICT OF WAILUKU AND ATTENDING
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FORMERLY INSTRUCTOR IN SURGICAL PATHOLOGY, RUSH MEDICAL COLLEGE,
CHICAGO.

ON June 7, 1895, Dr. Aiken, of Paia, Maui, H. I., asked me to consult with him in a case of labor. The patient was a Portuguese woman, a multipara, aged twenty-five years; she was apparently well nourished, and had a history of no previous illness. She had been pregnant twice before, and each time the fœtus was born dead. The first birth gave no trouble whatever, but in the second labor was prolonged and a physician had to be called to deliver the placenta.

On the 29th of May the woman called on Dr. Aiken, informing him that she was pregnant, and asked him for medicine to produce delivery. From remarks made by the woman in response to his questioning, Dr. Aiken suspected that the child was dead; he so informed her and advised a digital examination. Although she concurred in his suspicion, and also stated that on two previous occasions she had given birth to a dead child, she absolutely refused to allow an examination at that time.

Eight days later the doctor was sent for to attend the woman and upon examination found a dead fœtus. The patient refused to have the fœtus extracted until two days later, at which time I was called in. The face of the patient was blanched and wore an expression of great fatigue; she was perspiring profusely. Respirations rapid; pulse full and collapsing; temperature subnormal; fecal vomiting. The patient was anesthetized, and upon digital examination we soon determined that the fœtus had been dead for some time, as it was in a stage of advanced decomposition.

The cervical portion of the uterus was deflected to the left, as though it were drawn to that side by adhesions, and an exploration of the interior of the organ necessitated carrying the fingers well to the left to find the os.

The os would not admit more than two fingers, and to the left of it could be felt a circular depression, from three to four centimetres in diameter and about five millimetres in depth, with a smooth rounded edge and a hard base. The occiput could be felt to the left side, but it was impossible for the head to present, owing to the apparent distortion of the uterus.

I hooked my finger into the os and slowly dilated it, using considerable force, until it would admit the whole hand, when with comparative ease the head

came away, and the body and placenta were speedily delivered without difficulty.

The depression felt at the side of the patulous os was then found to be the os of a separate organ, which was entirely within the impregnated uterus and large enough to admit my hand on dilating it with moderate force. The hand could be passed completely around the abnormal organ from within the impregnated uterus, as it was attached only at the os.

The patient survived the anæsthetic, but died eight hours later of septicæmia, the symptoms of which were manifest upon my arrival.

Unfortunately, we were unable to obtain permission from the relatives of the deceased to perform an autopsy; therefore our deductions are more or less hypothetical. But, from the observed anatomical condition, we arrived at the conclusion that the abnormal uterus was nourished by the same blood-vessels, excited by the same nerves, and consequently enlarged concomitantly with the pregnant uterus, and that it caused the death of the fœtus by mechanical pressure.

A MONSTROSITY.

By J. M. FRANKENBURGER, M.D.,

EDITH, COL.

ON April 15, 1896, I was called to attend Mrs. A., aged forty, mother of three children, the youngest of whom was five years of age. I found her having slight labor pains, the membranes having been ruptured about half an hour. On palpation the position was made out as being a breech presentation, head to the left. Vaginal examination revealed nothing, the parts still being too high up. I tried turning by external manipulation, but was unable to accomplish anything, and concluded to let the case alone until something further developed. The pains were very slow and irregular, and no progress was made in the labor for about ten hours, when on making a vaginal examination I could clearly make out the presenting

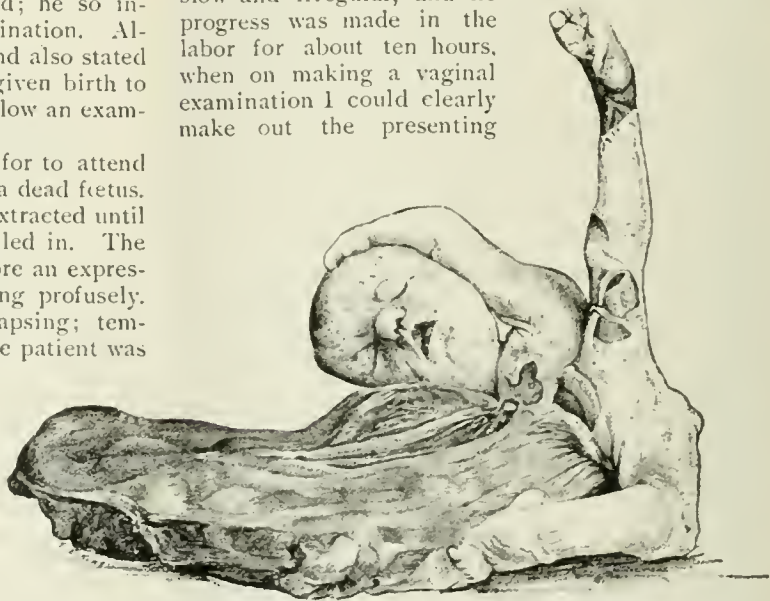


FIG. 1.

parts. But the puzzling part of the examination was a mass of something feeling like intestines which I could detect just inside the os. There had been very little hemorrhage. I could tell by the sense of touch that it was not placenta, and I was completely non-plussed. Labor progressed slowly, and one-half hour before the child was born I could detect no fetal-heart sounds. About twenty-four hours after labor had set in, my patient had a severe pain, and the mass before mentioned, fœtus, and placenta came away together.

Fig. 1 shows the fœtus as it appeared at time of birth, before any dissection was made. Dissection was as follows: Weight of fœtus, six pounds; head well developed, the bones of the skull being freely movable, so much so that the head could be pressed together until one-half the original size. Lungs very small, but complete. Heart very small, the left ventricle being almost as large as both auricles and the right ventricle combined. Below the diaphragm there was absolutely nothing in the abdominal cavity (or what should have been the abdominal cavity) except two small blood-vessels, which ran to the lower extremities. There was no evidence, either internal or external, of any organs of generation or anus, there

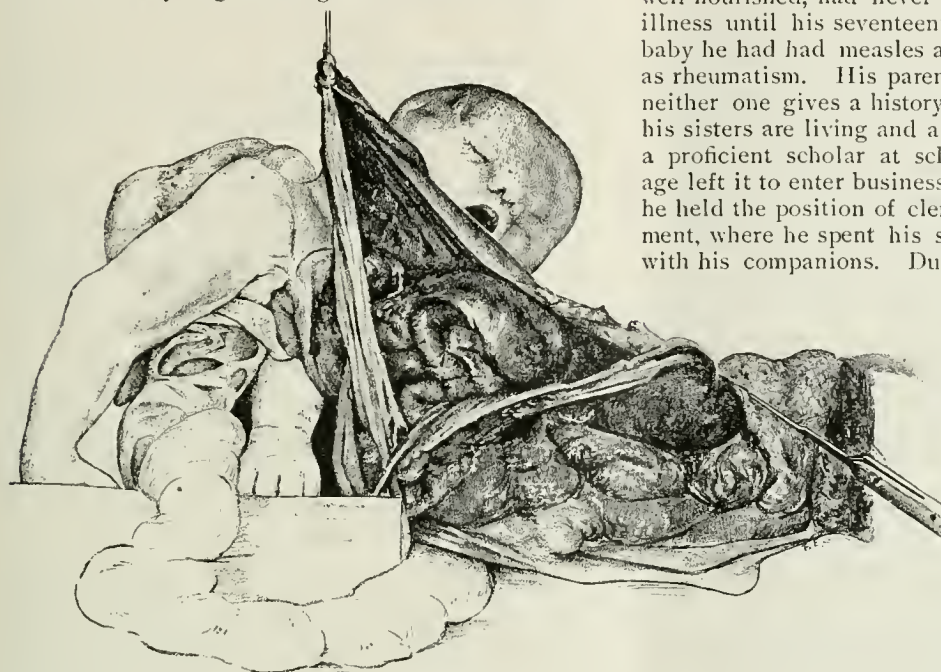


FIG. 2.

being no break at all in the skin. From the umbilicus there was suspended a bag or pouch containing all the abdominal organs, which was the mass I could feel during labor. A long tube-like continuation of the œsophagus extended to the stomach, which was quite large. The rectum was smaller than the small intestine, and had no opening at all. There was but one kidney, and about one-half an inch of ureter between it and the bladder. The liver, spleen, and pancreas were normal. The umbilical cord was but three inches in length, and ran through the pouch. The left hip was dislocated. Both feet were in a position of talipes equino-varus.

Fig. 1 shows the entire continuity of skin between the legs, and also the dislocated hip. Fig. 2 shows the talipes, the pouch cut open, the intestines and liver exposed, and the approximation of it to the placenta.

I present this on account of the peculiar development, or rather non-development, especially of the abdominal organs, all being outside of the abdominal cavity, and the absence of organs of generation, these being ordinarily among the first to develop.

Suicide is very common among Russian physicians, due, it is said, to the hard struggle they have against the competition of free and heavily endowed dispensaries. Fees are often ridiculously and tragically low, sometimes, according to *The Lancet*, only twenty kopeks or six cents for an office consultation.

The Fundamental Treatment of Disease is what Malcolm Morris dubs official surgery.

REPORT OF A CASE OF RECURRENT BASILAR MENINGITIS, WITH RECOVERY.

By HENRY M. KOLES, M.D.,

NEW YORK.

ON account of the number of attacks resembling a meningitis at the base of the brain which this patient has suffered from, together with the rapid response to antisyphilitic treatment, and the positive assertions on his part as to never having been affected with this specific malady, I deem it of sufficient interest to put a detailed history of this case on record.

X. Y—, twenty-three years of age, medium height, well nourished, had never suffered from any serious illness until his seventeenth year, except that when a baby he had had measles and what was then regarded as rheumatism. His parents are living and healthy; neither one gives a history of any protracted illness; his sisters are living and all are healthy. X— was a proficient scholar at school and at fifteen years of age left it to enter business; at seventeen years of age he held the position of clerk in a wholesale establishment, where he spent his spare moments in wrestling with his companions. During one of these bouts he

was thrown violently against the edge of a table and rendered unconscious. When he recovered he vomited, had a severe headache, and required the assistance of his comrades to lead him to his home, where he was confined to the bed for several weeks, suffering with severe headache in the frontal and parietal regions and general weakness. A few months after recovering from

this attack, while doing some heavy work, he suddenly experienced headache severe enough to compel him to discontinue work and seek his home. On his way, when a short distance from his place of business, he had an attack of vertigo and fell to the ground. He was taken to a neighboring drug store, where restoratives were administered. As soon as he felt sufficiently revived he essayed to rise and walk away, but he was unable to do so. He was then taken in an ambulance to Chambers Street Hospital, where he remained until the next morning, when his anxious relatives called for him. He was confined to his bed for many weeks; as nearly as he can remember it was more than two months before he recovered the partial use of his right arm and leg, which had been paralyzed. He thinks that there was a slight facial paralysis but is not certain. He was conscious all of the time, did not vomit, appetite was fair; he passed urine regularly, was slightly constipated; the special senses were unimpaired. He was able to return to work and for two years was almost entirely well. He then began to have attacks of headache, which compelled him to take to his bed for several weeks at a time, and rendered him unfit for work for several weeks more. These headaches, which recurred about every six months, were usually preceded by an attack of vomiting. The location was over the frontal and parietal regions of the left side. He could not sleep, and his moaning and shouting were loud and prolonged.

About a year ago he acquired a blennorrhœa and was referred to me for treatment by one of his friends. After a protracted siege he finally recovered and enjoyed comparatively good health for several months. Six or seven weeks ago I was hurriedly sent for by the

young man. I found him in bed with one of his accustomed attacks; he was complaining very much of pain in the front and left side of the head and was very restless; the face was flushed, the eyes were injected, the tongue was coated; temperature, 101° F.; pulse strong, rapid, and full. He had an attack of vomiting just previously to the onset of the headache, which otherwise was sudden and abrupt; during my stay he vomited some fluid matter containing mucus and bile. I prescribed some calomel to relieve the constipation, bismuth and bromide mixture, together with absolute rest in bed, ice to the head, and restricted diet. In the course of a few days the symptoms subsided and he returned to business; he had not been there more than a few hours, however, when he suddenly became faint, and then was attacked by dizziness and nausea. He required assistance to reach his home and to be put to bed, where he was seized by a fit of uncontrollable vomiting, which did not cease until his entire breakfast had been voided. I found him about an hour later suffering with headache and nausea; the face was flushed and anxious; the pulse was rapid; temperature, 101° F.; the extremities were cold; the breathing was labored and increased in frequency, and the head was drawn backward and to one side. This attack was similar, I was told, to all his previous ones and his folks were not alarmed, but expected it to pass away just as the others had done before. A careful examination of the heart, lungs, and abdominal organs revealed nothing abnormal. I refrained from stating to his relatives that I thought we had to do with a meningitis, not desiring to alarm them. I prescribed some phenacetin and bromide of potassium, ice cap to the head, and enjoined perfect quiet and rest. The condition on the next day was about the same: temperature, 100° F.; pulse, 110, but weaker than on the preceding day. He complained of a pain in the abdomen together with the violent throbbing pain in the head, which rarely left him, and if it did was followed soon after by one of increased severity. There was also pain in the back of the neck, but no rigidity. He preferred to keep his head drawn backward and to one side; he had slept but little. I combined small doses of morphine and chloral with bromide of potassium, which, however, gave but transitory relief.

On the morning of the third day following the attack, in addition to his other trouble, he complained of pain in his abdomen more severe than heretofore, and constipation; there was no tympanites, no point of tenderness, and the administration of an ox-gall enema was followed by a copious stool and entire relief of abdominal pain. Temperature in the evening was 102° F.; pulse, 120; rigidity of muscles of the neck was marked and pain quite severe. Pain in the head, which recurred at intervals, was so severe as to cause him to moan and even to shout. His tongue was coated; the skin was hot and dry.

A hypodermic injection of one-fourth grain of morphine relieved his pain for several hours and he was enabled to sleep. His condition remained about the same for two days, the only improvement, however, being a partial cessation of the pain in the head. His appetite was not impaired; he took only fluid nourishment—milk, broths, and eggs. He still continued to take morphine, bromide, and chloral for pain and sleeplessness, with ice caps to back and head constantly; besides this, he was put on iodide of potassium in increasing doses. His bowels moved once in twenty-four hours. The urine was acid and deep amber in color; specific gravity, 1.018. It contained no albumin, no sugar, no casts. Temperature, 101° F.; pulse, 120, weak. The pupils were slightly dilated, not over sensitive to light; the special senses were unimpaired.

Fifth day.—Temperature, 102° F.; pulse, 125. Slight double exophthalmus became apparent; the pupils were dilated, and there was beginning internal strabismus of the right eye. The muscles of the back of the neck were markedly rigid. He took nourishment regularly and was interested in everything going on about him. He answered questions readily and correctly. Morphine and bromide were diminished and iodide was increased; he was taking one hundred grains of the latter in twenty-four hours.

Sixth day.—He passed a restless night with very little sleep, and shouted a great deal. The strabismus was more marked. There was slight ptosis; the pupils were dilated; the tongue was dry, rough, and coated. Temperature, 103° F. Pain was severe. He tossed about in bed a great deal, and complained of pain radiating from the shoulder down the arm. He took nourishment when offered and after an interval answered questions. Sensation and special senses were not impaired.

Seventh day.—Temperature, 103.5° F.; pulse, 125; respiration labored, sighing; tongue dry and coated; sordes on teeth and lips; internal strabismus of the right eye complete; pupils dilated, not responsive to light. He shouted incessantly and did not reply to questions so readily as before. Morphine and bromides seemed to have but little effect. The neck was rigid and immovable.

Eighth day.—Condition worse than on preceding day. Pulse, 140, vibratory, weak; temperature, 103° F.; Cheyne-Stokes respiration, sordes on lips and teeth; carphologia. He shouted continually and was maniacal. There was beginning strabismus of the left eye and exophthalmus of both. He was very restless and delirious part of the time.

Ninth day.—I considered his case hopeless. Temperature, 103° F.; pulse, 140, weak, irregular; respiration slow, labored, Cheyne-Stokes. Complete converging strabismus of both eyes, ptosis, pupils widely dilated, facial paralysis (left). There was beginning difficulty of deglutition. He was delirious most of the time. Morphine, two grains during twelve hours, together with bromide and chloral and hyoscyamine, had very little effect. Believing firmly that the end was approaching and desiring to satisfy the parents as to the correctness of the diagnosis and method of treatment, I received their consent to a consultation with Dr. Alfred Wiener, who was kind enough to see the patient with me late that evening. After carefully going over the case, he found by ophthalmoscopic examination, in addition to the symptoms enumerated above, choked discs and a hemorrhage in the retina of the right side. The conclusion arrived at after the examination was that the chances for recovery were very slight if any, and the parents and friends were notified of the patient's impending fate. I administered fifteen minims of Magendie's solution with atropine, ordered the iodide increased, and at the suggestion of Dr. Wiener prescribed some ten-per-cent. oleate of mercury to be rubbed in the skin over the muscles of the neck and the iodide of potassium to be given in increasing doses.

The next morning I saw but little change in the patient. He swallowed with more difficulty. Temperature, 103° F.; pulse, 130. He took nourishment, was apathetic and delirious by turns, and answered but few questions. He received four injections of morphine and atropine in twenty-four hours, one-half grain each time, and sixty grains of iodide of potassium four times daily, together with mercury inunction, alcohol bath, and ice applications. This treatment was persisted in for several days.

The looked-for end did not materialize: on the contrary, he gradually improved after he had been taking three hundred grains of iodide per day and

mercury inunctions for several days. He was growing more rational, answered questions more readily, recognized persons and actions at his bedside. The Cheyne-Stokes respiration gave way to normal: pulse became stronger and less rapid (100); temperature, morning 99° F., evening 100° F. Facial distortion faded away, mobility of the eyeballs was increased, and in the course of several weeks he was able to sit up. Rigidity of muscles of the neck was overcome completely. The appetite improved, the bowels became regular, and morphine was discontinued. The point of tolerance for iodide was reached when he was taking a little more than three hundred grains daily.

Taking this history into consideration, the first thing that attracts our attention is the hemiplegic attack from which this patient suffered at the commencement of his illness. Whether this was due to an embolism or to a thrombosis can hardly be established on firm grounds. Taking the early history of rheumatism into account, the early age at which the apoplectic attack took place, the mild onset, there being no complete loss of consciousness, we would be inclined to think of embolism. A careful examination (physical) of the patient furnishes no source for the production of such an embolism.

With regard to thrombosis it may be said that through an early infection of syphilis the arteries may after all have been in a diseased condition and thus favorable for such a thrombosis to form.

With regard to attacks of headache, vomiting, and fever with slight rigidity of muscles of back of neck, which this patient suffered from, although I did not see him at these various times, I do not hesitate to say that these attacks were undoubtedly due to meningeal irritation.

The last attack, which I have carefully recorded above, demonstrated beyond a doubt that we had here to deal with a meningitis which localized itself in the neighborhood of the interpeduncular space and in the region of the pons and medulla.

Whether this pathological condition was in the form of a syphilitic meningitis or of a gummatous infiltration cannot be positively set down as a fact. I am inclined to believe that it was in the form of a meningitis, first, on account of its spreading nature, and second, on account of the fever which attended the attack.

The rapid response to heroic anti-syphilitic treatment in this case, the gravity of the symptoms being considered, establishes beyond a doubt that the nature of the pathological condition existing at the base of this patient's brain was truly specific in character.

TO DRAW THE CORK OF A TABLET BOTTLE.

BY D. W. EVANS, M.D.,

DELL RAPIDS, SO. DAK.

IN taking a look at the small bottles which are used to contain hypodermic tablets and having demonstrated the impracticability of pulling the cork, especially when one is in a hurry, as one is likely to be when called upon to use the hypodermic syringe, I have devised a method by which the cork is never broken, neither is the bottle broken, in the attempt to remove a refractory cork that one has accidentally pushed in too far. As most corks are nearly the same in diameter throughout their entire length, I take a common sewing-needle and thread it double with No. 8 thread, having first tied two knots on the end. I force the needle through the cork, beginning at the smaller end and piercing it lengthwise, then knot the thread again at its point of exit in such a manner that it cannot be drawn back. Then I tie a knot about one-half

inch from the last knot and clip off the thread. I now have a cork that can be drawn out at any time, even if it has been pushed in too far. The thread is always ready to pull upon, and is clean, neat, and very handy and inexpensive.

FOREIGN BODIES IN THE MALE URETHRA.

BY HARRY C. HAYS, M.D.,

TOLEDO, OHIO,

ASSISTANT PHYSICIAN, TOLEDO STATE HOSPITAL.

OUTSIDE of an institution for the care of insane patients, foreign bodies in the male urethra are not very common, aside from the infrequent cases observed in small boys whose spirit of curiosity and investigation is worthy a higher aim, and an occasional accident, self-inflicted or otherwise, to a man while intoxicated. In most cases it is generally understood to be an indication of a more or less unstable neurotic temperament, which has as its motive the excitation or gratification of that sexual passion which is either perverted or has been so abused that its normal manifestation is impossible.

The following case is interesting, in that it shows to what extent it may be practised by insane patients and how long the real trouble may be concealed, even when the physical suffering and mental distress is great, if the physician in attendance fails in his duty of making a careful physical examination, as is so often the case with this class of patients outside hospital treatment. John R.—, aged sixty-five, German; occupation, farmer. Form of mental disease, chronic melancholia; duration of insanity, several years. The patient came under my charge from the care of another physician, who thought he was aware of the real nature of the trouble existing, respecting the genito-urinary system, and had pronounced it hypertrophy of the prostate, but had taken no steps to relieve the suffering, although he had had charge of the case for over a year. The clinical signs and symptoms were simply those of great pain and distress when micturition was attempted, the flow of urine being slow, interrupted, and at times suddenly stopped altogether, with intense pain in the glans penis. The necessity existed of passing water very often both day and night. The symptoms, as a matter of fact, were typical in all respects of stone in the bladder.

On attempting to pass a sound an obstruction was met immediately after entering the external meatus. This first foreign body could be plainly felt by taking the penis between the thumb and forefinger, and no great difficulty was experienced in extracting with a pair of simple artery forceps what proved to be a piece of rubber tubing or catheter about one inch in length with a diameter of one-quarter of an inch. It was covered with a deposit of urinary salts; but the lumen of the tube remaining open and lying lengthwise in the urethral canal allowed the urine to pass through without difficulty.

Passing the sound still farther, a second obstruction was met and its distal end found to be located at or near the peno-scrotal junction. This was easily detected on manipulation and seemed to be about three to three and one-half inches in length. Evidently either two foreign bodies were lying side by side, or one was turned upon itself and lying in the long axis of the urethra, as was the first. On grasping this with a pair of forceps and attempting its extraction, it was found that when traction was made the two ends moved forward at the same time, although only one seemed to be caught between the blades of the instrument. Finding that the loose end was in danger of penetrating through the urethral wall into the sur-

rounding structure, an incision was made to the urethra, the foreign body serving as a guide, and with a pair of small forceps a large-sized hairpin was withdrawn. This was also covered with a deposit of urinary salts and rust, showing that it had been in the urethra some time.

Introducing the sound finally into the bladder, the unmistakable and characteristic click was produced which indicated stone.

The patient was allowed to recover from these two slight operations, and after getting him into as fair condition as possible the median operation of lithotomy was made, with the result of extracting a stone weighing four hundred and nine grains. It was of the mixed or fusible variety of phosphatic calculi, on breaking up which its nucleus for deposit was found to be a piece of fine iron wire, coiled upon itself, and measuring in length when straightened out five and one-half inches.

This was as far as I thought practicable to pursue the investigation in this case, but our curiosity was aroused to the degree of wondering if perchance something more might not be discovered, either in the ureters or in the pelvis of one or the other kidney.

The patient, notwithstanding his age, condition, and length of time of his distress, made an uneventful recovery. The only thing necessary now is to pass a sound occasionally, to be assured that he has not introduced something more into his urethra.

UNION OF A SEVERED FINGER TIP.

By W. V. GAGE, M.D.,

M^CCOOK, NEB.

ON Monday, February 17th, the patient, E. W.—, while applying a lubricant to the chain of his bicycle, had the misfortune to catch the index finger of the right hand between the chain and the rear sprocket of the rapidly revolving wheel. The pressure of the opposing surfaces completely severed the finger at the root of the nail, cutting through the middle of the last phalanx. The accident occurred in a bicycle store, a block from my office, and a few minutes after the patient was under my care. On examination I found that there was not sufficient uninjured tissue to make suitable flaps, and a temporary dressing was applied, in view of an early operation, when it was my intention to shorten the bone so that I could utilize the tissue for flap coverings. About half an hour after the patient arrived in the office, one of the young men of the town brought me as a curiosity the severed end of the finger, wrapped in a piece of tissue paper. The fragment had passed through several hands since the accident, and had been used as the subject of one or two practical jokes, before coming into my possession, and was covered, as had been the hand of my patient, with dirt and oil deposited during the bicycle-cleaning process. Although realizing that there was little hope of success, I scrubbed the fragment with soap and water, and immersed it in a five-per-cent. carbolic-acid solution; I removed the dressing I had just placed, and fixed on the end, pushing the matrix of the nail which remained on the severed end well under the tissue, and then replaced the dressing. I did not suture, as I did not wish to cut with the needle any small artery which might possibly furnish a source of nutriment to the severed end. Thirty-six hours after the accident I applied two narrow strips of adhesive plaster, crossing each other at right angles over the end of the finger, to guard against any possible accident from a slight blow, and dressed with iodoform and five-per-cent. carbolic-acid dressing. The end at the time looked white and lifeless, and

there really seemed to be little chance of union taking place. The process of healing took fifty days; the skin and a small amount of the superficial tissue on the end of the finger dried and separated before union was complete.

TRAUMATIC PERITONITIS AND RUPTURE OF THE BLADDER.

By CARL C. WARDEN, M.D.

ISHPEMING, MICH.

JOSEPH C.—, twenty-three years old, woodsman, came to the hospital at midnight on April 8, 1896. He had been drinking heavily all day and had been unable to urinate since four o'clock in the afternoon. One hour before admission, during a drunken brawl, he was twice kicked in the abdomen. The patient complained of great pain in the hypogastrium and was in a condition of partial collapse.

Examination showed a small ecchymotic area in the right iliac region, the abdomen much distended and painful, and the bladder rising above the umbilicus. Catheterization brought away sixty-four ounces of bright bloody urine.

The following morning at seven o'clock the patient's condition was not improved. Forty-eight ounces of urine tinged with blood came away by the catheter, giving the man no relief. Distention and tympanites were evident. The patient developed a general peritonitis. Subsequent catheterizations brought away a normal quantity of urine unmingled with blood.

On the evening of April 10th only a few drops of thick dark-colored urine could be obtained. The man died early on the following morning.

The autopsy showed the abdominal cavity filled with serum, the intestines distended, agglutinated, and covered with patches of lymph. A portion of the ileum lying in close relation to that portion of the abdominal wall which received the blows was gangrenous to the extent of four inches. The kidneys were normal and both ureters intact. The bladder was partially filled with clear urine. At the fundus of this organ was found a complete laceration, one and a half inches in length, running posteriorly. The edges of the tear were uneven and gangrenous. The organ was otherwise in a perfectly healthy condition.

A diagnosis of rupture of the bladder was not offered without reservations. The quantity of urine drawn off at regular intervals during the man's sickness would indicate that the bladder retained its contents perfectly, and consequently the peritonitis could not have taken origin from leakage of urine but from the lesion of the gut alone.

It seems probable that the rupture of the viscus extended primarily through the mucosa and muscularis coats, the serous covering remaining intact until a few hours before death.

Calomel Hypodermically.—The calomel is blended with sterilized oil, and every precaution observed to prevent infection with the needle. A long, strong needle is used and the fluid is injected deeply into the tissues of the right loin. No suppuration or nodosities follow. The maximum dose of calomel by this plan is five centigrams, about one grain. By this method the patient is spared the pain and inconvenience of stomatitis, and, besides, the action of the drug is more energetic and decisive.—*Therapeutic Review.*

POISONING BY CANNABIS INDICA.

BY MARY L. GEISER, M.D.,

FORT MADISON, IOWA.

HAVING read the case of cannabis-indica poisoning reported in last week's MEDICAL RECORD, by G. G. Fischlowitz, M.D., and noticing that not many cases have been recorded, I will report a case of poisoning by the same drug, which occurred in my practice August 13, 1896. The patient, Miss M. C.—, aged fifty-seven, suffering from malarial cachexia, began on July 6th to take $\mathfrak{m}$ v. of normal liquid cannabis indica which I had prescribed for migraine. On August 12th I increased the dose from $\mathfrak{m}$ v. to $\mathfrak{m}$ vii. The first prescription was dispensed by a druggist who has the reputation of substituting. The patient called after having a second prescription filled and we examined it, the patient stating that it did not resemble the first in color or taste, the first being light colored and of pleasant flavor. (It was suspended in simple elixir.) The first dose was taken about 11:45 A.M., August 13th; the patient ate dinner about twelve o'clock and was taken suddenly and violently ill a few minutes before 1 P.M. The first sensation was that of fainting, and the patient went to the door for fresh air. A feeling of numbness and tingling of the entire body rapidly supervened, with much difficulty of breathing. Being in the neighborhood, I saw her in less than five minutes; at that time she was seated in a chair, her expression being staring and somewhat anxious. The apnoea grew worse. The patient said she felt paralyzed and very weak. Two or three times she seemed to lose consciousness; at those times the pulse was very weak. She was able to lie down most of the time, though at times we were compelled to hold her up to facilitate respiration. I gave her one-fortieth grain of strychnine and one-tenth grain of apomorphine hypodermatically. Before emesis took place I gave her a second one-fortieth grain of strychnine. Emesis now began and she was somewhat relieved. She was given copious draughts of hot water to thoroughly wash out the stomach. Twice after this she sank and was given each time one-fortieth grain of strychnine; the last dose being given about 3:30 P.M. It was about 4:30 P.M. when I thought she was well enough to be left, though there was still some sighing respiration. She did not go to sleep until after 8 P.M. and spent a rather restless night. She felt quite weak for some days and does not yet feel as well as usual.

The apnoea and extreme weakness were the chief symptoms. The patient experienced none of the feelings which are thought usually to attend poisoning by cannabis indica. Her mind was clear, except when for a few moments she was unconscious. The time did not seem especially long; she felt entirely herself; did not feel dizzy; was able to hear and understand all that was said to her; answered all questions perfectly, though her voice had a faint far-away sound. Sight seemed to be more affected than any other sense. The patient said she felt at a distance from us and also felt at different times as if she were dying; these feelings occurred just as she was losing consciousness. The urine was not changed.

I believe that if my patient obtained any cannabis indica in the first mixture it was inert, and in the second she received a larger dose than she could bear by not coming up to it gradually, as I had intended she should.

August 27, 1896.

Rupture of the Kidney.—Dr. C. K. Toland recently reported a case of rupture of the right kidney in a young man of nineteen years, who had been "charged and kneed" by an opponent while playing football.

New Instruments.

GLASS DOUBLE-CURRENT IRRIGATING TUBES.

BY ROBERT COLEMAN KEMP, M.D.,

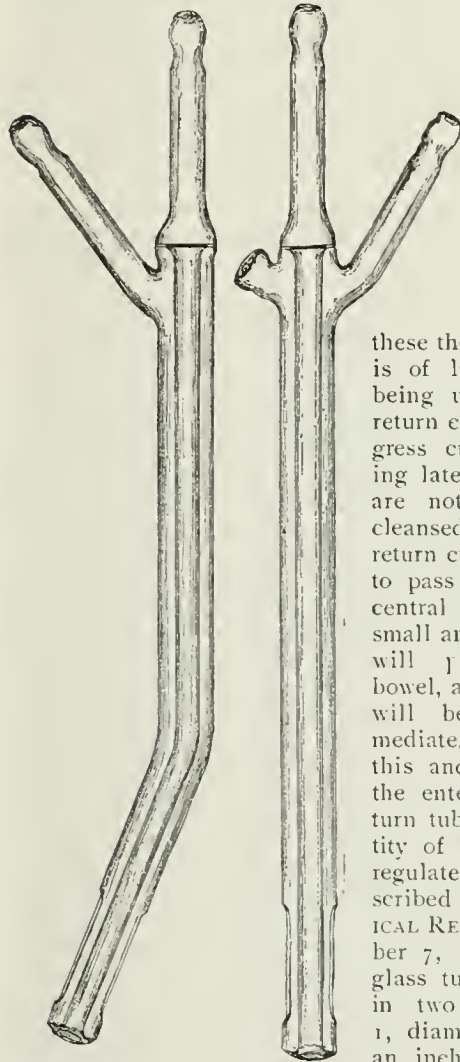
NEW YORK,

SURGEON TO THE CHURCH INFIRMARY AND DISPENSARY.

THE glass rectal irrigator is a tube five inches long, shaped like a rectal bougie. The central tube opens into the bowel at the tip of the instrument. There are two openings, about half an inch posterior to the tip, for the return current, which passes on all sides of the central tube and flows out of a single collecting tube below. Above the point of exit for the return current

is an opening for cleaning the instrument. This is closed by a cork. Some of the glass tubes are made without this opening, and in

these the central tube is of large calibre, being used for the return current, the ingress current entering laterally. These are not so readily cleansed. When the return current is made to pass through the central tube, only a small amount of water will pass up the bowel, as the return will be nearly immediate. By varying this and by pinching the entering and return tubes, the quantity of water can be regulated, as described in the MEDICAL RECORD, December 7, 1895. These glass tubes are made in two sizes: No. 1, diameter one-half an inch; No. 2, di-



ameter five-eighths of an inch. They can be bought of the instrument makers in this city.

The double-current surgical irrigating tube is about ten inches long, made of tough glass, either straight or curved. It is in effect a double-current Chamberlain tube, and can be used as a simple irrigating tube; or, on the siphon principle, to wash cavities; or, with the direct return, to wash large sinuses. The tubes are made closed, or with the cork opening for cleansing purposes, as in the glass rectal irrigators. The closed tubes should allow the entering current to pass out laterally, and the return current to pass through the centre. The curved tubes have the large entering tube on the concave side, to act as a handle and also as a guide to the curve. They are made in two sizes, No. 1 and No. 2, the same as the rectal.

Progress of Medical Science.

The Effect of Laparotomy on Tuberculous Peritonitis.—Dr. Gatti (*Il Policlinico*, March 28, 1896) has experimented on dogs, guinea-pigs, and rabbits in order to determine the value of laparotomy in the treatment of peritoneal tuberculosis. He concludes that laparotomy has little effect when the tuberculosis is quite initial. The tuberculosis presents no macroscopic changes in the first three to five days after operation, but a small quantity of reddish serum is thrown out. From seven days to nearly a month the tubercle was almost always increased in amount, but after this diminution and disappearance were noticed. Cure occurs through a degeneration of the epitheloid cells, without the intervention of wandering cells, independently of phagocytosis and without the formation of fresh connective tissue. Dr. Gatti thinks the serous fluid which is thrown out the first few days stimulates the repressive processes after laparotomy: this is effected by the serous fluid bathing the tuberculous mass, however thick, and having a bactericidal and attenuating action on the tubercle bacilli.

Hypertrophy of the Prostate.—Dr. Glenn (*Southern Practitioner*, July, 1896) summarizes as follows: 1. Prostatic hypertrophy is a disease of old age, seldom giving trouble under forty-five years of age. 2. Prostatic hypertrophies are divided in two classes: those slightly enlarged, with some residual urine, some interference with the force of the stream and recurrent attacks of cystitis; and those very much enlarged, with decided deformity of the urethra and inability to urinate voluntarily, the bladder emptying itself only by the aid of the catheter. 3. Subjects with the first variety should keep up careful and systematic dilatation with metallic bougies and empty the bladder with the catheter once daily. The second class should at once be submitted to surgical treatment for radical cure. 4. A safe and efficient means of giving relief to urgent symptoms is by puncture through the perineum, which may be done without an anæsthetic or with cocaine. 5. In operating for radical cure pedunculated middle lobes should be removed by electric cautery, or *écraseur*, not with scissors or knife. If not pedunculated the hypertrophied portion should be gouged out with the finger after the mucous membrane is thoroughly incised.

Local Treatment of Gout.—Dr. William Murrell (*Lancet*) gives the following method, which he has employed with success: "I take half an ounce of iodide of potassium, dissolve it in half a pint of rectified spirit—methylated spirit is used in hospital practice—add one ounce of soap liniment, and then one-half drachm each of oil of cajeput and oil of cloves. A piece of lint is soaked in this mixture, wrapped round the affected part, covered with a protective, and kept in place by a bandage. It acts as a powerful counter-irritant, and the inflammation usually subsides in from twelve to twenty-four hours. In addition, I not uncommonly give a drachm of colchicum wine with ten grains of iodide of potassium three times a day. These large doses of colchicum wine induce brisk purgation, sometimes accompanied by vomiting, but they speedily cut short the attack. This mode of treatment is especially useful in the case of robust, full-bodied men in active employment, to whom the loss of a day's work is a serious consideration. In sciatica, lumbago, and rheumatism affecting one joint the local application of a liniment containing half an ounce of salicylate of sodium, half a drachm of oil of cajeput, fifteen minims of oil of eucalyptus, and half an ounce of soap liniment in six ounces of rectified spirit affords prompt relief."

Extirpation of the Rectum by the Kraske Method.—Dr. Joseph Bacon says that when the cancer or stricture is limited to the anus and lower rectum it frequently happens that the diseased portion can be removed without opening the peritoneal cavity, and in such cases the danger of the operation is reduced to a minimum. Unfortunately cancer of the rectum, like stricture, usually begins at a point where the levator ani muscles encircle the rectum, and when the growth is removed the greater part of the levator ani muscles and the recto-vesical fascia, together with the peritoneal covering, is so extensively removed that resuturing of the peritoneum so as to close the peritoneal cavity is out of the question, and one must close the abdominal cavity by means of gauze packing in the pelvic outlet, until after four or five days, when the peritoneal surface next the gauze will have thrown out a layer of lymph and granulation tissue, entirely closing off the peritoneal cavity from the external wound. It is important to remember that the bony incision must be limited above at the lower border of the third sacral vertebra, otherwise the third sacral nerve is injured and serious bladder complications are brought about by the paralysis of this nerve.—*Interstate Medical Journal*, April, 1896.

Treatment of Pneumonia in Infants.—Dr. L. Emmett Holt (*Archives of Pediatrics*, xiii., No. 4) gives the following method in use at the Babies' Hospital, New York: Among the children under three years of age treated at this hospital, one-fourth of the pneumonia cases are lobar, three-fourths bronchopneumonia. The cases are kept in a ward by themselves, with plenty of air space, temperature 70° F., and the children are removed once a day to permit a thorough airing of the ward. To secure proper nutrition, and to avoid digestive disturbance, food is given considerably diluted, and at regular hours; also abundant water between times, with stimulants. Peptonized milk is used for the youngest infants. Care is taken to avoid distention of the colon by gas, which frequently occasions cyanosis or convulsions in infants. Daily irrigation of the colon is practised in such cases. Drugs are to be avoided and especially expectorants. Antipyretics are to be used only when there is a high temperature, with extreme nervous symptoms. Cold sponging, ice to the head, or the cold pack or bath are freely used, and occasionally phenacetin. Counter-irritation by a mustard-and-flour paste of the strength of one to six, applied for a few minutes three times a day, is much more useful than poultices. Inhalations of steam from a croup kettle under a tent are employed systematically in all cases every three or four hours. The steam is charged with vaporized creosote, turpentine, or benzoin. The inhalation is continued from ten to twenty minutes, and controls the cough. For stimulation, from one-half to three ounces of whiskey are administered every twenty-four hours well diluted; strychnine in frequent small doses; sometimes nitroglycerin, or digitalis and ammonia. An oil-silk jacket should be worn. Prolonged cases do better when sent away to the country than when retained in the hospital wards.

Cold Baths in Delirium Tremens.—We read in *La Presse Médicale*, 1896, No. 4, that cold baths are very effective in quieting even the most violent attacks of delirium tremens. The temperature of the water should be 18° C. The patient is placed in the water up to his shoulders, and it is poured over his head. The bath is repeated two or three times the same day. This treatment has given surprising results in two cases in which all other measures were ineffectual. A few glasses of warm wine were given afterward, followed by quiet sleep.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE LADIES' HEALTH PROTECTIVE ASSOCIATION.

WHAT may be done by earnest women in the way of health reforms is well illustrated in the account given, in the *New York Medical Times*, by Mrs. Ralph Trautman, the president of the Ladies' Health Association, of twelve years of work of that organization. The reason for the initiatory proceedings is thus significantly stated:

"In November, 1884, eleven women, residing on Beekman Hill, whose houses are beautifully located on a high bluff overlooking the East River, with everything desirable to make them healthful, were so outraged at the continuance of the foul odors which polluted the atmosphere of the entire neighborhood, causing them to keep windows closed in the hottest weather and depriving them of their inalienable right to pure air, that they resolved to investigate the cause of this nuisance.

"Accordingly, they made a tour of the neighborhood, in that section of the city known as the Abattoir District, which runs on First Avenue from Forty-third to Forty-seventh Street. Their first visit was a revelation, and while they returned to their homes ill from the inspection and the discovery of the nuisance by which they had so long been tortured, they decided that some action must be taken to better the condition.

"The following morning their number was increased to fifteen, and it was resolved that these women should form themselves into an organization, to be known as the Ladies' Health Protective Association."

The first action of the new society was to appear before the Grand Jury, and procure an indictment against the nuisance. Notwithstanding the strong political pull of the proprietor, who was the brother-in-law of a State senator, a verdict was secured against him, and he was compelled to employ a large force of men promptly to remove the foul and reeking nuisance. The earnestness and impartiality of the association was a matter of surprise to the then health authorities, and the gentleman who was president of the health board at that time was forced to admit on the witness stand that he had neither visited nor had a report of that section for six years!

In close proximity to the manure ground were the slaughterhouses, and adjoining the latter was a notoriously offensive bone-boiling establishment. A di-

rect appeal was made to the legislature for the abolishment of the former establishments. As might have been anticipated, the measure was defeated; but the large amount of money it cost the butchers to effect the object caused them to recognize the facts that the women were in earnest and were not to be overawed either by interested parties or by the political backers of the latter. The men who first came to scoff afterward remained to pray, and the result was a conference and consequent compromise. It was then discovered by the butchers, in consideration of the fact that the demands of the society were so great, that it would be cheaper in the end entirely to reconstruct their slaughtering-pens than to undertake the necessary alterations. Growing out of this determined effort on the part of the association, abattoirs have been constructed which are a credit to the builders and which in every way fulfil the advanced requirements of sanitary science.

The bone-boiling establishment was next dealt with, and after a valiant fight on the part of the determined reformers the firm was eventually forced out of business.

Duly encouraged by such good results, the association took up other matters, which had been more or less neglected by the authorities having them in charge. The gas-house nuisance was largely abated, the sanitary condition of stores, public conveyances, and public places was insisted upon, and the exposure of meats in thoroughfares was prohibited, through their instrumentality, by a special health ordinance.

We are informed in this interesting report that efforts are now being made to prevent exposure of all articles of food to the influences of the dust and dirt on the streets—a very proper and sensible measure, and one demanding the immediate attention of the health board and police authorities.

We heartily congratulate the association on the magnificent showing of good work accomplished along these and other lines, and trust that it will gain strength and wisdom in well doing. The great hope in its future efforts rests on the fact that it is not afraid of the so-called political bosses, that no special political pull can result in pigeonholing complaints, and that its members, being women, are naturally entitled to be heard on any subject in which they may be interested. We only wish it were within the province of these earnest and good women to attack the Hunter's Point stench nuisance, which has vied for years with the other outrageous abominations in the immediate vicinity of their headquarters. The members of the association could give valuable testimony at the pending investigation by the State health board.

THE COMMON DISEASES OF THE ANUS.

THE "Causes and Treatment of Some of the Commoner Affections of the Anus" are discussed by Dr. D. H. Goodsall, in a recent number of *The Practitioner*. The common diseases, he says, are abscess, eczema, fissures, fistulæ, venous pile, ulcers, syphilis, œdematous skin, and cancer.

As to abscess, very few hints as to treatment are

really needed, for there is but one way to take care of such a condition. The abscess cannot be opened too soon, and the incision which gives the most satisfactory result is the T-shaped, with its horizontal part parallel to the anus. Abscesses in this part of the body are generally left too long before being opened, and when opened the incision is usually far too small.

Eczema is, perhaps, one of the commonest of the troubles in this region, and is often associated with pruritus. It is caused by an absence of cleanliness, by constipation, by the passage of rectal mucus, by a discharge from the fistula, and by the discharge from the wound of the part. The treatment recommended by Dr. Goodsall is to cleanse the part thoroughly with olive oil and dry cotton wool, and then a liniment composed of sixty grains of powdered zinc oxide, one drachm of camphor liniment, and six drachms of lime-water liniment is gently rubbed over the surface for about five minutes. The parts are then covered with a layer of dry absorbent cotton. When the surface has become dry, a powder composed of oxide of zinc and camphor, one drachm of each to an ounce of starch, is applied. The part should be cleansed every night and morning, and the powder gently rubbed over the surface.

Fissure is another of the common and annoying troubles of this region. It is to be looked for when the patients complain of a burning, aching, or throbbing pain coming on during or within half an hour after an action of the bowels. The pain may last for only a few minutes to several hours. Frequently blood is lost in small amount. On examination, the part will be found contracted in appearance, and the patient is unable to force it down. Fissures are generally found in the middle line dorsally or anteriorly. The common advice for the treatment of this condition is to undertake at once some surgical measure, such as stretching or cutting. Dr. Goodsall, however, says that in mild cases the fissure may be cured by aperients, diet, and cleanliness. When the fissure is of long standing and there is some internal growth, the sphincter should be divided and the growth removed. In some cases of old-standing fissure the sphincter becomes hypertrophied and loses much of its natural elasticity; the fissure itself becomes somewhat cicatrized. In these cases the condition may be relieved by forcibly overstretching, and may be more certainly cured by complete division of the sphincter on one side only. Patients who will not submit to an operation will gain some relief by injecting an ounce of olive oil every night, this to be retained, if possible.

Venous piles are usually caused by straining or lifting heavy weights, and often come on suddenly. They cause pain and also itching and soreness and tenderness. Local applications of lead and opium, together with aperients, are usually sufficient to relieve this state, though in many cases a small operation is necessary.

For chancroidal ulcers, the writer recommends the application of a ten-per-cent. solution of cocaine, followed by the application of sulphate of copper.

THE INHERITANCE OF NEOPLASMS.

AMONG the questions which have interested medical men for ages there are few, perhaps, regarding which there has been more confusion of thought than that relating to heredity in its various bearings. At some time and in some form nearly everybody has regarded tuberculosis as hereditary, yet on occasion many who may have observed it desolate families have denied its heredity, for no other reason than that it does not accord with their conception of a beneficent Creator that innocent offspring should inherit disease from parents. Some men of high scientific attainments have sought to offer balm to an anxious public by proclaiming that cancer cannot be hereditary, since it is unreasonable that a disease which makes its appearance many years after birth should in reality date from intra-uterine life. But science has no regard for sentiment, and when an abnormality, a lesion, or a weak organ which furnishes a culture bed for disease germs is inherited, it simply notes the fact. It is the facts of the case which scientists would know.

Dr. Féré, of Paris, recently reported to the Société de Biologie a number of observations and experiments touching upon this question. He has found that the embryo of the chick between the twentieth and sixtieth hours may, if implanted under the skin of a chicken, grow and form a tumor with elements which had not been differentiated when the graft was made. After a time the tumor disappears by absorption. He says one can conclude from this experiment that embryonic elements remaining in tissues normally developed are capable of ulterior evolution. Thus, the theory of the embryonic origin of certain tumors and the teratologic theory of the heredity of tumors, and their family connection with diseases to which there is congenital predisposition, finds interesting support.

These experiments and others, consisting in interference with eggs in the brooder, showed that under nearly similar conditions there was considerable difference in the effect upon the nature of the tumor in the one case and upon the development of the chicken in the other. Féré also relates a few cases of asymmetrical development of one side in man, combined with other stigmata, such as tumors on the defective side of the body, pointing to a degenerate type, and concludes that the multiplicity of tumors in the same individual, their heredity, and the dissemblance in their heredity place them among the characteristics of degeneracy. Their accord with teratological deformities in the family and the individual is favorable to the hypothesis of a common origin of the degeneracies (neuropathies, arthropathies, etc.), with which tumors may also find themselves associated. Féré would apply the term *famille teratoplasique* to the non-parasitic group of tumors. In his experiments, he finds that agents capable of influencing the development of the embryo are not limited in their action to a retardation of development or to a production of malformations: briefly stated, they produce variation, which may be either exaltation or depression.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending October 3, 1896. September 28th.—Assistant Surgeon R. G. Brodrick detached from the *Franklin* and granted leave for two months. September 30th.—Medical Director W. K. Van Reyepen ordered to duty as member of the inspection and survey board, October 1st. Medical Inspector J. C. Wise detached from duty on the board of inspection and survey and ordered to museum of hygiene, October 1st.

Physician Shoots Druggist.—Dr. George S. Henry, of Duncannon, Pa., was shot and probably wounded fatally on September 28th by Dr. T. L. Johnston, who accused the former of immoral relations with the wife of the latter. Mental aberration is suspected on the part of Dr. Johnston, who has been a successful practitioner and at the time of the accident was acting president of the Duncannon National Bank.

The New President of the New York State Lunacy Commission, Dr. Peter M. Wise, entered upon the duties of his office on October 1st. He was appointed by Governor Morton to succeed Dr. Carlos F. MacDonald, resigned.

Prof. Rudolf Virchow will be seventy-five years old on the 13th of this month, and it is proposed in Berlin to celebrate his birthday in a worthy manner. He was born in Schivelbein, Pomerania, and obtained his medical degree at the University of Berlin in 1843. He was appointed physician to the Charité and Privatdocent to the university just fifty years ago.

The Deadly Chewing-Gum.—A young man who was scorching for a record on a bicycle track a few days ago was thrown from his wheel. When picked up his face was cyanotic and his arms and legs were twitching convulsively. A physician found a ball of chewing-gum, the size of a walnut, obstructing the entrance to the larynx. The gum was removed and the man recovered. In the interest of æsthetics it is to be hoped that this accident will serve as a warning, to wheelmen at least, if not to other men, to desist from their deforming habit.

Obituary Notes.—DR. WILLIAM REMSEN TAYLOR, of Long Island City, died at the home of his brother in Middletown, N. J., on October 1st, after a long illness. Dr. Taylor was health officer of the city for six years and was a candidate twice for the office of coroner and once for mayor on the Republican ticket. He was a graduate of the Long Island College Hospital in the class of 1864.—DR. CHARLES H. CHALKLEY, professor of chemistry, toxicology, and medical jurisprudence in the University College of Medicine, Richmond, Va., died on September 13th. He was born in Powhatan County, Va., August 4, 1859, and was a graduate of the Medical College of Virginia in 1883.—SIR WILLIAM JAMES MOORE, of London, died recently at the age of sixty-eight years. He served in

the Bombay medical service from 1852 to 1888. He was honorary surgeon to the viceroy of India, and after his retirement from the service and return to London was appointed honorary physician to the Queen.—DR. HENRY HOOPER MITCHELL died at Elkton, Md., on September 27th, at the age of seventy-seven years. He was a graduate of the University of Pennsylvania and began the practice of his profession at Elkton immediately after receiving his degree.

The French Congress of Alienists and Neurologists will meet at Toulouse in 1897. The following questions are proposed for discussion: 1. Differential diagnosis of general paralysis. 2. Infantile hysteria. 3. The medical service in lunatic asylums.

The Semi-Centennial of the Discovery of Anæsthesia is to be celebrated in Boston on October 16th, in the amphitheatre of the Massachusetts General Hospital. The following addresses will be made: "Address of Welcome," by Charles H. Dalton, Esq., president of the Massachusetts General Hospital; "Reminiscences of 1846," by Dr. R. T. Davis, of Fall River, and Dr. Washington Ayer, of San Francisco; "Surgery before Anæsthesia," by John Ashhurst, Jr., M.D., of Philadelphia; "What Anæsthesia has Done for Surgery," by David W. Cheever, M.D., of Boston; "Relation of Anæsthesia and Obstetrics," by John P. Reynolds, M.D., of Boston; "The Influence of Anæsthesia upon Medical Science," by W. H. Welch, M.D., of Baltimore; "The Surgery of the Future," by Charles McBurney, M.D., of New York; "The Birth and Death of Pain," a poem, by S. Weir Mitchell, M.D., of Philadelphia.

Dr. Samuel Fenwick has resigned his post as visiting physician to the London Hospital, after an incumbency as physician and assistant physician of twenty-eight years. He has been appointed to the consulting staff.

The Ninth Congress of Italian Alienists was held in Florence from October 5th to 9th.

Fraudulent Testimonials.—The British Medical Defence Union has taken up a case of the publication of a bogus testimonial in favor of a drug preparation. It appears that an American firm sent to English physicians a pamphlet describing the virtues of a new drug, and among the testimonials in the pamphlet was one to which was appended the name of a well-known physician. He knew nothing about the drug and had never used it, and naturally objected to the unwarranted use of his name.

Trained Nurses in California.—Many trained nurses from Philadelphia and Baltimore have recently been induced to go out to San Diego and other places in Southern California on the representation that they could find employment there that would pay them \$20 or \$25 a week. On arriving there, however, they have found that there was no work for them, and that, even if there were, they could not obtain any such remuneration for their services, and they have in many cases had to send to their friends in the East for money to enable them to return home. The San Diego Medical

Society recently adopted a preamble setting forth these facts, and a resolution stating, "for the information of such as may hereafter be likely to fall victims to such misrepresentation, that the profession of nursing is now greatly overstocked, and that at no time has any demand or such opportunities existed for trained nurses as represented."

The Medical Service in the British Army is rapidly deteriorating, owing to the snubbing which its members constantly receive from the commander-in-chief of the army and his subordinates among the so-called combatants. There are at present, it is said, about forty vacancies and no candidates can be found to fill them. The pay at some stations does not meet the medical officer's necessary expenses, but one of the most galling points in the situation, says the *Medical Press*, is the supercilious social attitude, for the most part, assumed by the combatant officers. The newly fledged army medical, who is, in nine cases out of ten, a man of liberal education and decent social position, finds himself the only medical man on a station. He is admitted, not as a right but upon sufferance, to the officers' mess, and is thus at once introduced to the system of arrogant social snobbishness with which the British army is still cursed, at any rate, so far as its medical branch is concerned. What wonder if the medical schools now warn all students against choosing the army as the scene of their future career? It will be interesting to observe what impression the dearth of candidates will have on the heads of the department.

"**The Edinburgh Medical Journal**," as we noted recently, has been bought by a new publisher and is to have a new editor. The change, however, does not appear to have given very general satisfaction. The sale was effected without notice to the editor or to the two medical societies of which the journal was the recognized organ. The members of these societies are now talking of organizing a syndicate among the physicians of Edinburgh to establish and conduct a new medical journal.

The Association of German Physicians and Scientists held its sixty-eighth annual meeting at Frankfort-on-Main, during the week ending September 28th. Among the general addresses delivered were essays by Dr. Buchner, of Munich, on "Biology and the Science of Health;" Dr. Below, of Berlin, on "The Practical Aims of Military Hygiene;" and Dr. Weigert, of Frankfort-on-Main, on "New Questions in Pathological Anatomy." A discussion on "The Results of Recent Investigations on the Brain" was participated in by Flechsig, of Leipzig; Edinger, of Frankfort; and von Bergmann, of Berlin.

The Government of South Australia is a queer thing. It recently turned out the medical staff of the Adelaide Hospital and, being unable to find subservient tools among the local profession, imported some London doctors to fill the vacancies. Now it has again shown its contempt for medical men by appointing a layman to the office of public vaccinator for the colony.

The Fourth French Medical Congress will be held in Montpellier in the spring of 1898, under the presidency of Professor Berrheim, of Nancy. The questions proposed for discussion are: 1. "The Clinical Forms of Pulmonary Tuberculosis." 2. "Microbic Associations and Mixed Infections." 3. "Therapeutic Use of Organs with Internal Secretion."

A New Uniform for Members of the Hospital Corps of the Army.—Upon the recommendation of the surgeon-general of the army, Secretary Lamont has directed a change in the army regulations in reference to the uniform of members of the hospital corps. In place of the regulation full-dress uniform of blue heretofore prescribed, members of the hospital corps will hereafter receive an allowance for an extra suit of white duck. Members of the corps are not required to turn out for parades and inspections of troops, and therefore it was deemed unnecessary that they be required to wear the full-dress uniform of the army. When these men are called upon for duty the service required of them is of a character that demands clothing that will be more comfortable and better adapted to their particular duties than that prescribed for the enlisted men of the army. A white duck suit in a hospital ward will not only prove more comfortable for the wearer, but the appearance will be more in keeping with the surroundings and the duties to be performed.—*College and Clinical Record*.

Dr. Charles A. Powers, of Denver, Col., while on a visit to this city, was the recipient of many courtesies from his numerous friends here. Dr. William T. Bull tendered him a complimentary dinner on Wednesday evening at the New York Club.

Beri-Beri has broken out again in the Richmond District Lunatic Asylum in Dublin, twenty cases of the disease being at present under treatment there. There was a similar epidemic in the same institution last year. The asylum is greatly overcrowded, and a hospital is soon to be erected at Portrane to relieve the congestion in the wards of the Richmond District Hospital.

Dr. George L. Peabody.—The many friends of Dr. Peabody in this city and elsewhere will be pleased to learn that he is now convalescent after the operation for appendicitis which was performed at his country place, Gaspé, Canada, by Dr. Sheppard. He is at present under the care of Dr. Sheppard at the Montreal General Hospital.

The Mount Vernon City Hospital was closed four weeks ago for want of funds, the aldermen having refused to make a sufficient monthly appropriation to meet the necessary running expenses. A man was shot in the town a few days ago and, as there was no place where he could be attended to, the coroner, Dr. A. T. Banning, took him into his own house. He had subsequently to be removed to Yonkers for operation and died, and now it is claimed that the man's life might have been saved could he have been operated upon without being moved such a distance. The murderer will probably profit by this when he comes to be tried for the shooting.

Society Reports.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Ninth Annual Meeting, Held in Richmond, Va., September 22, 23, and 24, 1896.

THE association met at the Jefferson Hotel, and was called to order, at 10 A.M., by the president, DR. JOSEPH PRICE, of Philadelphia.

The Cause of Pelvic Disease.—DR. JOHN M. DUFF, of Pittsburg, read the first paper, which was entitled "Pelvic Diseases and Their Principal Causes: What Should the Laity be Taught Concerning Them?" He said that notwithstanding the fact that some of the prominent members of the medical profession had, in talks to the galleries, held the gynecologists up for ridicule and criticised them severely, he did not think any apology was due either the profession or the public for the character or results of the work of pelvic surgeons. Those members of the profession who had been devoting themselves to the care of diseases peculiar to women, had, in the face of revilings and professional and public prejudice, worked patiently and persistently, until they were now obtaining results of which they may well feel proud, results far beyond what the most sanguine expectations of the hardy pioneers of a quarter of a century ago led them to hope for. They were to-day charged with irrational radicalism, with an operative mania, which was gratified without a proper consideration of the ultimate benefit to the patient. Entreatingly they were urged to adopt more conservative measures, and thus stop the wholesale mutilation which was going on at present, which it is claimed is neither scientific nor humane. Sentiments such as these, endorsed by men of reputation, were eagerly taken up by the lay press as sensational news, and advertised by pretenders as an endorsement of their methods of practice; and thus the laity, in the opinion of Dr. Duff, is taught false notions regarding the nature of pelvic diseases and their treatment. That there is a great amount of mutilation connected with pelvic surgery, he would not deny; but that regular pelvic surgeons were guilty of reckless despoliation was not, he thought, susceptible of proof. Pelvic surgeons could scarcely be held accountable for the work of general practitioners; and for the work of ignorant egotists and pretenders, who with brazen effrontery undertake operations for the performance of which they are not qualified by character, experience, or education, the pelvic surgeons disclaim all responsibility. During the period of the evolution and upbuilding of pelvic surgery, no doubt much of the work was crude, and perhaps too much was done by overzealous operators. That at this day, through mistaken diagnosis, operations are sometimes needlessly performed, no one would have the hardihood to deny; but that such cases are as frequent as some critics say they are, Dr. Duff could not believe. He said the true pelvic surgeon was governed by nobler purposes, by more elevated aims. Conservatism in its true sense—the saving of life, relief from pain, the curing of the patient—was his watchword.

Deceptive Similarity of Signs and Symptoms of Intra-Abdominal Disease, with Cases.—DR. WALTER B. DORSETT, of St. Louis, followed with a paper on this subject. In order to arrive at a conclusion and to formulate a diagnosis in a given case, be it medical or surgical, the practitioner must exercise care and judgment in the consideration of such signs and symptoms as are presented. Each should be weighed, and mental annotations taken as to their value individually and collectively. Dr. Dorsett directed at-

tention to the importance of the family and personal history and habits of patients, to the pulse and temperature, the knowledge to be gained by manual examination, the use of analgesics, etc. Regarding the exploratory incision, it should not be regarded as an evidence of ignorance, but as a legitimate means of diagnosis, and the off-hand diagnostician or the surgeon who never makes mistakes should be looked upon with at least a grain of suspicion. To illustrate his statements, he reported the following case:

Mrs. M—, aged twenty-eight, married eight years, no pregnancies, was seen by Dr. Dorsett about a week after having recovered from an attack of malarial fever. Temperature, 99° F.; pulse, 90; tongue slightly coated, and a tendency toward diarrhoea. Complained of general abdominal tenderness. Palpation of abdomen revealed a slightly more tender spot at McBurney's point; no swelling or tumefaction could be felt. A vaginal examination revealed a retroversion with fixation; no tubal enlargement nor tenderness could be made out, and no vaginal discharge. Diagnosis: Gastro-intestinal irritation, with chronic inflammation of pelvic contents. Diarrhoeal mixture was prescribed, and patient was told that further attendance would probably not be necessary. Four days subsequently the temperature was 99.8° F.; pulse, 100. Abdominal palpation revealed a distinctly tender spot with some swelling at McBurney's point. Patient stated that she had eaten heartily of Wienerwurst the day before, and had been awakened during the night by cramps at the navel. Bimanual examination was again resorted to, with negative result. Appendicitis was diagnosed at this visit, first stage. Drachm doses of salts were prescribed, and patient was urged to go to the hospital, but refused. The next day she was found sitting in a rocking-chair, and, aside from slight tenderness over abdomen, was feeling quite comfortable. The salts had acted freely. Bimanual examination again gave negative results. Temperature, 99° F.; pulse, 100. Patient was ordered to bed and advised to keep quiet. At that time she was regarded as better, and thought to be out of danger, but the following day the pain became more severe, and the patient came to the hospital of her own accord. Upon examination the right iliac fossa was found to be exceedingly tender and fluctuating. Vaginal examination revealed nothing aside from what was found at the previous examination. Temperature, 103° F.; pulse, 130. Diagnosis: Ruptured appendiceal abscess. She was anesthetized and placed upon the table, and a section made in the median line. The large sac was found on the right side filled with fluid blood and clots, and when washed out a rent of the posterior layer of the broad ligament was found, which communicated with another rent in the Fallopian tube. The appendix was perfectly healthy and was not disturbed. A thorough washing out of the sac was done and ligation of the tube with a portion of the broad ligament; a glass drainage tube was introduced. Notwithstanding the utmost care, the temperature remained high, the pulse became worse, the abdomen became distended, and the patient died on the third day. Post-operative diagnosis: Ruptured tubal pregnancy, without the usual symptoms. There were no history of shock, no cessation of menstruation nor any nervous symptoms of pregnancy, no passage of decidua, no vaginal discharge of any kind; but in their stead a good history and train of signs and symptoms of inflammatory disease of the appendix.

The Most Potent Causes of Pelvic Inflammation.—DR. RUFUS B. HALL, of Cincinnati, read this paper. He claimed that septic infection following labor or abortion, or gonorrhoeal infection, was the cause in almost every instance. He said there would always

be some cases of septic infection following labor, which are in no wise due to infection from the attendant, injury to small pelvic tumors, etc. The retention of the products of conception in abortion is a very frequent cause. He advised complete emptying of the uterus at once after abortion. He believed the most frequent cause to be gonorrhœal infection conveyed to the woman from a latent gonorrhœa of her husband. The more he saw of the ravages of gonorrhœa, the more he was convinced of the fact that physicians are derelict in their duty to their patients in the dissemination of knowledge upon this subject. The teaching of a few years ago that gonorrhœa in the male could be easily and speedily cured by a little balsam of copaiba or oil of sandal wood, with mild astringent injections, and that the patient was well as soon as the purulent discharge ceased, is false doctrine and must be corrected. This must be done by the family physician. Dr. Hall said that on many occasions he had been compelled to remove suppurating tubes and ovaries from women who had contracted the disease from husbands who believed themselves well when married. He had no hesitation in saying that gonorrhœa is more destructive to women than syphilis, and believed it is the duty of every physician to impress upon his male patient the fact that he is not well as soon as the urethral discharge disappears. He was a firm advocate of legislation upon this subject, believing that every man should have a certificate from the health officer of freedom from syphilis and gonorrhœa before he could obtain a marriage license.

DR. J. HENRY CARSTENS, of Detroit, in discussing Dr. Dorsett's paper, said that the difficulty attending diagnosis in some cases was exceedingly great. The gynecologist should exhaust his diagnostic resources before resorting to abdominal section. The too frequent opening of the abdomen stimulated incompetents to do likewise, and as a consequence results were disastrous, eventually reacting on gynecologists.

DR. W. E. B. DAVIS, of Birmingham, Ala., did not believe that gonorrhœa played so important a part in the production of pelvic inflammation as had been asserted. One's conception of causes of pelvic trouble depends largely upon the class of patients one has. The cases met with in dispensary practice are different from those encountered in private practice. He believed that fully fifty per cent. of the cases of pelvic inflammation are due to puerperal infection, either at the time of delivery at full term or of premature delivery. As to tuberculous trouble, more importance is being attached to it as a cause of pelvic inflammation than it deserves. Those who did considerable operative work knew that only a small percentage of cases have their origin in tuberculosis.

DR. JAMES MACFADDEN GASTON, of Atlanta, called attention to the prophylactic management of cases of pregnancy prior to the period of confinement. Extreme hygienic precautions might warrant in some instances the use of antiseptic douches prior to labor, but there was a great tendency on the part of some members of the profession to resort to measures which are regarded as precautionary, and to order douches in advance of confinement. He believed that this was altogether out of place, for when there is a normal condition of things nature should be allowed to take its course.

DR. ERNEST S. LEWIS, of New Orleans, cited a case illustrating the errors that sometimes arise in the diagnosis of abdominal tumors. He operated on a patient last winter for what he supposed at the time was a small ovarian tumor, but after the abdomen was opened it turned out to be a retroverted gravid uterus.

Tubo-Ovarian Cysts.—DR. ALBERT GOLDSPOHN, of

Chicago, read a paper on this subject. By tubo-ovarian cyst is meant a non-purulent sac whose walls are composed, in variable proportion, of the walls of the Fallopian tube and those of some cystic ovarian or parovarian formation, with the coalescence of two or more cavities—at least one from each—into one, by a free communication. The fluid contents of such a sac may be serous or hemorrhagic, or may partake, in variable degree, of the qualities and characteristics of the fluid contained in glandular ovarian cystomas. The fimbriae of the abdominal ostium of the tube may be distinguished or not upon the inner or on the outer side of the ovarian portion of the sac, or they may have coalesced with other structures to form some portion of the walls of the united sac. The ovarian element in this formation can have originated from a hydropic Graafian follicle, a cystic corpus luteum, from the primordial glandular ducts of Pflueger in the ovary, or from the parovarian. In order to exclude a large number of ordinary tubo-ovarian conglomerates, we need to recognize the following minimum requirements in distinguishing a tubo-ovarian cyst: (1) The participation of the tube, which is easy enough from its position and connections. (2) To prove the participation of the ovary by demonstrating some ovarian tissues in the wall of the sac. (3) That their cavities are united by some opening through which the mucous membrane of the tube is continuous with the lining of the ovarian cyst or follicle. The following were the conclusions of the paper: 1. Tubo-ovarian cysts come to pass in consequence of a plastic inflammatory union between a Fallopian tube and the adjacent ovary, after either or both of these organs and the intervening peritoneum have experienced a non-purulent pathological change of a cystic character, the septum intervening between the two lumina disappearing in consequence of pressure atrophy from the tension of liquid confined to one or both sides of it. 2. This union of a distended tube cavity may occur also with that of a parovarian cyst (v. Ott) or with that of a peritoneal pseudo-cyst (Zedel). 3. In those rarer cases in which the fimbriae are really found floating in the interior of the main cyst cavity, we must assume either the congenital anomaly of an "ovarian tube," as was seen by Schneidmahl in a mare, as a *ritum primæ formationis*, or that an ovarian cyst or follicle cyst ruptured, and the abdominal end of the tube dropped into the rent and was united to its edges by inflammatory action, thus making a joint cyst and tubal cavity.

Mixed Tumors of the Ovary.—DR. WALTER B. CHASE, of Brooklyn, followed with a paper with this title. Mixed tumors of the ovary have a peculiar interest, for the reason that, if small, they are often difficult of diagnosis. These tumors of the ovary may be made up of a variety of cysts, or may be a combination of cysts and solid growths. The etiology of tumors as a whole is a matter of great importance, both in the relation to diagnosis and treatment. The question of what constitutes a tumor might be considered with profit. Senn defines a tumor as "a localized increase of tissue proliferation of embryonic cells of congenital or post-natal origin." An important fact concerning true tumors is that they never disappear except by removal or destruction. Benign tumors always remain local, while malignant ones are disseminated by migration or transportation of their peculiar cells, and they always originate as benign or malignant growths. If the tumor matrix is made up of embryonic cells of the lowest development, there is greater liability to malignant growth than if from tissues susceptible to the highest physiological type of development. Retention cysts of the ovary are not tumors in a technical sense, and they never attain large size. Large ovarian cysts are most often cystadenomas and are not developed from Graafian folli-

cles, but arise from the embryonic structure. It would seem then that the genesis of simple and mixed tumors is divested of much that is misleading and contradictory and reduced to a rational basis. It also demonstrates with great clearness that tumors are not only of local origin, but at their inception are congenital.

Movable Kidney: Local and Remote Results.—DR. A. H. CORDIER, of Kansas City, Mo., read a paper on this subject, in which he drew the following deductions: 1. A movable kidney often produces a dilatation of the stomach with all the accompanying symptoms of a disease of that organ. 2. It is a fruitful source of gall stones, because of the pedicle producing a partial obstruction of the common duct. 3. The bending of the ureter often gives rise to a hydronephrosis. This, in turn, is sometimes converted into a pyonephrosis. 4. It may produce death by a complete strangulation by a torsion of the vessels and ureter. 5. By dragging on the abdominal aorta and kinking the vena cava, a condition simulating an aneurism of these vessels may be produced. 6. Pain of a referred character to the region of distribution of the spinal nerves is often induced by a movable kidney's disturbance of the abdominal brain. 7. A general nerve exhaustion (neurasthenia) is often induced by the interference of this condition with digestion, assimilation, and elimination. 8. Nephrorrhaphy is a safe and effective surgical procedure. 9. All cases of movable kidney, if accompanied by symptoms pointing to the kidney as their source, should be operated on. 10. In summing up the local and remote results of this now often recognized condition, the author thinks the correctness of the deductions has been frequently demonstrated by the disappearance of each and every symptom after a restoration and retention of the kidney in its normal position. 11. Symptoms are not to be relied upon in making a diagnosis of movable kidney. The physical examination is the only trustworthy guide.

The Limits of Nephrorrhaphy was the subject of a paper by DR. HUGH M. TAYLOR, of Richmond, Va. He conceded the frequency of nephroptosis. Since he had been systematically looking for movable kidney, he had found it so frequent in its occurrence that he no longer regarded the experience of Glénard, Lindner, Edebohl, and Noble as unique. His opinion was equally fixed that only a small proportion of the cases met with give rise to symptoms of suffering, ill-health, or death, and consequently a majority of cases do not call for nephrorrhaphy. He favored the classification of nephroptosis under three clinical heads: 1. Patients who have displaced kidney, do not know it, and suffer no inconvenience whatever from it. This type he thinks represents by far the largest class. 2. Patients with displaced kidney, who may or may not know it, who suffer from gastro-enteric discomfort and perhaps a long train of vague neurotic disturbances. In this type he thinks we find the largest class calling for operative interference. 3. Patients with movable kidney who are subjects of occasional or frequent mild or severe attacks of renal crises. This last mentioned is, he thinks, the least frequent type met with, but the urgency of the symptoms more frequently demands operative interference. Nephrorrhaphy for the relief of gastro-enteric disorder is limited by our ability to tell to what extent the disorder is due to renal ptosis *per se* or to enteroptosis, or to some one of the many well-known etiological factors of gastro-enteric disorder. Nephrorrhaphy for the relief of the condition of Deitl's or renal crises must be limited by one's success in differentiating between this condition and that of gall-tract, appendicular, and kidney colic due to nephrolithiasis. He accepted as logically sustained the conclusion that the

Deitl's or renal crisis is due to a kink or twist of the ureter with retained urine in the ureter and pelvis of the kidney. Apart from the violent paroxysms of pain (the renal crisis), the tendency of ureteral twist and urinary obstruction to induce hydronephrosis and in exceptional instances pyonephrosis rendered operative interference more imperative in this class of cases. His protest was not against nephrorrhaphy, but against its abuse. He conceded the value of operative interference in many selected cases, but deprecated the tendency toward operative interference merely because the kidney is movable.

DR. GEORGE BEN JOHNSTON, of Richmond, Va., said that some years ago his attention was called to the subject by encountering several cases of movable kidney that had been unobserved either by him or by the physician who preceded him in the treatment of these cases for obscure nervous and gastro-intestinal disturbances, and when he observed the similarity of symptoms in the first three cases which he saw he was obliged to associate those symptoms with the presence of movable kidney. He prevailed on these women to be operated upon for movable kidney and in all three cases the results were most gratifying.

DR. L. H. DUNNING, of Indianapolis, was greatly interested in the subject, for the reason that about 1880 he resorted to operative procedures for the cure of floating kidney, and in connection with this work he sought to determine if possible some of the causes which led to movable kidney. He emphasized the importance of differentiating between floating and movable kidney, the former being always congenital, the latter acquired to a greater or less extent. He found by his investigations that the partially fixed condition of the kidney depended upon three or four causes, the two principal ones of which were its position behind the peritoneum and the fact that it had an envelope of cellulo-adipose tissue. A little further investigation showed that the perinephric cellulo-adipose tissue was composed of two parts, one fixed, the other movable. The normal kidney had a range of motion of from one-half to three-quarters of an inch in its fatty envelope.

DR. THOMAS B. EASTMAN, of Indianapolis, reported the case of a woman, twenty-five years of age, who came to him with the symptoms of appendicitis. She also had considerable albumin in the urine. Operation showed that the appendix was firmly adherent to the kidney. It required considerable force to liberate it. As soon as liberated the kidney bounded back into place as though it were rubber. The appendix was removed, the albumin in the urine ceased, and the woman made an uneventful recovery.

DR. JAMES MACFADDEN GASTON, of Atlanta, directed attention to the possibility of movable kidney being mistaken for enlarged gall bladder. The gall bladder was capable of being pushed back into the lumbar region and carried around in front in just the same manner as a floating kidney. It behooved gynecologists to look into this phase of the matter.

DR. W. E. B. DAVIS, of Birmingham, had seen a number of cases of movable kidney, and said that at the Charleston meeting of the Southern Surgical and Gynecological Association there was quite a difference of opinion as to the frequency of the condition. He believed that movable kidney was a condition which did not require in all cases operative interference. Of the number of cases he had seen he had only operated on a few.

DR. I. S. STONE, of Washington, D. C., related the case of a woman who, after the operation of nephrorrhaphy had been performed, gained twenty-five pounds in flesh. In many instances this procedure brought color back to the cheeks of patients and made them feel well. He had never seen such gratifying

results from any other operation in surgery, except, perhaps, the removal of an ovarian tumor. The patients made rapid improvement after the operation.

DR. JOSEPH PRICE, of Philadelphia, said his experience was somewhat limited in operating for movable kidney. The improvement in the condition of patients so operated upon was rapid, but there was such a thing as operating too much upon cases of movable kidney.

DR. J. HENRY CARSTENS, of Detroit, said the line should be drawn between movable and floating kidney. The trouble which arose from floating kidney consisted of a twisting of the ureter and consequent obstruction.

Treatment of Peri-Uterine Septic Diseases.—DR. W. E. B. DAVIS, of Birmingham, Ala., read a paper on this subject. Only recently has the extremely radical procedure of hysterectomy been practised in this country for septic diseases of the internal genitals. A wave which had its origin in Paris at the hands of Péan, aided by Richelot, Segond, Jacobs, and others, reached our shores three years ago and has found a considerable following among our leading operators. The claim is made that there is no use in leaving the uterus behind after the removal of the appendages. In every operation for septic diseases of the female generative organs which demands the removal of the tubes and ovaries, hysterectomy should also be performed, unless there are plain contraindications forbidding it. It should be the aim of the surgeon to preserve everything consistent with thorough surgical work, and not to sacrifice important organs because it can be done with only a small mortality. We are told that the uterus has no function after the removal of the appendages, but this has not been demonstrated; and, on the contrary, we know that the sexual life of the woman is very much better preserved by leaving the uterus, and that the mental effect is also much better. A slow convalescence, or even a second operation, is preferable to its removal, unless very much diseased. It is a reflection on the correctness of the reports by many most excellent surgeons of complete recoveries of such a large per cent. of the cases when the uterus was not removed, to accept the argument now being used in favor of hysterectomy in all these cases. As stated by Dr. Davis at the last meeting of the American Medical Association, he could not agree with Dr. Sutton and others that pus in the tubes was due to gonorrhœa in seventy-five per cent. of cases. He thought that puerperal infection was the cause of more than fifty per cent. Tuberculous infection was rarely the cause, and was not so important as had been claimed. However, the importance attached to gonorrhœa was against the argument for the removal of the uterus, as the infection from this source was not deep and could be removed with the curette. Because some patients were not completely cured by the removal of the appendages was no argument for hysterectomy in every case in which the bilateral operation was required; for nearly all these could be relieved by a thorough curettage. Some large uteri would require, in addition to this, a high amputation of the cervix, and only a small number would need a hysterectomy. Vaginal incision for the drainage of pus in the pelvis, not confined to the tubes, was a most valuable method of treatment in a well-recognized class of cases, and had been practised for a long time, with gratifying results. A large number of these cases required no further surgery. More recently large pus tubes and ovarian abscesses had been incised and drained through the vagina, with permanent recoveries in a good proportion of cases. The uterus should always be curetted at the same time. These were the very cases in which the vaginal operation and hysterectomy had been recommended so highly by the French surgeons. Yet a considerable percentage of these cases

could be relieved by vaginal incision and drainage. The object of the surgeon should be, not so much to reduce still further the death rate from the operation, but to relieve the subjects and preserve as far as possible organs which had so much to do with the woman's health and happiness.

Hysterectomy in the Presence of Active Inflammation.—DR. L. H. DUNNING, of Indianapolis, followed with a paper upon "Hysterectomy in Inflammatory Diseases of the Pelvic Organs." The author discussed only that form of inflammation of the pelvic organs and tissues denominated diffuse pelvic inflammation, and drew the following conclusions:

1. We recognize the utility of hysterectomy in a small percentage of cases of bilateral suppuration of the tubes and ovaries, in which the uterus is distinctly septic, and in cases of septic uteri which cannot be cured by other means after bilateral salpingo-oöphorectomy.

2. We oppose hysterectomy, as a rule, in inflammatory diseases of the pelvic tissues upon the following grounds; viz.: (a) The uterus is the central organ of the reproductive system, and should not, except upon palpable and urgent cause, be extirpated; (b) it is only in rare cases that the uterus is so far diseased as to resist the curative effects of appropriate treatment; (c) the removal of the uterus profoundly affects the nervous system and emotional nature of young women deprived of this organ; (d) we oppose the removal of the uterus from anatomical reasons; to wit: as a result, the vagina is shortened; the anatomical relations of the bladder, sigmoid, and rectum are changed; the elasticity of the pelvic diaphragm is greatly diminished or entirely removed, the elastic tissue being largely replaced by sensitive scar tissues; (e) in married women it often disturbs the sexual relations of husband and wife, and is apt to induce mental depression; (f) vaginal hysterectomy compels the use of drainage, because of the necrosis of tissue and suppuration induced.

Shall the Uterus be Left in Situ in Excision of the Adnexa?—DR. E. F. FISH, of Milwaukee, Wis., read a paper which was an argument in favor of leaving the uterus *in situ*, if sound, after excision of the appendages. It considered the pathological conditions requiring hysterectomy after salpingo-oöphorectomy, as well as the conditions which do not require it. The author argued against all operations which leave a degenerated uterus, such as Hegar's, Tait's, Martin's, and Robinson's, except under extreme conditions, and concluded as follows: 1. Whenever it becomes necessary to excise the uterine adnexa, if the uterus is sound, leave it. 2. Whenever we excise the tubes and ovaries, and the uterus, though in a pathological condition, in our judgment will yield to treatment, leave it. 3. Whenever it is necessary to do an abdominal hystero-salpingo-oöphorectomy and the cervix is healthy, do a supravaginal amputation, as this leaves the vaginal vault intact. 4. Whenever it is necessary to do a supravaginal amputation, suspend the cervix to the stumps of the broad ligaments or anchor it to the abdominal wall, to prevent prolapsus vagina. 5. Whenever it is necessary to do a general ablation, and the cervix uteri is unsound, take the entire organ, because of the danger of carcinoma. 6. Whenever a subserous or interstitial myoma can be removed without too great damage to the uterus, do a myomectomy and leave the organ. 7. Whenever we excise the appendages and leave the uterus, ventral fixation is not an unsurgical operative conclusion.

The author's reasons for leaving the uterus were that it helps to maintain the woman's sexual integrity: it relieves the patient of much mental strain, and is a prophylactic measure to neurasthenia, melancholia,

and insanity; it tends to maintain the family ties unstrained: it obviates the possibility of vaginal hernia, cystocele, and proctocele, and delays vaginal atrophy; and, finally, it holds up and prevents shortening of the vagina.

Dynamic Ileus.—DR. J. W. LONG, of Richmond, Va., contributed a paper with this title. Intestinal obstruction had been variously classified, but Dr. Long regarded the classification adopted by Murphy as the simplest and the most rational: 1. Adynamic ileus, always the result of intestinal paralysis, due to varying causes, may be clearly illustrated by such cases as those following injury to the spinal cord and paralysis due to peritonitis. 2. Dynamic ileus. This variety formed the subject of the paper, and was discussed in detail. 3. Mechanical ileus embraced such common lesions as strangulated hernia, intussusception, fecal impaction, etc. The speaker reported the following case:

Mrs. C—, twenty-one years old, married three years, but never pregnant; was rather below the medium size and height. In temperament she was of the spoiled-child type, not hysterical but rebellious. It was with great difficulty that she could be induced to have any local treatment or even to take medicines. After admission to hospital her obstreperous disposition required all the tact and firmness of a sagacious nurse. Early in April of this year the patient had malaria, followed by delayed menstruation, pelveo-abdominal pain, and obstinate constipation. The malaria and menstrual disturbance yielded promptly to treatment, but the abdominal pain continued, and gradually the ileus symptoms became more and more pronounced. After exhausting every other measure to move the bowels, the patient was put under the influence of chloroform, and by means of a Ricketts tube a quantity of fecal matter was washed away. Notwithstanding, there was no improvement, the nausea and vomiting recurred oftener and were more distressing, the pain and tenderness became worse, and a marked degree of tympany supervened. When she was brought to the hospital there had been no movement of the bowels for four weeks, excepting what was washed away with the colon tube while the patient was anesthetized. The history justified the diagnosis of intestinal obstruction, while the urgent symptoms demanded an immediate operation. The abdomen was opened by a median incision. No mechanical obstruction could be found, although a careful search was made along the whole length of the intestine. The bowel was moderately distended with gas and congested. A singular feature, however, was that at three points—two in the ileum and one in the sigmoid flexure—the canal was constricted sufficiently to constitute obstruction. In the ileum one of the constrictions was about fifteen inches from its lower end and six inches long; the other was nearer the jejunum and about four inches long. The lumen was not entirely closed at either point, but was greatly reduced, being less than half the normal size; while the diameter of the remaining portions of the bowel was increased, on account of the distention with gas. No peristalsis was observed, but the contracted portions could be dilated by “milking” the intestinal contents along. In the sigmoid the limitations of the contracted portion were not so sharply defined, but the lesion was just as evident. The walls were thickened and the calibre much diminished. Incidentally a small ovarian cyst on the right side was discovered and removed. As the intestine had been handled a good deal, the abdomen was flushed with normal salt solution. The incision was closed with two tiers of sutures—silk for the peritoneum and interrupted silver wire for the remaining layers. The recovery was most satisfactory in every way. The bowels responded

to the usual laxatives and enemas on the second day, and from the first to last there was not a hitch in her convalescence. The patient left the hospital in four weeks, and three weeks thereafter took a trip to Alabama. There could be discovered no evidence of lead or ptomain poisoning.

Spontaneous Rupture of the Uterus during Labor at Term.—DR. B. M. HYPES, of St. Louis, read a paper on this subject. Mrs. O—, aged thirty-one, of German parentage, general health good; had had one child four years ago. Labor pains began September 16, 1895, at 10 P.M., at full term. The family physician was called, and found labor in progress, vertex presentation, with normal condition of mother and child. The pains were slight and progress was slow. At 2 A.M., September 17th, he gave a dose of morphine and went home. At 9 A.M., upon his return, he found the patient comfortable, with occasional slight labor pains. He left the house, with injunction to call him when signs of labor became pronounced. Patient remained quiet during the day. Suddenly, at 3 P.M., she was seized with violent vomiting, followed by the most excruciating pains in her abdomen, associated with rolling and tossing in bed, gasping for breath, faint feelings, pallid face, and rapid exhaustion: in short, the usual symptoms of abdominal shock. The family physician was at once sent for, and upon his arrival, at 4 P.M., found her in complete collapse, with convulsive seizures. The symptoms, with vaginal and abdominal examination, revealed to him this dreadful condition: The presenting part receded, the womb empty, and the child plainly felt in the abdominal cavity. The patient had suffered spontaneous rupture of the uterus. The physician at once sent for surgical aid; but by the time the surgeon, Dr. Meisenbach, arrived, the patient was moribund. Still, with the hope of saving the child, laparotomy was hastily performed: and the child, which had escaped entirely into the abdominal cavity, was extracted from a mass of blood and amniotic fluid. It had ceased to live, and continued efforts at resuscitation failed to cause it to breathe. The child was fully developed, male, weighed six pounds, and was eighteen inches long. The uterus, when removed from the body, presented the following condition: A rupture through the fundus superiorly, extending from half an inch from the entrance of one tube to an equal distance from the entrance of the other: the walls at the place of rupture were comparatively thin. The placenta was located at the middle third of the uterus, anteriorly and to the right, where the walls were much thickened. The vaginal portion of the cervix was almost obliterated, as at term, and dilated for the ready admission of two fingers. The lower zone of the uterus exhibited no thinning or formation of Bandl's contraction ring; there was no disease of tubes, ovaries, or placenta. A microscopic examination was made soon after rupture, and revealed fatty degeneration of tissue at the point of rupture.

Porro's Operation.—DR. EDWIN RICKETTS, of Cincinnati, O., reported a case of “Porro's Operation at or near the Fifth Month for Small Fibroid of Cervix, Accompanied by Hydramnios and Total Retention of Urine.” Mrs. M—, white, aged twenty-six, of short stature; the mother of two children, of six and three years of age; had had an abortion at eight weeks early in 1895; there was no specific history. She was a patient of Drs. J. B. and C. M. Warwick, of Lucasville, O. On February 23, 1896, she had severe labor pains, lasting thirty-six hours and accompanied by slight hemorrhage. The right portion of the cervix was soft and the left hard, which condition was also present at the time of operation. During April and until May 22d, the date of operation, she had great tenderness over the lower part of the abdomen, and at

times had a temperature above 100° F., with a pulse running from 90 to 100. Dr. Ricketts saw her in consultation at her home, April 8, 1896, when for the first time motion of the fœtus was barely perceptible. On May 22d, Drs. Warwick, Kline, Sellards, and Ricketts found her abdomen larger than it should be at full term, which was due to the hydramnios present. There was no difficulty in moving the fœtus freely in the abdominal cavity, so thin was the uterine wall. It was considered unwise to delay surgical interference, and a Porro operation was therefore performed, under as strict asepsis as the circumstances would permit.

After the abdomen was opened, Dr. Ricketts passed his hand down into the pelvis, breaking up the pelvic adhesions. Upon the delivery of the fundus of the impregnated uterus through the abdominal incision, a rubber ligature was thrown around it, low down and tight enough to control any hemorrhage which might occur. The fluid which escaped, upon opening the uterus, surpassed in amount any he had seen delivered *per viam naturalis*. After carefully sponging the parts, the wire was tightly adjusted below the rubber ligature by means of the Koeberlé clamp, and the rubber ligature then removed. After the delivery of the placenta, the fundus was amputated, leaving the ovaries and tubes intact. The abdominal wound was closed with silkworm-gut sutures, without stitching any tissue to the stump below the wire. No drainage tube was used. The extraperitoneal part of the stump was dressed with gauze, moistened in glycerin and tincture of iron, the stump being held up by the double-hooded pin of Tait. The placenta and fœtus were small for one of nearly five months' gestation, and the cord was tied in almost a hard knot—harder than any he had seen. The fœtus had marked cyanosis and gasped but once. Recovery of the mother was satisfactory.

Treatment of Puerperal Infection.—DR. H. W. LONGYEAR, of Detroit, first spoke of the prophylaxis and, under this head, of the difficulty of securing reliable statistics regarding puerperal mortality of patients under the care of midwives in this country. The prophylaxis was divided into general and specific. He spoke of the treatment of infection from abortion and from childbirth at full term, and presented an instrument designed by him for use in removing the remains of secundines from the uterus. He also exhibited a self-retaining drainage tube of his own invention and demonstrated its applicability. He reported two cases of puerperal infection treated successfully by the use of diphtheria antitoxin serum. He condemned the performing of hysterectomy for puerperal septicæmia except in very exceptional cases.

Atresia with Retention of the Menses; Treatment.—DR. WILLIAM G. MEYERS, of Fort Wayne, Ind., read a paper with this title. The author reported two cases of atresia, one with absence of the vagina and uterus, and the other with retained menstrual fluid. The last was operated upon successfully. He believes that in a case of atresia of the vagina with retention of menstrual fluid in the uterus, an operation ought to be completed at one sitting, the direct method being adopted. He thinks the teaching in a recent work, that "the best way is to make a small opening into the mass and allow the contents to flow away gradually," is not sound. He could not therefore see in rapid evacuation such great dangers as were referred to in the books.

Principles and Progress in Gynecology.—DR. JOSEPH PRICE, of Philadelphia, delivered the president's address. He first thanked the association for the distinguished honor conferred in electing him president, which he said was the most gratifying expression of personal and professional kindness. He said the association was made up of earnest, enthusiastic, and

eminent men of the medical profession. We had more than a passing interest in the record of the transactions of our medical and surgical associations. From them the history of the progress of medical and surgical science would be made up; they would reflect the advanced thought and opinions, the strength of the endeavors, the results of clinical experience and research of the profession of this period. We had the inspiration of the reflection that our high service was that of humanity, and, Dr. Price said, the members were there to learn through the interchange of the best counsel how to make that service the best.

Some Causes of Insanity in Women.—DR. GEORGE H. ROHÉ, of Sykesville, Md., read this paper, of which the following is an abstract: The general causes of insanity are the same in women as in men, but there are modifying conditions in the life history of men and women that influence the causation of mental disturbance as between the two sexes. General paresis and alcoholic insanity are more frequent in men because the latter are exposed to their causes to a greater degree and intensity. Menstrual, puerperal, and climacteric insanity are on the other hand self-evidently limited to women. Women are especially subject to mental disturbances, dependent upon their sexual nature at three different periods of life: puberty, the child-bearing period, and the menopause. The functions and activities peculiar to these periods have an intimate etiological relation to certain insanities. It is probable, however, that these functions have no influence in the production of insanity in their normal condition. It is only when the functions are disturbed or when pathological conditions are present that they have any unfavorable influence upon the psychological functions. At the period of puberty, menstrual derangements are not infrequently causative of mental disturbances which do not yield until the menstruation becomes normal. In the puerperium, insanity is dependent upon septic absorption or upon the consequences of other morbid conditions of the reproductive organs. Lactational insanity may be due to physical exhaustion, but in some cases pathological conditions of the genitals or of the breasts seem to have an etiological relation. At the menopause the disturbances of nutrition associated with the arrest of menstruation often produce insanity, and in many of these cases there will also be found abnormal alterations of the reproductive organs. The insanities following gynecological operations are either due to septic conditions, or are merely due to the rapidly induced menopause. Their frequency has been much exaggerated.

The Relation of Visceral Disorders to the Delusions of the Insane.—DR. WALTER P. MANTON, of Detroit, Mich., said that the delusions of the insane are often an expression of somatic peripheral irritation has long been recognized, but observation leads Dr. Manton to believe that the importance of these mental manifestations as indices of bodily suffering was frequently ignored and they were regarded as a mere phase of the brain disorder, especially in the instance of supposed fancied visceral disturbances. For convenience of consideration, he placed the so-called visceral lesions in four classes: 1. Delusions arising *de novo* from the diseased activity of the brain. 2. Delusions regarding external or visible abnormal bodily conditions. 3. Delusions arising from easily determined visceral disorders. 4. Delusions dependent upon obscure abdominal and pelvic states.

Oöphorectomy for the Insanity and Epilepsy of the Female.—DR. DAVID T. GILLIAM, of Columbus, O., contended in this paper that oöphorectomy was a logical and legitimate operation for the epilepsy and insanity of the female. Insanity is hereditary, as is also epilepsy. They constitute the greatest curse to hu-

manity. An insane father or an insane mother brings more misery into the world than any other father or mother. The offspring of such a parent, when ushered into the world, would be confronted by the awful spectre of impending doom, and though he called on the rocks or the mountains to fall on him, the curse would pursue and overtake him. Dr. Gilliam then gave a picture from real life. He would limit the operation to those in whom the malady appears in some way to be connected with or dependent on sexual disturbance. He would go further and include all who were willing to undergo the operation to save themselves and their offspring from the miseries which awaited them.

Treatment of the Stump to Prevent Adhesions.

—DR. J. F. BALDWIN, of Columbus, O., followed with a paper on this subject. He estimated that about one per cent. of all subjects operated upon die from intestinal obstruction, the result of adhesions to the stump. To diminish as much as possible the danger of adhesions he recommended the careful closing in of stumps by a peritoneal flap, and described the method of securing this flap. In cases in which the pedicle is, after a simple ovariectomy, not too large, he recommended that the pedicle be so ligated that the ends of the ligature were on the anterior face of the pedicle; that the ends of the ligature be then carried across the face of the stump, down and through the broad ligament, transfixing the ligament from behind forward. The ligatures should be passed through about half an inch apart. As the ends were drawn through and tightened, the raw end of the stump should be rolled down and under the broad ligament, so as to be entirely protected. He had used this method in a large number of cases, and with entirely satisfactory results.

Abdominal Section for Tuberculous Disease.

DR. THOMAS E. MCARDLE, of Washington, D. C., reviewed briefly what has already been done by surgical means for the relief of women suffering from tuberculosis of the generative organs. There is no doubt that tuberculous disease of the female genitalia is more frequent than is generally supposed. Every portion of the genital tract may be affected, the order of frequency for the various portions being the tubes, body of the uterus, ovaries, vagina, cervix, and vulva. The tubes are affected in nearly all cases, the body of the uterus in about three-fourths of the cases, and the ovaries in about one-half of all cases. Tuberculosis of the body of the uterus is not at all a rare affection and has been frequently discovered in autopsies upon phthisical subjects. It can be the only focus of disease in the body, but it is generally associated with disease of the tubes and is secondary to disease of that organ. Of all the female genitalia, the vulva is the least liable to tuberculous infection.

Melano-Sarcoma of the Female Urethra.—DR. CHARLES A. L. REED, of Cincinnati, O., reported this case: Mary E. Y—, aged sixty-four, single, was brought to his private hospital December 3, 1895. The patient had had no previous serious illness. There was no history of tuberculosis or syphilis in the family. The virginal condition of the genitalia precluded the supposition of venereal infection of any character. Her general health was good, although there was some emaciation about the neck and breasts, the latter of which were flabby—changes no doubt incident to age. Careful examination revealed no diseased conditions about either the lungs or heart. Careful palpation and percussion of the abdomen yielded negative results. About eight months previously,—*i.e.*, in April, 1895—she began to notice some pain accompanied with blood on micturition. This was shortly followed by a more or less constant pinkish discharge from the genital fissure. The self-examination which followed revealed a tumor at the meatus urethræ. This tumor continued to increase in

both size and hemorrhagic tendency until she was prompted to consult Dr. Morris, who curetted the neoplasm thoroughly and treated it with styptics. When the patient came under Dr. Reed's care he found a black lobulated and eroded mass about three centimetres in diameter separating the labia majora. The orifice of the urethra was in the very centre of this mass. A careful vaginal examination was not made at the time, as the virginal structures, present in their integrity, rendered such an operation very painful. Operation was done the next day, December 4th. The small blade of a Jones speculum was introduced; the patient being in the Simon's posture, the urethra was by this means exposed in its entire length. A longitudinal incision was made through the mucous membrane along the dorsum of the urethra from a point where the presenting part of the mass was eroded to the base of the bladder. Another incision through the mucous membrane was made at right angles to the foregoing at a point far enough above the eroded mass to insure healthy tissue. The mucous membrane was then dissected back in two lateral flaps and the urethra was enucleated. The urethra was found to be distinctly conical in shape, the base of the cone being at the meatus, the apex at the bladder. Care was taken to dissect out the canal to a point manifestly above the zone of malignant involvement. When this point was reached but a slight distance from the bladder, the canal, with the neoplastic walls, was excised. The cut margin of the cystic segment of the canal was seized at various points in its circumference by Kocher's forceps, brought down by gentle traction, and fixed by interrupted sutures of silkworm gut to the vaginal mucous membrane. A self-retaining catheter was inserted, and the patient was put to bed. The sutures were removed on the eighth day. The catheter was dispensed with on the twelfth day. The patient sat up on the fourteenth day, when she found that she could retain her urine and void it at will. She was dismissed December 21st, entirely healed. She remained in good health until the 1st of July following—seven months—when she again summoned Dr. Morris because of some stomach symptoms. He found her suffering from persistent vomiting, and with a large mass in the epigastrium. This mass rapidly increased in size until it occupied all of the area between the navel and the breast bone, its nodular characteristics becoming more and more pronounced. She died of exhaustion July 14, 1896, having had no recurrence whatever of the urethral trouble. No autopsy was permitted.

Suture of Large Vessels Injured in Operations.

—DR. J. B. MURPHY, of Chicago, demonstrated the method employed by him. He said in 1762 Lembert conceived the idea of suturing injuries to vessels. He made two experiments, in both of which he failed. Dr. Murphy then referred briefly to the experimental work of other surgeons along this line, pointing out their successes and failures. His own researches and operative work lead him to believe that, when a large vessel is injured in an operation necessitating a transverse division of it, not exceeding two-thirds of its circumference, the surgeon can resort to immediate suture without resection, and, if the field of operation be aseptic, can feel more certain that he will have union of the vessel and continuation of the current than he could when he sutures the intestine as for resection of the bowel. He believes from his observations that the chances are better with the suture. The importance of this concerns surgeons more in the treatment of aneurisms. Coming to the question of stab and bullet wounds of the extremities, he said there was a great field for improvement in past operative work. Formerly, we ligated vessels, and when this was done the inevitable result was death of the limb. He be-

lieves that now such limbs can be uniformly saved, particularly in the aseptic cases. With his present method of suturing large vessels, he is not afraid to suture any vessel in the body, feeling confident that adhesion or union will take place.

Contusions of the Abdomen.—DR. W. G. MACDONALD, of Albany, N. Y., presented a communication with this title. Contusions of the abdomen, he said, are always grave injuries. The question of surgical intervention, although much discussed, cannot be regarded as satisfactorily settled. Seven cases of traumatic rupture of the stomach and small intestine were reported. Two operations were undertaken, with one recovery and one death the eighth day after operation from second rupture. All the inoperative cases resulted fatally. Reference was made to the general absence of evidence of contusions in the abdominal walls when serious visceral injury has occurred. Very slight causes, particularly if the intestinal canal is distended with fluids, may produce intestinal rupture, as the falling out of bed, a blow from a barrow handle. The early symptoms of intestinal laceration are not always distinctive. An analysis of two hundred cases of intestinal laceration as associated with abdominal contusion was made with a view to determining the symptoms. The following topics are considered the important ones: History of the nature of the injury, shock or collapse, pain, vomiting, pulse, temperature, and physical signs. Careful investigation of a given case will usually show sufficient symptoms to make an early exploratory abdominal section imperative.

Election of Officers.—The following officers were elected: *President*, Dr. James F. W. Ross, Toronto, Can.; *First Vice-President*, Dr. George Ben Johnston, Richmond, Va.; *Second Vice-President*, Dr. John C. Sexton, Rushville, Ind.; *Secretary*, Dr. William Warren Potter, Buffalo, N. Y.; *Treasurer*, Dr. N. O. Werder, Pittsburg, Pa.

The next meeting will be held at Niagara Falls, on August 24, 25, and 26, 1897.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-Second Annual Meeting, Held at St. Paul, Minn., September 15, 16, 17, and 18, 1896.

THE association convened in the senate chamber at the Capitol. DR. C. A. WHEATON, chairman of the committee of arrangements, called the meeting to order. MOST REV. JOHN IRELAND, D.D., offered prayer. On behalf of the State of Minnesota, Gov. D. M. CLOUGH gave an address of welcome. The physicians were welcomed on behalf of the city by MAYOR F. B. DORAN. He referred to the city's reputation as a host, won by the magnificent record of the recent Grand Army encampment, and that upon that occasion St. Paul had welcomed the men who had preserved the nation, and now was happy to welcome the men who preserved the bodies of the nation's defenders. DR. A. J. STONE spoke for the profession in St. Paul, in extending a welcome to the visitors.

President's Address.—DR. HENRY O. WALKER, of Detroit, delivered the address. He said he had found it difficult to secure a subject which had not been thoroughly threshed over and over again. He had, therefore, departed from the usual course, and would offer some suggestions in a purely scientific vein, by reporting three cases, in which four operations were done, representing nearly all the operative procedures now done upon the kidney.

Sacculated Kidney and Nephrolithiasis.—August 4, 1896, J. R.—, aged twenty-nine, was referred to him for operation, with a history of severe pain in the

left kidney twenty years previously. The attacks recurred at intervals of from one to three months. This condition continued with increasing severity until three months before the speaker saw him, when the pain became constant. There was sediment in the urine for nearly fifteen years. Examination of the urine showed pus in quantity, blood at times, but no casts. The patient presented marked emaciation, rapid pulse; temperature, 99.6° F.; percussion revealed well-marked dullness on the left side. Nephrolithotomy was first performed, and subsequently nephrectomy.

Tuberculous Kidney.—The diagnosis was disease of the right kidney. Microscopical examination failed to reveal bacilli, but showed large quantities of pus and epithelium. A nephrectomy was done, August 16, 1896. The nuclein treatment was instituted, with marked improvement, until the patient left the hospital, September 9th.

Movable Kidney.—In this case the signs were chronic constipation, flatulence, indigestion, supra-orbital neuralgia, and pain in the right hypochondriac and lumbar regions; there was a freely movable tumor in the right hypochondriac region. A diagnosis of movable kidney was made. The kidney was placed in its proper position, and the capsule was divided for a distance of three inches on its convexity. The capsule was then separated from the kidney for one inch entirely around the cut. The cut edges were fastened to the fascia and muscle by interrupted catgut sutures, so that when the suturing was complete there was a solidity of fixation of the kidney. The most practical route to the kidney, the speaker said, is the anterior one. The selection of the lumbar route is largely a following of precedents. A nephrectomy for tuberculous kidney is not always practicable. Fixation of a movable kidney is best done by stitching its reflected capsule to the muscles.

A New Operation for Cleft Palate.—DR. TRUMAN W. BROPHY, of Chicago, read a paper with this title. He took the ground that the operation should be performed much earlier than has been the custom of surgeons heretofore. It has usually not been thought advisable to operate for the closure of cleft palate until the child has reached the age of from two to five years. He held that when the operation was thus postponed the changes in the voice had become permanent, and a repair of the cleft at that time would not influence favorably voice production. His operation consisted in freshening the edges of the cleft; then, by deep suture of silver wire fixed through a lead plate, conforming to the palate, the edges of the cleft were drawn together and so maintained until healing took place.

DR. W. F. DALY, of Pittsburg, complimented the author in presenting a method so markedly original, and one which did away with all the objections to the old operations.

The Psycho-Neural Factor in Clinical Medicine.—DR. C. H. HUGHES, of St. Louis, Mo., read the paper. He said that the physician must consider the whole mechanism of the system when treating any one part. Some parts of the body influence the whole less or more than others. The surgeon must consider the susceptibility, predisposition, powers of resistance, recuperative powers, and natural courage of the patient, in determining as to the prognosis or operation. In any case the nervous system is either for or against him. Painful ovaries are not necessarily to be cut out, but to be cured by neurological treatment. The surgeon must have a wide neurological and psychiatric knowledge if he would avoid fatal mistakes. Much can often be done in improving the case by tranquilizing neurological treatment. In fatal surgical cases the results are often due to overlooked neurological conditions.

Trunk Anæsthesia in Locomotor Ataxia.—DR.

HUGH T. PATRICK, of Chicago, read a paper on this subject. He said in nearly all cases of tabes dorsalis there is a band of anæsthesia about the trunk at the level of the nipple. It is, early in the disease, very narrow or even incomplete, or may be represented by a zone in which the localization of touch is not normally accurate. The sensory blunting on the leg, so frequent in tabes, is generally an analgesia. The trunk anæsthesia is essentially tactile, and the pain sense may be quite normal. The band of anæsthesia does not correspond to the cutaneous distribution of the intercostal nerves, but to the nerve fibres arising from adjoining segments of the spinal cord. In some cases there are two distinct zones of anæsthesia, indicating simultaneous involvement of spinal segments at some distance from each other. The borders are inconstant, ordinarily retract on continued testing, and vary in position with the method of examination. The same band of anæsthesia may occur in syphilitic pseudo-tabes, as shown by an illustrative case, as far as known the only one on record. The patient presented nearly all the symptoms of locomotor ataxia, including a wide band of trunk anæsthesia; but a diagnosis of syphilitic disease of the cord was made, and under an active specific treatment he made an almost perfect recovery.

DR. HUGHES, of St. Louis, said that it was not surprising that these peculiar areas of anæsthesia should be found in locomotor ataxia, considering that the entire symptom complex of the disease is due to disturbance of the sensory mechanism.

Treatment of Some Inflammatory Diseases of the Gastro-Intestinal Tract.—DR. GUSTAVUS BLECH, of Detroit, read this paper. He said that the treatment of catarrh and other inflammatory conditions of the stomach, as it is practised to-day by most medical men, meets with failure because the treatment is directed against the symptoms and not against the cause of the disease. All the usual remedies may improve one or the other symptoms for a limited time, but, the etiological morbid conditions still remaining, the symptoms necessarily will appear again. The treatment should be directed against the inflammation itself. He was accustomed to prescribe hydrozone, well diluted in water, at least a quarter of an hour before each meal.

DR. DALY, of Pittsburg, deprecated the very general use of hydrozone and such remedies, unless a very careful and discriminating diagnosis had been made.

DR. PATRICK, of Chicago, was sorry that he could not agree with the author; but he could not until it was explained which variety of inflammatory condition in the stomach was referred to. Gastritis is too comprehensive a term. When a cure is proposed, we must know what form of gastritis we have to deal with.

DR. I. A. ABR, of Chicago, said that all the diseases of the stomach cannot be grouped together as gastritis. Many of these conditions are due to toxins found in the gastro-intestinal tract. We cannot always make a positive diagnosis at once, but by experiment only can we arrive at definite conclusions. Any one remedy cannot and will not answer for all cases.

DR. LARRABEE, of Louisville, said that he was convinced that the portal circulation is a most important factor in these cases, and one, too, which is often overlooked. Exercise is of paramount importance in all cases of chronic gastritis.

The Therapeutic Action of the Antitoxins.—DR. E. M. HOUGHTON, of Detroit, read a paper with this title. The author reviewed the theories of orrhoterapy, demonstrating the differences between toxins and antitoxins. It has not as yet been shown, he said, just how the antitoxin counteracts or destroys the toxin. He injected three guinea-pigs with toxin cultures, the other three with toxin and antitoxin cultures mixed.

The discussion of the paper was postponed until the result of the injection on the animals should be determined.

Reinfection in Consumption.—DR. JOSEPH MUIR, of New York, read the paper. Statistics show that a first attack is not usually fatal, and death is often found to be due to other causes. Primary infection is not usually due to inherited tendencies, but external conditions play a most important part. Consumption is best treated among the rich—frequently, indeed, a permanent cure is effected in this class of cases; so for evident reasons those who are poor should receive especial attention. Patients who have been cured must not be allowed to return to their former environment. Change of air and outdoor exercise and labor harden and refresh the tissues, and the respiratory impurities of former environment are no longer present. Reinfection may be prevented by thorough disinfection of the patient and surroundings, and destruction of the sputum. This protects the patient against himself.

Removal of the Gasserian Ganglion.—DR. J. B. MURPHY, of Chicago, read a paper on the indications for this operation. He demonstrated the technique of the operation on a cadaver. The operation might seem heroic, but heroic measures were necessary in a condition so severe as trigeminal or facial neuralgia. These patients would submit to anything in the hope of relief. This method of operating was more simple, as well as more certain in its results, and resulted in less deformity, than any other yet suggested. The speaker always suggested some medicinal treatment, especially by castor oil, before resorting to so heroic and serious a measure as this operation. The trouble, however, with all measures was that they do not give a permanent relief. The castor-oil treatment has given temporary relief in several cases.

DR. A. J. OCHSNER, of Chicago, had recently had some experience in these cases in the use of castor oil. He had given the remedy in half-ounce doses twice daily for ten days or two weeks at a time, and to his surprise it had proven to be an excellent remedy. As to whether the results will be permanent, he could not say, but no case had yet returned to its former severity. He would repeat the castor oil whenever there were indications of a returning attack.

Electro-Diagnosis and Electro-Therapeutics Simplified.—DR. HUGH T. PATRICK, of Chicago, read a paper with this title.

Electro-diagnosis is limited to the affirmation or denial of a lesion of the lower neuron; that is, of a lesion of the motor cells in the spinal cord, or of the nerve fibre, the peripheral nerves springing from those cells. A lesion of this neuron causes the reaction of degeneration, and this, stripped of all unnecessary technicalities, may be recognized by two variations from the normal, namely, a loss or very considerable diminution of faradic contractions, and the slow wormlike contraction of the muscles in response to interruption of the galvanic current. In the electro-therapeutics of organic disease of the nervous system, applications of electricity through the brain may be entirely discarded as useless. Electricity through the spinal cord is little better. In diseases of the peripheral nerves it probably hastens recovery, and that current is to be chosen which the better causes muscular contraction. In functional nervous disease electricity is of more practical value than in organic affections, but it is almost impossible to determine what proportion of this good effect is due to mental impression—to suggestion. The galvanic current is chosen for facial and costal neuralgia, and sciatica; the faradic for lumbago, hysterical anæsthesia, paralysis, and pain; the galvanic for exophthalmic goitre and sometimes for neurasthenic headache and backache. For facial spasms, tic, spasmodic torticollis, tremor,

and chorea; electricity is useful aside from the mental effect. The highly practical and otherwise unusual merits of the paper were touched upon in the discussion which followed; all agreeing in the verdict that the subject of electricity had been presented in a most practical as well as scholarly form by Dr. Patrick.

A New Method of Fastening the Round Ligament in Alexander's Operation.—DR. J. FRANK, of Chicago, read this paper. An incision an inch long is made midway between the anterior superior spine of the ilium and the spine of the pubes, a trifle above Poupart's ligament. The transversalis muscle is pushed back and the ligament is drawn out with a blunt hook, until the uterus is in the correct position. Usually three sutures are required to close the wound, the first one being taken as low as possible through one flap of the peritoneum, then through the round ligament itself. Instead of drawing the ligament through the fascia, as formerly practised, it is replaced in its anatomical position beneath the transversalis muscle. By this method a slough of the ligament is prevented. This operation is the simplest of all yet proposed for the purpose. A pessary should be fitted in before the operation, and worn as long as may be necessary afterward.

Tonsillotomy by Cautery Dissection.—DR. J. HOMER COULTER, of Chicago, read a paper on this subject. No subject in surgery or medicine has been much more prolific in interest and discussion than that of the tonsil. In the past ten years over six hundred papers have been written on that subject alone. The size of the normal tonsil is still a subject of discussion with throat specialists. Some claim there is normally no tonsil to be seen; however, the most usual opinion is that there exists normally a collection of follicles between the pillars of the fauces, protruding slightly above them. The tonsil is an almond-shaped gland larger at one end than the other and somewhat flattened.

The methods usually employed for its ablation are the guillotine, ignipuncture, the cold or cautery snare, or the knife. Each of these methods has practical objections to its use. Most important of these objections and one which applies to all of them is the fact that by no one of them can the entire gland be taken out. Unless this is done the part remaining will oftentimes produce as much trouble as did the former condition. The operation he proposed obviates this objection entirely if properly performed.

With a well-heated small electrode the pillars are dissected away from the tonsil to one-half its extent. The gland is then, with suitable forceps, drawn well out and thoroughly and entirely dissected out to about one-half its extent. This portion is then cut off and the surface treated with a strong solution of silver nitrate. In a week or ten days the other portion of the tonsil is removed in the same manner. This operation will give cosmetic as well as practical results unobtainable by any other process yet suggested.

The Surgical Treatment of Pyloric Obstructions was the title of a paper read by DR. W. J. MAYO, of Rochester, Minn. He said that this subject had not received the attention it demands from American surgeons. The differential diagnosis of serious pyloric disease was often a matter of the greatest difficulty. He had found the free exhibition of strychnine for several days previous to the operation of great value in preventing shock. The stomach should always be thoroughly washed out a few hours before the operation and nothing eaten afterward. For combating the shock, besides strychnine and dry heat, a rectal enema of a pint of hot coffee should be given. Nourishment by the stomach should not be too long withheld afterward. For twenty-four hours rectal alimen-

tation should be used; in thirty-six hours some champagne, later buttermilk, and then a gradually increasing diet may be given by the mouth.

Submucous Linear Cauterization; A New Method for Reduction of Hypertrophies of the Conchæ.—DR. NORVAL H. PIERCE, of Chicago, read a paper on this subject. He called attention to the various methods ordinarily used for the reduction of such hypertrophies, and showed the disadvantages of each. The differentiation between hypertrophy and turgescence was pointed out. The operation proposed by the author was as follows: A small incision is made in the hypertrophied membrane, then with a blunt flat probe the mucous membrane is carefully separated from the erectile tissue underneath. Then a sound, the end of which is cup-shaped and upon which have been fused a few crystals of chromic acid, is inserted in the incision and the track already made by the probe is thus cauterized. The advantages of this method are that there is no hemorrhage; it is less painful than by any other method, the functional activity of the mucous membrane is not in the least impaired. Patients will submit to this operation more willingly than to the burning of the cautery. The method is the most simple of any yet suggested. The reaction is usually insignificant. There is no slough. The danger of atresia is obviated.

The Relationship of Diagnosis to Future Surgical Progress.—DR. HORACE H. GRANT, of Louisville, delivered the address on surgery, taking this for his title. Some common ground must be chosen on which we can equalize our differences. Many of the most recent operations are already passing away under the effect of our modern scrutinizing investigation. We forget there are men in the quiet of their laboratories doing a work which makes all our wonderful progress possible and gives us these new methods. We cannot progress much farther in technique or operative skill. Any great amount of paraphernalia suggests a lack of personal resource in the operator. Almost every part and organ of the human body has been removed, recently, with more or less good to the patient. If we would make earlier and more careful diagnoses, many of the possible failures would be precluded. No surgeon dare say to the patient: "If I had known yesterday or before, thus and so, the result would have been different." Are we not at fault sometimes ourselves? Rarely will we fail to secure an operation if the operator be certain of his diagnosis and demand the operation.

No term in all surgery is so often misapplied as conservatism. No aim is dearer to the surgeon than the ways and means of relieving his patient. We must not fall into the error of making one man great and another insignificant. The experience which age gives some men leads them to make valuable and correct diagnoses. Experience is and should be one of the greatest aids in diagnosis. The skiagraph has lately come into importance in surgical work, and it may be made an excellent adjunct in many instances. Its recent successes are noteworthy. It is yet, however, in its infancy, and doubtless is capable of still more development. May we not soon expect to see the fetus *in utero*? No one doorway can open to the royal road to success in the practice of surgery. The skilful and intelligent application of prompt relief, added to a careful diagnosis, will give us the most wonderful and satisfactory results. What each one finds to do, let him do it with his might.

Appendicitis; to Operate or Not to Operate.—DR. JAMES H. DUNN, of Minneapolis, read a paper with this title (see p. 508).

DR. J. B. MURPHY, of Chicago, said that the surgeon is brought face to face with a condition which has a recognized mortality of from about five per cent.

to eight per cent. He thought such a percentage is too high. We first have to contend with the presence or absence of a suppuration. In four hundred and fifty cases he did not think there had been an entire absence of pus in one single instance. He was satisfied there are some cases which can be cured by medicine, but can they be differentiated? By medical treatment we have a mortality of ten per cent., and if we have three per cent. by the knife then we must operate to save the other seven per cent. Not every case can be operated upon, but the conditions will show whether or not it is advisable.

Nerve Sutures and Other Operations for Injuries to the Nerves of the Upper Extremity.—

DR. A. J. OCHSNER, of Chicago, read a paper of which the following were the conclusions: 1. Every severed nerve should be sutured even after years. 2. The earlier the operation is performed the better. 3. If neither sensation nor motion is established within a year, the nerve should again be exposed, the cicatricial tissue removed, and the end again sutured. 4. The end should be clean cut, should contain neither crushed tissue nor cicatricial tissue. 5. Tension must be avoided. 6. The wound must heal without suppuration to secure the best results. 7. Hemorrhage should be perfectly controlled to prevent intervening clot. 8. Carefully prepared catgut is the best suture material. 9. After suturing the ends, either direct or "*à distance*," it is well to stitch a fold of fascia over the united nerve ends. 10. The extremity should be placed at rest. 11. The external incision should be ample.

Woman and Her Diseases versus Gynecology.

—DR. HENRY P. NEWMAN, of Chicago, read a paper with this title. We are coming, he said, to a period of transition in the practice of surgical gynecology; instead of essays on the treatment, we now have studies on the cure and prevention. Preventive medicine, hygiene, sanitation, and sociology are now popular themes for medical societies. Philanthropy has taken the cue from medicine, and is attempting to form a citizen rather than reform him. He desired to emphasize the fact that we are not dealing with the cold-science side of our art, but with the highest of humane interests. The amount of ignorance in the average woman of nature's requirements is appalling. Woman's sphere has lately widened until now it is as wide as man's, but she has not equipped herself for this race. Women in the cities—the stenographers, saleswomen, business women—daily outrage their bodies by compliance with the dictates of fashion in food, dress, and habits. The tendency of gynecologists to practise surgery is to be deprecated. It narrows his opportunities. He had better stay attached to obstetrics and pædiatrics. A woman's generative organs should not be doomed because she has had to visit the gynecologist. A good diagnostician must know as much about woman as about disease; as much about environment and social and domestic relations as about pelvic lesions. As specialists we must recognize and exercise the important interests in a medical science which will prevent rather than cure disease. As we know, what can be acquired may be prevented, hence we as specialists should lead in the reform of those conditions which are detrimental to the health of woman.

The Pathology and Treatment of Suppurative Salpingitis was the title of a paper read by DR. F. F. LAWRENCE. The tubal mucosa is a true mucous membrane, possessed of all the histological elements of mucous membrane. The fimbriæ are prolongations of the folds of mucous membrane, with a few muscular fibres beyond the end of the tube. The closure of the end of the tube is effected by, first, the unfolding of these plicæ and the elongation of the muscular fibres with coincident inflammatory exudate, and not by

adhesions of the peritoneal surface; second, the formation of adhesions between the fimbriæ and other structures; third, embedding of the fimbriæ in inflammatory exudate. The closure of tubal ostia results in the forming of circumscribed abscess, the pathology of which is the same as that of suppuration with abscess formations in mucous membrane in other parts of the body, except for its effect upon important contiguous tissues. Occasionally the uterine end of the tube remains patent, when we have the abscess in the tube communicating with the uterine cavity, through which it may in part discharge its contents. The treatment of pus tubes cannot be fixed by any ironclad rule. Each case must be treated according to the conditions there presented. We must even incise and drain in some cases. Seldom will vaginal section be required, and then only in carefully selected cases. Hysterectomy is indicated in those cases in which we find abscess of the uterine wall, tuberculous deposits, fibroids, or malignant disease in the fundus. As hysterectomy destroys the pelvic floor, it should never be performed except when there is some tangible lesion of the uterus. Abdominal section will be necessary in many cases.

Importance of Physical Signs Other than Murmur in the Diagnosis of Valvular Disease of the Heart

was the title of a paper contributed by DR. JAMES B. HERRICK, of Chicago. Standard text-books teach that an endocardial murmur is not always an evidence of a valvular lesion, and also that a valvular defect may exist and still no murmur be present. Practically, however, conclusions are usually based upon the presence or absence of murmur. This is wrong, for there may be a valvular disease without a distinct murmur being audible. Other findings than murmur must be used in determining the existence of a valvular lesion. Every valvular lesion must result in hypertrophy and dilatation of the heart behind the valve diseased. An increase in tension of the pulmonary circulation follows any valvular lesion at the mitral orifice, and later any aortic disease. This will show in increased force of the pulmonic second tone. Stenosis of the orifices of the left heart means a smaller amount of blood in the general arterial circulation: therefore, lessened arterial tension. Failure of the right heart is followed by venous congestion, *e.g.*, venous pulse, hepatic and portal congestion, anasarca, etc. Hypertrophy may be recognized by the heaving, forcible apex impulse. Epigastric pulsation may call attention to enlarged right heart. The jugular pulse, the hepatic and capillary pulse, are all of diagnostic value. The visible pulse of aortic regurgitation is almost pathognomonic. Palpation is important. Extra-cardiac causes for murmur, such as might arise in a heart dislocated by pressure or retraction, can usually be excluded by percussion. A weak aortic sound may be an indication of obstruction. The reduplicated second sound may point to valvular disease. A sharply accentuated first sound at the apex is common in mitral stenosis. The peripheral tones in aortic regurgitation are a valuable confirmation. Error in calling an inorganic murmur organic is readily made, unless the secondary sounds are carefully sought for. The intention of the paper was not to undervalue the importance of endocardial murmur, but to insist that it is only by the complexus of signs and symptoms that an accurate diagnosis can be made. Of all the evidences of heart disease, the least valuable is the endocardial murmur.

Value of Secondary Physical Signs in the Diagnosis of Cardiac Diseases.—DR. R. H. BABCOCK, of Chicago, reported a case illustrating this. Among other points brought out were: Murmurs are the least reliable signs of valvular disease. An accurate diagnosis cannot be made unless the secondary signs of

valvular disease are recognized. If the heart actions are not sufficiently strong there may not be any murmur; or a grave defect may not be observed for the same reasons. Secondary symptoms are a modified pulse rate, character, and rhythm, leading to a congestion of the veins and internal organs. In some instances there is also systolic venous pulsation of the liver. Such systolic jugular pulsation is diagnostic of insufficiency, even if the murmur is not audible.

Water.—DR. I. N. LOVE, of St. Louis, read a paper with this title. Drugs, he said, seemed to be the chief inspiration in the life work of too many men. Hydrotherapy has been a wonderful service to humanity. We can appreciate the necessity of water when we remember that seventy-five per cent. of our body is made up of water. It is just as important as the solids in life's conditions. The demands for water are affected by the amount of muscular exercise and degree of temperature to which the body is exposed. For an irritated stomach or bilious colic, nothing is superior to liberal quantities of hot water. We need water for nutrition, but also for a proper elimination. Water taken freely acts as a purifier of the system, both by flushing and by its solvent action. The majority of people drink too little water. The speaker advised that children be trained to drink more water. It is a most important agent in improving the complexion. Medicine should be given in large quantities of water. In typhoid fever he insisted upon free drinking of pure water. No solvent will act better in removing uric acid from the system, and the only pure water is distilled water. Copious draughts of water, for its stimulating effect or the reduction of temperature, have been used for many years. The hot pack in convulsions of children is often misused. Better begin with a tepid heat and add cold water gradually. Hot water locally in inflammatory conditions is most excellent.

DR. MANLEY, of New York, said that he had often thought that if we only realized what could be accomplished with water in a medicinal way, its use would be more general. He was strongly impressed with the fact that many of the bowel and bladder conditions could be most effectively treated by the proper use of water. In the case of cystitis, he knew of nothing that would take the place of water. Often he had thought the surgeon's knife might be laid aside if we knew how to use water. A large number of the cases of appendicitis, in his opinion, might be relieved by a thorough washing out of the bowel.

DR. HUGHES, of St. Louis, said that the value of water had not been overdrawn by the author or in the discussion. He was opposed to limiting the amount of water used at and during the meal time. Its action is not only eliminative, but stimulating to both kidneys and bowels.

DR. STUCKEY, of Louisville, would take issue with the author on the idea that large quantities of water should be taken along with the food. He could not see how it would increase or aid in the digestive function in the stomach, but its importance after digestion is ended could not be overrated.

DR. BABCOCK, of Chicago, said that in some cases of Bright's disease it had seemed to him that a sufficient quantity of water might have prevented the condition. If the bowels be constipated and the skin dry, increased work is thrown upon the kidney. Professional men, men of sedentary habits, and women will often escape the severity of Bright's disease by the unlimited use of water.

DR. HENDERSON, of St. Paul, wished to ask the author whether or not the taking of large quantities of water would increase the fat formation. Does the fat man take water because he is fat, or is he fat because

he takes water? The speaker was a lean man, and did not drink water except in the morning.

DR. TURCK, of Chicago, said that the first indication was to find out what the pathological conditions are which are to be met by the water therapy. We must know the condition of the stomach before advising the ingestion of large quantities of water. The habit of taking great quantities of water into the stomach, even two hours after a meal, will hinder the process of digestion. On the other hand, if there is an accumulation of material on the walls and other viscera, then the taking of water would not be objectionable.

DR. LOVE, in closing, said that it is what is taken into the stomach as food and becomes nutrient that leads to development, continued health, repair, and elimination. In these processes water has an important part, if taken in the right way. He did not advise that large quantities of water should be taken while eating, but moderate quantities could not possibly interfere with the digestive processes.

The Clinical Significance of the Child's Fontanelle.—DR. ISAAC A. ABE, of Chicago, read a paper with this title. In health the fontanelle does not sink below or rise above its bony frame. It has both respiratory and pulsatory movements. With increased intracranial pressure the normal bruit may quite disappear. An early ossification interferes with brain development and produces a brachycephalic skull. In rachitis the involution of the fontanelle is delayed. Marked bulging is caused by the collection of fluid within. The abnormal retraction of the fontanelle always indicates a condition of inanition. It may be temporary; if chronic, it is a serious condition. A deeply-sunken fontanelle is always a danger signal in any case. Involution occurs normally at fifteen to eighteen months. Protuberance and tension indicate meningitis.

Operative Treatment of Pterygium was the title of a paper read by DR. EDUARD BOECKMANN, of St. Paul. The author discussed the history of the operations for the cure of pterygium, pointing out the objections as well as the advantages of those most frequently used. He suggested an operation which was a combination of some others referred to. A crescentic piece is cut from the pterygium about five lines from its head. This part is curetted thoroughly down to the sclerotic. The head of the pterygium is dissected off. At the convexity of the piece cut out a stitch is inserted and the opposing edges are drawn together. This leaves the curetted portion to granulate, and form a cicatrix. The author thinks the result from this method superior to that of any other in his experience. The paper was discussed by DRs. WILDER and BUCKNER.

Subconjunctival Injection in the Treatment of Certain Diseases of the Eye.—DR. WILLIAM H. WILDER, of Chicago, read the paper. The method consisted in the injection beneath the conjunctiva of minute quantities of bichloride of mercury or cyanide of mercury in solution. The operation was not especially painful unless there were inflammation present. It had been advocated for many other conditions and diseases. Its exact limitations and indications were not yet positively decided upon. It had been impossible to get the same good results from the salt injections that could be obtained from the mercury. We had in this new treatment a powerful adjunct to the old and tried methods in some diseases of the eye, but it was not to be employed to the exclusion of all others. It was not a panacea, but in cases in which the mercurial treatment was indicated it was an excellent method.

DR. BUCKNER, of Cincinnati, could see the special advantage in injecting the solution of mercury under

the conjunctiva over the old method of administering the drug hypodermically or through the mouth.

DR. BOECKMANN said that he had used these injections since he first commenced to practise medicine, but he was still unable to say just how much good they really do. He carefully injected these solutions whenever he found an ulceration of the cornea. In some cases he had found it to act beautifully, in others it was a failure.

The Use of Oxygen in Chloroform Narcosis.—DR. C. B. PARKER, of Cleveland, O., read a paper with this title. The exhibition of the vital principle, oxygen, with chloroform would seem to be proper on theoretical grounds. In uniting the two there is no chemical union formed between them. It is a mechanical mixture, such as we have in the air. The oxygen must be perfectly pure. That usually supplied in tanks is not pure. It must be properly made. The cylinder must have been exhausted of all air before it is filled. The time required to anesthetize is slightly longer than with chloroform, but the advantages far outweigh this minor inconvenience. Of the dangers attendant he was not prepared to say: as he did not consider an experience of one hundred and eighteen cases guarantees any statement relative to that point. There is total absence of vomiting, as well as absence of the extreme pallor and weakened heart beats with shallow respiration. The duration of the shock from anesthesia is with this agent very much shorter. The patient always recovers promptly without any delirium.

The Election of Officers resulted in the choice of the following: *President*, Dr. Thomas Hunt Stuckey, Louisville; *First Vice-President*, Dr. Charles A. Wheaton, St. Paul; *Second Vice-President*, Dr. Paul Paquin, St. Louis; *Secretary*, Dr. H. W. Loeb, St. Louis; *Treasurer*, Dr. W. N. Wishard, Indianapolis; *Member of Judicial Council*, Dr. H. T. Patrick, Chicago.

The next meeting will be held at Louisville, on the third Tuesday of September, 1897.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 28, 1896.

E. D. FISHER, M.D., PRESIDENT, IN THE CHAIR.

Nominations.—The following were nominated for office: For *President*, Drs. A. M. Jacobus, Landon Carter Gray, E. D. Fisher (declined), H. D. Chapin, Frederic Petersen, H. J. Garrigues, Richard Van Santvoort; *First Vice-President*, Dr. R. A. Murray; *Second Vice-President*, Dr. N. E. Brill; *Secretary*, Dr. C. H. Avery; *Assistant Secretary*, Dr. W. E. Bullard; *Treasurer*, Dr. John S. Warren; *Censors*, Drs. S. D. Powell, H. L. Collyer, Frank Van Fleet, S. Marx, E. D. Fisher, B. F. Curtis, F. M. Crandall, W. L. Carr, H. N. Vineberg.

Remarks upon the Causes and Prevention of Chronic Catarrh of the Nose, Throat, and Ear in Young Children.—DR. WENDELL C. PHILLIPS read the first paper of the evening. Chronic catarrh of the nose, throat, and ear in children was frequently referred to some one of the exanthemata as the starting-point, and correctly so in many instances. Measles and scarlet fever were most often to blame. It must be borne in mind, however, that the exanthemata occurred at a time of life when catarrhal diseases were apt to arise from other causes. Syphilitic and tuberculous cases constituted a class by themselves. An internal deformity or malformation of the nasal tract might be inherited. Climate was an important factor, but the author thought Bosworth was correct in the

view that it could only aid other factors. An acute rhinitis, or cold in the head, was regarded by most writers as one of the chief causes of chronic catarrh in various forms. Among other causes named were improper or insufficient ventilation of sleeping and living apartments, the presence of large masses of lymphoid tissue, injuries to the nose resulting in deformity of the septum or displacement of the turbinates. When the cause was mechanical, the development of the catarrhal process was often slow, but might be rapid. Speaking of prevention, he said physicians were often careless in the management of the exanthemata, in not giving due attention to the upper air passages. During convalescence, when nature was trying to reassert herself, aid should be given by use of antiseptic and soothing applications. One author had found that out of six hundred cases of the class under discussion, 12.5 per cent. had originated during scarlet fever; twenty-six per cent. during measles. The nose should be frequently and thoroughly cleansed in these affections, a spray or douche of warm antiseptic saline solution, like Dobell's, or solution of boracic acid, etc., or oily spray being used. Whatever medication was used, it should be bland and non-irritating. Steam was very soothing, and was highly recommended. To the fluid one might add oil of menthol, etc.

Change of climate afforded temporary relief in many cases, and a permanent change of residence might become necessary when other measures failed. Lymphoid tissue, whether present in large or small quantity, should be removed. Due attention to adenoids would diminish the number of institutions for the deaf. Colds existed most frequently among children who were coddled and kept indoors, in heated and badly ventilated rooms. They ought to live more out of doors, not only in pleasant but even in threatening weather, and should be sponged daily with cold water. Many parents had come to recognize that children raised in this manner had even better health than those raised in the country, under usual conditions prevailing there. There might be practitioners who told parents to let these chronic affections alone and they would after a time disappear, but the writer had found such advice was the exception. At first many children objected to the nasal spray, but under gentle management they ceased to oppose it. When there was mucus in the nose, especially when it became inspissated, there should be daily cleansing. Every physician should be able to make an intelligent examination of the nose, and in a case of injury correct the displacement at once. Operations should never be undertaken upon the nose of children except when there was such deformity or destruction as would lead to tissue changes. In conclusion, the author reminded the family physician of the grave responsibility resting upon him in preventing chronic affections of the nose, throat, and ear.

Familiar Ground.—DR. JAMES E. NEWCOMB, in opening the discussion, said the paper had covered familiar ground, and there should not be great difference of opinion. The exanthemata certainly constituted a frequent cause, and sometimes, in spite of much care, we found our efforts at prevention of no avail. Enlargement of the glands in front of the ear might be common during the exanthemata, but he had seen only two cases, and in one there was suppuration, but without injury to the internal structures of the ear. He did not know that it was necessary to use the nasal douche every day on all children, but it was desirable to employ it often enough so that they would become accustomed to it and not struggle when they became sick. All were agreed that lymphoid tissue should be removed when present in sufficient quantity to cause symptoms, but it must be remembered that it was not a substance entirely foreign to the mucous membrane

of the naso-pharynx. Solis-Cohen had cautioned not to remove too much, for the lymphoid tissue was there for some purpose, although we might not yet know what that purpose was. The condition was apt to recur after the operation if the child were allowed to return to the same unhygienic surroundings. As to maintaining a condition of asepsis in the upper air tract, he supposed the reader had used the term in the conventional sense, for a few breaths of air with its contained germs would destroy that condition if brought about by the douche. Probably what was meant was to maintain intranasal cleanliness. An efficient method was the use of a rubber catheter, with a number of fine perforations at the distal end, attached to a syringe, pressure upon whose bulb would throw into the nose numerous fine streams of a solution of salt, borax, and baking soda, about a third of a teaspoonful of each to a pint of warm water.

DR. EMIL MAYER mentioned a case of nasal deformity associated with asthma in a man whose son, aged eight years, suffered from the same conditions, which went to confirm the influence of heredity referred to by Dr. Phillips. When the introduction of the finger into the pharynx was attended by a little bleeding it indicated adenoids. He had never seen hemorrhage follow when the pharynx was healthy, unless the finger were introduced in a rude manner.

To Prevent Chronic Catarrh, Prevent Colds.—DR. FREUDENTHAL said that if we would prevent chronic catarrh we must prevent colds. To do this, children must be brought up differently. In the advice to let them remain out of the house, he would differ from the author only in the suggestion to dress them properly, which was apt to be interpreted as dressing them warmly. Dr. Freudenthal thought the less they were dressed the better. The thought of cleansing the healthy nasal cavity, as he had understood the author to recommend, was to him a terrible one. One might as well insist on cleansing the healthy bladder.

Treats Catarrh Constitutionally.—DR. W. H. MCENROE thought catarrh was a symptom of a constitutional disease, and it was his custom to treat it constitutionally. One of the best remedies was cod-liver oil, and sometimes iodine. As to making local applications to the nose, he was opposed to that, at least as it was usually practised. Salt water was irritating to the nasal membrane, increased the flow, and he preferred to use creolin, which had come to take the place of carbolic acid for this purpose.

DR. F. M. CRANDALL expressed his interest in some of the statistics quoted by Dr. Phillips, as they went to confirm his view that measles was a much more serious disease than the laity and some doctors seemed to think. He would emphasize the advice to keep children out of doors.

DR. LEDERMAN said with regard to cleansing the nose that the nasal mucus itself was germicidal. Colonies of bacteria had been planted in the nose during some experiments, and in a few minutes were all destroyed, as was proven by culture. This went to show that too much cleansing was not the proper thing.

DR. MEYERHOF thought there was usually an underlying condition which favored catarrh in some children, for others in the same family, under the same circumstances, remained well. One-half-per-cent. solution of nitrate of silver was frequently useful, and he had used even four per cent. Ointment of yellow oxide of mercury was serviceable when crusts formed at the entrance to the nares.

DR. DESSAU agreed with those speakers who believed in an underlying constitutional condition, and he emphasized the importance of hygienic measures. He would not say that food was the direct cause of

catarrh, but he thought children who received too much food or that of wrong quality were liable to catarrhal affections.

DR. VIETOR had observed at the seaside that persons who bathed were less liable to colds than others, and those who continued their bathing got well soonest. Swimmers were least liable of all to catarrh.

DR. FERGUSON thought adenoids in the pharynx were a common cause of reflex cough.

DR. H. D. CHAPIN thought the general practitioner was more likely to see the constitutional side of catarrh; the specialist was more likely to apply local treatment. As to adenoids, they could be recognized, but it was not so easy to decide whether in a given case they required removal. Their uniform presence in certain localities indicated a physiological function. In children the introduction of the finger, even in the healthy throat, would cause slight bleeding. When hypertrophied and obstructive, adenoids should be removed. He employed salt bathing, exercise in sunlight, borax and salicylic-acid solution as a nasal douche when necessary.

DR. VAN SANTVOORT said the frequency of cough from posterior nasal disease was something which it had taken him some time to learn. There was only about one case of cough from bronchial trouble to four or five from trouble in the upper air passages.

DR. PHILLIPS said in some concluding remarks that he was glad attention had been called to the constitutional side of the question, for time had permitted him only just to mention it in the paper. In the ear clinic cod-liver oil was one of the most frequent remedies prescribed, along with other tonics. He did not wish to be understood as recommending the removal of more than redundant lymphoid tissue. He did not use the nasal toilet except in disease or acute cold. There was not much danger of overfeeding, but rather of giving food which the child ought not to have. As to cough, nearly all children with adenoids had bronchial catarrh. He thought the cough was due to the latter, and was not reflex. If the adenoids were removed the bronchial trouble would disappear, together with the cough.

Krause's Skin Transplantation in Plastic Surgery of the Face.—DR. JOHN ERDMANN described Krause's method of skin-grafting, related a case in which he had employed it to cover a defect from epithelioma of the face and nose, and mentioned its advantages over Thiersch's method. It consisted in transplanting a piece of skin from some other portion of the body to the freshened area. The graft required to be about a third larger, to allow for shrinkage. The advantages were that it left no cicatrix, the flap resisted destructive conditions, it did not bind underlying tissue, there was no liability to keloid, there was a normal hairy surface. A second case was described in which he had employed the sliding flap to cover a defective area on the face.

Safety from Lightning Stroke in Cities.—A curious fact connected with deaths by lightning has recently been noticed in Europe. It appears that, as compared with the country, towns, and especially cities, possess remarkable immunity from lightning strokes. The statistics which have been compiled on the subject show that between 1800 and 1851 there was not a single death by lightning recorded in Paris, and that only one person out of each million that die in London is taken off by a discharge from nature's electric battery. Between 1851 and 1895 only three persons were struck by lightning in Paris, and only one of these three cases resulted fatally. In Berlin only five persons have been struck by lightning since 1713.—*College and Clinical Record.*

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 1, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

THE resignation of Dr. I. Oppenheimer was accepted.

Practical Points Regarding Senile Insanities, with Special Reference to Prophylaxis and Management.—DR. RALPH L. PARSONS read the paper (see p. 505).

Senile Insanity and Malnutrition.—DR. E. D. FISHER opened the discussion. He thought senile insanity was hardly a distinct form. The essential feature in all these cases was a condition of malnutrition in both the brain and body. The mental deterioration was more due to malnutrition than to actual disease. The pathological state was one of arterial degeneration, either the direct result of old age or of disease in earlier life—nephritis, alcoholism, syphilis. The post-mortem showed few changes—more or less pachymeningitis and increase of cerebro-spinal fluid, or so-called wet brain, together with thickening of the walls of the vessels. Rarely was there evidence of apoplexy or capillary hemorrhage. The condition corresponded closely to what the older writers called serous apoplexy. Dr. Fisher could not admit, in the author's division, an insanity of vigor. When chronic diarrhœa existed, it should not be checked suddenly and entirely, lest it light up the mental symptoms. He had seen only one case in which the insanity was of the form of general paresis. As to prognosis, the symptoms might be improved, but he knew of no cure for senility. The treatment related chiefly to nutrition and stimulation. The patients were better off at home if friends could care for them.

Classification and Treatment Receive Little Aid from Pathological Anatomy.—DR. LANDON CARTER GRAY said there were, in addition to the changes in the arteries so well described by Dr. Fisher, also changes in the lymph vessels and lymph spaces; but, as in other diseases, these were general, and did not account for the various forms in which senile insanity manifested itself, nor furnish a basis for treatment. They were, however, of a nature in accord with the improvement often observed under the influence of stimulants and nutrition. Melancholia in the young was much more controllable than in the aged. In the treatment of melancholia the most important thing was to cut off the expenditure of energy. An abundance of food and stimulants was required. Opium or some one of its alkaloids was efficacious. Massage, gently administered and gradually increased in time to an hour or an hour and a half a day, he had found of decided value. Regarding dementia, which might occur at all periods of life and be primary or secondary, Dr. Gray had found the prognosis better comparatively in the aged than in the young, while the reverse was true of melancholia.

DR. LEONARD WEBER mentioned three cases of senile insanity, in one of which there were varicocele and nightly emissions. While arterial sclerosis might be the fundamental factor in bringing on the senile insanity, he believed functional disturbance of the gastro-intestinal tract had much to do with it.

DR. A. D. ROCKWELL repeated the statement that the nutrition of the brain, effected through the large cerebral arteries, was last to suffer, and said his experience as to the comparative curability of melancholia in the young and old was not in accord with that of Dr. Gray's. He mentioned two cases of cure in the aged.

DR. L. F. BISHOP related a favorable experience with cascara and nitroglycerin in a case under his care

the past summer. The nitroglycerin was given every three hours, one-one-hundredth grain.

Insanity in the Aged Not Always Senile.—DR. A. JACOBI called attention to the fact that there was a difference between senile dementia or insanity and insanity in the aged. The latter might be due to causes acting at any period of life, and which might be relieved permanently. Senile dementia was due to nothing else than the anatomical changes which took place in old age. Atheromatous degeneration was said to begin at thirty-five, and to advance more or less rapidly in different persons until death. Massage was beneficial by stimulating the circulation through its action upon the muscles. Opium was of benefit in many cases, but bromides would do harm rather than good, being more apt to produce anæmia than to cure it. Digitalis should be avoided, because of its contraction of the small arteries.

DR. PARSONS said he always used stimulants.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE—SIR J. LISTER'S ADDRESS—SECTIONS—METROPOLITAN ASYLUMS BOARD—DEATH IN A PADDED ROOM—CARBOLIC ACID—DEATHS OF SIR WILLIAM MOORE AND MR. MERRIMAN.

LONDON, September 18, 1896.

THE British Association has been sitting at Liverpool this week. This association is devoted to science and is the mother of those which hold annual meetings in different localities, many of which take the name of British—the medical being one of its progeny. The full name of the mother is British Association for the Advancement of Science, but it is always spoken of by the short name. How much greater it is than its children may be seen in the attendance, above three thousand, and sometimes it has mustered near four thousand. This year the Earl of Derby accepted the office of lord-mayor of Liverpool in order to do the honors of the city to the devotees of science. He has Sir John Lubbock and Lord Rayleigh in his house party. The leading citizens are vying with each other in their hospitalities. The ladies muster strongly at these gatherings, so that amusements and excursions are much to the front. The healing art, as such, has no home in the British Association, but the sciences on which it is founded are all represented. Whenever scientific men gather, the profession is sure to be represented and its members have often contributed of their best to these congresses.

This year Sir Joseph Lister is president—chosen of course for his scientific work rather than for his surgical position. He is by no means an eloquent speaker. He lacks all oratorical talent, but can demonstrate his views clearly. He read an address which, though well adapted to a semi-popular audience, scarcely does him justice. Due allowance will be made for this by the majority and it will be remembered that no small number went to gaze at the lion of the day rather than to be instructed by his statements. Under the circumstances his subject was well chosen, viz., "The Interdependence of Science and the Healing Art." Thus he was able to bring before his audience the relations of medicine and surgery to modern scientific development. These he illustrated by the application of the Roentgen rays to surgery, Pasteur's researches on fermentation, the antiseptic

system, the isolation of micro-organisms, toxins and antitoxins, phagocytosis, and other allied subjects.

Noticing that this is the jubilee year of anaesthesia, he said "that priceless blessing to mankind came from America," though it had indeed been "foreshadowed in the first year of the century by Sir Humphry Davy." He pointed out that from first to last anaesthesia had been the gift of science. He confessed his preference for chloroform. Vaccination as a topic of the day was judiciously dealt with. Needless to say, his own work could not be ignored in any attempt to give some examples of what medicine has borrowed from science and contributed to it in the last half-century. Equally needless to add that this work was touched with the modesty and reserve of the great scientific investigator and upright skilful surgeon.

The ten sections have been at work for the rest of the week, but a medical journal cannot afford space for their proceedings. The chemical section was presided over by Dr. Ludwig Mond, who in his address related the history of chlorine. The age of the earth was considered by Professor Poulton as president of the section of zoology. "Present and Extinct Flora" was the subject of the address in the botanical section by Dr. N. Scott.

"Music for the Deaf" was the subject of a very interesting paper in the physiological section by Professor McKendrick, of Glasgow. He found it possible to give some appreciation of rhythmical vibrations to deaf people by putting their hands in saline solution through which an electric current from the phonograph was passed. It gave a new sensation to the deaf person.

The metropolitan asylums board is unquestionably a costly one. No doubt its duties are difficult and necessarily involve great outlay. Its resources have up till now been practically unlimited, and like all spending departments thus situated it may have been wasteful or at least extravagant. Ratepayers are delighted to learn that the local government board has rejected the proposal of the asylums board to devote £54,000 to the purchase of a site for its offices. The conscience of those who have their hands in the ratepayers' pockets certainly needs some severe lessons, and this at a time when, in spite of the lavish outlay at Shooter's Hill, the cry still is that the asylums board must build more hospitals to provide for infectious cases.

An inquest was held on Tuesday on a woman, aged eighty-five, who died in the padded room of a workhouse. Some contradictory evidence was given. It was alleged that the nurse had used violence, and the patient had said she "had been ill-using her" and had shown her bruised arms. It was declared that the patient was not violent but only weak. The doctor seems to have acted on the word of the nurse as to her being violent and acknowledged he had not concluded that her mind was affected. He visited her daily and found her always quiet, and did not have her taken back to the sick ward, as she was very ill and seemed comfortable. But the coroner remarked that the space in the padded room was very confined, and the jury made some strong remarks and considered that the case should be investigated by the local government board.

It is said that the proposal to restrict the sale of carbolic acid is now under the consideration of the privy council. It is about time action was taken, as the continually augmenting list of deaths from this poison shows.

Surgeon-General Sir William James Moore, K.C.I.E., H.Q.P., died on the 9th inst., aged sixty-eight. He served in the Indian medical service from 1852 to 1888, and was in the Persian war of 1856-57. His "Manual of Diseases of India" reached a second edi-

tion; his "Family Medicine and Hygiene for India," published under government authority, reached its sixth edition in 1893. After retiring from the service he took up his abode in London and contributed valuable papers to the journals.

Mr. J. J. Merriman, of Kensington, retired from practice about a year ago, when he was presented with a testimonial from his patients of £1,000. This shows how much he was esteemed. He was a type of the best class of general practitioners. He died on the 8th inst. Kensington has had one of the family practising there for above seventy years.

"MALARIAL HÆMATURIA."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of September 19th, in the Clinical Department, appears the report of a case under the above heading, by Dr. Fleming. The case in question was evidently not one of "malarial hæmaturia," but was a case of idiosyncrasy against quinine, which manifested itself by a temporary purpura hæmorrhagica. Quinine idiosyncrasy is frequently met with and in various forms, but perhaps most frequently shows itself as a disturbance of the cutaneous circulation, and this case was unusually severe. On the other hand, "malaria hæmaturia" is not a hæmorrhagic trouble; the morbid condition known by that name in the South, and which I have named lysæmia, is merely blood disintegration. There may be many complications, but dissolution of the red corpuscles from chronic malarial toxæmia is the constant pathological feature. True hæmorrhage does not occur. Even epistaxis is rare.

In the course of an intermittent or a remittent malarial fever, and often without the previous exhibition of quinine, a sudden disintegration of the red corpuscles takes place, and the blood serum becomes saturated with free hæmoglobin, which rapidly stains the skin and sclera an intense yellow and is excreted by the kidneys, coloring the urine, in proportion to the amount, from a pale wine color to a black. "Pokeberry-juice" color is the most common. As before stated, there is no hæmorrhage nor even a hæmaturia, but a hæmoglobinuria. So, from the description given by Dr. Fleming, as well as by the latitude of his patient's residence, we are compelled to exclude lysæmia.

But in answer to his final query, as to whether the cases reported by Dr. Bush may not have been pure malarial fevers complicated by treatment, the answer is, No and Yes. They were not pure (simple) malarial fevers, but they were complicated by treatment, if quinine had been administered previous to Dr. Bush's institution of a more correct treatment. They were cases of lysæmia, and when that condition exists the administration of quinine increases the blood disintegration, irritates the kidneys, and frequently causes, from said increase of broken-down corpuscles and from said irritation, a blocking up of the uriniferous tubules, suppression of urine, uræmia, and death.

There seem to be some rare exceptions to this rule, but in the present state of our knowledge it is far safer to abandon the use of quinine at the first symptom of lysæmia, but not before; for while the use of quinine may be disastrous after the onset of so-called malarial hæmaturia, the fact of that morbid condition's presence is certain evidence that quinine has been neglected when first needed. If every person in condition to need quinine were to take the same at the first warning, and take it intelligently, there would never be another case of lysæmia.

E. H. MARTIN, M.D.

GREEN GROVE, MISS.

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THE THEORY OF ELIMINATIVE TREATMENT OF TYPHOID FEVER.*

BY W. B. THISTLE, M.D., L.R.C.P. LOND.,

TORONTO, CAN.,

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ALTHOUGH the practice of administering purgatives freely and frequently throughout the entire duration of typhoid fever has extended widely in this country since the publication of my first paper on "Eliminative and Antiseptic Treatment of Typhoid Fever," in the *Canadian Practitioner* for April, 1893, and the objection that great danger is associated with such a course is now seldom heard, yet there still exists much misconception regarding the ideas which underlie this plan of treatment. This misapprehension is mainly due to a faulty appreciation of what is meant by "elimination," the term being made to indicate only the clearing of bacteria from the intestine, the far-reaching effects of purgatives on the body generally being altogether ignored. The misapprehension I refer to is well illustrated in the inaccurate report of the eliminative and antiseptic treatment of typhoid which appears in the recent edition of a well-known work on the practice of medicine.¹ In addition to the common mistake, the writer of the book asserts that this treatment is based on erroneous ideas of the pathology of the disease. Eliminative treatment is, in the paragraph referred to, said to depend on the erroneous idea that the specific bacteria are confined chiefly to the intestine. Continuing, the writer of the book makes the positive statement that the specific bacteria are not present in the intestine until the ninth day of the disease. It is also pointed out that the specific germs are found in the spleen and in other parts of the body, the reader being led to infer that the advocates of the eliminative treatment had failed to appreciate that fact.

In a paper devoted to the theory of eliminative treatment I hope to make more apparent the ideas upon which it is based and to indicate more clearly the objects to be attained by the continuous administration of purgatives throughout the disease; but more especially do I wish to combat the assertion that this treatment is based on an erroneous conception of the pathology of the disease.

I shall at the outset and at the risk of being tedious briefly set forth the eliminative and antiseptic plan of treatment, in no way varying from that which appeared in the papers published by me in the *MEDICAL RECORD* of March 10, 1894, and September 14, 1895. In the papers referred to, I subscribed to the view that typhoid fever is a condition in which prolonged poisoning occurs, the toxins being produced by certain bacteria which enter the body and flourish mainly in

the alimentary canal, but which are also found in the glands of the intestinal wall, in the lymphatic nodes of the mesentery, in the spleen, and less frequently in the lungs and other viscera. Their original location, however, is the intestinal canal; that is, they are first free in the intestine, but are afterward to some extent carried by the absorbents into other parts of the body. Wherever located they, as a necessary part of their life, produce a toxic substance, which in turn produces the phenomena of the disease. Wherever the bacteria are, there of course will be the toxins which have been elaborated as a result of their activity; so that in the course of the disease the absorbents would carry toxins from the bacteria in the intestinal contents; from the colonies of bacilli within the lymph glands in the intestinal wall and mesentery, while those generated by the bacilli which have reached the spleen or are located in other viscera will be thrown directly into the circulation.

In the former papers referred to, I held to the view that the toxæmia of typhoid is due to more than one form of bacillus; that while everything points to a specific bacillus, such as that described by Eberth, yet it is impossible to ignore the extreme likelihood of a portion of the toxæmia being due to poisons produced by other bacteria, notably by the bacillus coli communis. In support of that view I cited the facts, that under certain conditions the colon bacilli do become exceedingly poisonous; that they produce the toxin which leads to fatal results in peritonitis; that it has been pointed out that wherever the intestine is injured these bacteria take on virulent properties.² There is also the probability that the bacillus coli communis becomes virulent as a result of association with Eberth's bacillus.

I also urged that in addition to poisons produced by Eberth's bacillus and by the colon bacillus, some portion of toxæmia must be attributed to putrefactive and other bacteria in the intestine.

Throughout the course of the disease there is a continual augmentation of the toxæmia by absorption from the intestine, and from accessions of quantities of poison produced by the colonies of bacilli in the spleen, mesenteric glands, or Peyer's patches.

As to the manner in which these toxins affect the system I quoted Woodhead³ to show that, like many substances spoken of as poisons, they had what might be termed a constitutional and also a local action. In the circulation they bring about widespread disturbance of function, e.g., fever, headache, vertigo, delirium, coma, etc., and where gathered together or concentrated at one point irritation of tissue occurs, with the usual phenomena of increased rapidity of cell multiplication, increased vascularity, and increased exudation from the vessels into the surrounding tissues. If concentrated still further, or if the period of contact be extended beyond a certain point, increased activity in the tissues is replaced by stagnation and death of the part, with subsequent casting off of the necrotic portion.

While there is undoubtedly a great difference in the virulence of epidemics, as well as a difference in the susceptibility of individuals, yet in a given case the symptoms increase in severity in proportion to the

* Read before the meeting of the Canadian Medical Association, Montreal, August 27, 1896.

quantity of toxins in the system. The symptoms taken as a whole indicate the degree of toxæmia.

Turning now to the most recent English work on medicine, I find that the writer on typhoid fever, Professor Dreschfeld, of Manchester, believes Eberth's bacillus to be the primary cause of the disease, but that many of the symptoms and much of the toxæmia are due to the colon bacilli and to other germs.

He also gives, without comment, the results of investigation by Pisenti and Biancho-Mariotti to determine the relation between the typhoid bacillus and the bacillus coli.

1. On simultaneous injection into animals of cultures of bacillus typhoides and bacillus coli (which latter had been proved to be inactive), bacillus coli increased in virulence so as to act like any virulent bacillus typhoides on animals.

2. If sown on gelatin mixed with filtered cultures of bacillus typhoides, bacillus coli also gained in virulence, owing to the typho-toxin acting on bacillus coli.

3. Healthy intestinal epithelium hinders infection from the intestine, but if Peyer's patches undergo changes, this defence is in abeyance.

Filtrates from typhoid cultures exert an influence on Peyer's patches, so that in typhoid fever the toxin in the blood alters the Peyer's patches and thus bacillus coli enters the body and adds to the virulence of the typhoid infection.

4. With very virulent cultures of bacillus coli, results were produced (such as thermometric curves, for instance) similar to those obtained by very virulent bacillus typhoides, and animals could be thus immunized against bacillus typhoides. At the same time the experimenters refrained from any expression of opinion as regards the identity of the two.

Regarding the mode of infection, Professor Dreschfeld believes that the bacilli "reach the alimentary canal, multiply, penetrate into the mucous and sub-mucous coats, invade the lymphatic tissues, and pass thence through the lymph channels into the mesenteric glands. Some of the bacilli reach the blood and pass to internal organs, principally the spleen. The bacilli produce various poisons, at present hardly known; some of these have a pyrogenetic action and thus produce the fever. As a result of their irritant action and that of their products, we get the intensely inflammatory signs in the intestine leading to necrosis."

I have quoted sufficient to show the ideas regarding the pathology of typhoid adhered to in this most recent work on medicine. I submit that these ideas as to pathology and mode of infection in typhoid are identical with those upon which I based eliminative treatment, as can be shown by reference to my published papers on the subject. In addition, however, I questioned the correctness of the very general statement that the specific bacteria are not present in the intestinal contents during the first nine or ten days of the illness. I maintained that, having in view the very great similarity between bacillus typhoides and bacillus coli, and the failure to find methods of differentiation which could be considered at all reliable, that simply because bacteriologists working with uncertain methods had not found Eberth's bacillus before the ninth day, the assumption that this bacillus is absent from the intestinal contents before the ninth day was not justifiable. I argued that since there can be no doubt of their presence and multiplication originally in the intestine before infection of the glands—for how otherwise can the simultaneous invasion of Peyer's patches for several feet of the length of the intestine be explained?—and since there is no difference of opinion regarding their presence in the intestine after the ninth day, the dogmatic assertion of their absence during the first nine days is

unreasonable. More than that, if adhered to, it led to the absurd contention that the bacilli enter the intestine, multiply there, penetrate into the intestinal walls over a large extent, the process occurring without symptoms of any kind, but when the last specific germ has passed from the intestine into the body, then, and not until then, are there signs of illness. Such a theory is manifestly unreasonable, yet, unless it be maintained absolutely, the contention that the specific bacilli are absent from the intestine during the early period of the disease must be abandoned. In other words, the process of invasion of the glands is coincident with the earlier symptoms of toxæmia.

This is the only point in which the ideas expressed by me in the papers on eliminative treatment differ from those set forth by Professor Dreschfeld. But he does not assert the absence of Eberth's bacillus from the fæces in the early period; he merely states that they have not been found there during that time. He appends, however, a paragraph pointing out that since his article was in press, the new method of Elsner, which appeared "to fill the long felt want of easily isolating the bacillus of typhoid and to distinguish it from the colon bacillus," had been discovered. By this method, Elsner was able to easily separate Eberth's bacilli from the fæces in fifteen out of seventeen cases in the various stages of the disease. The two cases in which he failed to obtain them were entering upon convalescence and the temperature was normal.

Elsner's method was tested by Brieger⁶ in eleven cases and by Lazarus⁷ in forty-one cases, and his results were confirmed.

Brieger found Eberth's bacilli in the dejections of typhoid patients while the symptoms were still obscure.

In repeating Elsner's examinations, in forty-one cases Lazarus found that the specific bacilli disappeared from the dejections with the beginning of convalescence, but that in the case of relapse they were again found in the fæces.

Thus it seems that what I argued must be the case in my article in the MEDICAL RECORD, September 14, 1895, has actually been demonstrated.

That the tests made use of prior to Elsner's method for the differentiation of bacillus typhoides from bacillus coli were not to be relied upon is shown by investigations carried on by Professor Dreschfeld and Mr. Robinson in the laboratory of Victoria College, Manchester. They found that some apparently typical colonies of Eberth's bacillus produced gas in saccharine media, others did not. Of those which produced no gas, some gave the indol reaction, and three did not. These three coagulated milk.⁸

My great error according to the author of the American work on the practice of medicine to which I referred in the beginning of this paper was in believing the specific bacilli to be present in the intestine during the early period of the disease. I submit again that, in the light of what has been demonstrated by Elsner and corroborated by Brieger and Lazarus, the error is not mine.

I asserted at the beginning of this paper that there exists much misconception regarding the objects to be attained by the continuous repetition of purgatives throughout the disease. I also expressed the opinion that the misapprehension arose chiefly because elimination is taken to mean simply the clearing out of the specific bacteria from the intestine, whereas a much wider process is indicated by the term "eliminative"—how much wider I hope to show when we come presently to the effect of purgation in typhoid.

However, before entering upon the treatment, there are some fundamental facts which it is necessary to keep prominently in view in order to appreciate the logic of the eliminative treatment.

1. There is the constant augmentation of the toxæmia; the toxin produced by bacilli in the intestinal contents, and that elaborated by the colonies located in Peyer's patches and in the mesenteric glands, are constantly being conveyed into the general system. Toxins produced by colonies in the spleen or in other viscera will reach the circulation at once.

2. That during the course of the disease bacilli, both specific and bacillus coli, as well as toxins are carried from the intestine still further to increase the number in Peyer's patches, mesenteric glands, and spleen, and to increase the toxæmia.

3. That death comes in typhoid fever in two ways, leaving out of consideration accidents such as epistaxis, etc., either by the excessive accumulation of toxins in the body or by the excessive local action of the toxins on particular tissues. Roughly, it is said that eighty per cent. of the mortality of typhoid is due to toxæmia; that is, the constant augmentation of poison in the body, either directly by overcoming the vital centres, or less directly by producing exhaustion through prolonged interference with the functions of nutrition and repair, proves fatal.

The remaining twenty per cent. of the fatality includes, of course, the rare accidents and complications, but is chiefly made up of the cases that result fatally owing to the excessive local action of the toxins on particular tissues. By far the greater part of this is due to hemorrhage and perforation, two accidents incidental to necrosis. Necrosis occurs with so great frequency in Peyer's patches because of the facility with which bacteria, specific and others, and also toxins, are carried from the intestine to the glands. The colony originally in possession increases rapidly, elaborating at the same time toxins. Moreover, throughout the disease there is a constant reinforcement, owing to carriage of bacteria and toxins from the intestine. At first the gland is swollen, owing to the attempt of the tissues to destroy the intruders; but finally, in the case of the glands that ultimately become necrotic, the tissues are unable to resist the prolonged action of the ever increasing toxins and death of the part occurs. Let us now notice the defensive measures against the condition described.

There are the channels through which toxic substances leave the body.

In the order of their importance they are:

1. The bile. By way of the biliary secretion much of the toxins escapes from the body into the intestine and from there is carried out. So much of the toxin elaborated in ordinary condition of health escapes with the bile that Bouchard estimates the toxicity of bile as nine times greater than the toxicity of urine.

2. Next to the bile as a channel for the elimination of toxins comes the urine.

3. The serous secretion from the intestine carries with it whatever poisonous substances may be in the circulation and the body is relieved of so much toxin, just as it would be if bleeding instead of purging the patient had been resorted to.

4. In addition to these three channels, toxin of course escapes by the breath and by the skin.

A further defence is found in the resistance and aggressive action of the tissues themselves. Indeed, in cases that recover, the bacilli in the body must be destroyed by the tissues, excepting of course those that escape by the urine. Just here it may be noticed that the aggressive and defensive action of the tissues is in inverse ratio to the extent of the toxæmia.

The plan of treatment which I in 1893 brought forward as the "eliminative and antiseptic treatment of typhoid" consists in the administration of frequent doses of purgatives throughout the entire illness. It is also considered of primary importance that purga-

tion be secured as soon as possible after the patient comes under notice.

The purgative medicines chosen are those that act on the upper and smaller intestine. Perhaps the most satisfactory is the combination of calomel and salines. The calomel may be given in several doses, say of a half or one-grain, and followed in several hours by a saline, magnesium sulphate or sal Rochelle in half-ounce doses. However, other purgatives may be given—cascara, Seidlitz powders, Carlsbad salts, compound cathartic pill, etc. The quantity of the dose and the frequency of the repetition must be determined by the necessities of each case.

With the employment of purgation is associated the use of antiseptics. My experience is with salol chiefly, and my practice is to give it in ten-grain doses every three or four hours. I have pointed out before in the articles above referred to, that antiseptics may be given in much larger doses and with greater freedom from the occurrence of symptoms due to the antiseptic, if associated with the frequent administration of purgatives. To compensate for the withdrawal of so much fluid from the body by so frequent purgations, as well as to dilute and facilitate the elimination of poison through the kidneys, the ingestion of large quantities of water is enjoined. Coming now to the purpose of this treatment, it is obvious concerning the antiseptics and the giving of large quantities of water.

The purpose of giving purgatives in the way I have described is:

1. To interrupt the process of infection; that is, by sweeping out the intestine to clear away bacilli, specific and non-specific, and also toxins which would otherwise go to increase the number of bacilli in the body and to increase the existing toxæmia.

2. To counteract at frequent periods the continuous augmentation of toxins in the body by carrying away the toxic bile poured into the intestine, which if not carried away is again taken up and returned to the system.

3. To further deplete the volume of toxins in the body by causing a free secretion into the intestine, bringing with it toxins in solution in the body fluids.

4. The constant clearing of the intestine must lessen the extent of the local lesion, because it cuts off the base of supply from which bacilli and toxins are carried to Peyer's patches to reinforce the bacilli and toxins already in possession. It is apparent, too, that the earlier this is resorted to, the better for the tissues in Peyer's patches. Thus, while on the one hand there is a continual production of toxins in the body, on the other by the frequently repeated administration of purgatives we endeavor to eliminate these toxins in sufficient quantity to keep the total volume of poison in the body below a harmful point until the period of immunity is reached. In like manner, keeping the intestine clear limits the local lesion in the intestinal glands.

A frequent mistake in carrying out this treatment is in supposing spontaneous action of the bowels to contraindicate the use of purgatives. Such is not the case, for it is well known that the diarrhœa is most frequently owing to catarrh of the colon and to toxæmia. Thus, while the bowels may be acting many times a day, yet little in the way of elimination of toxins is accomplished, the toxic bile in the upper intestine and the bacterial collections in the ilium remaining undisturbed. Indeed, in this instance, as in the mycotic and irritant diarrhœa of children, the flux is best controlled by giving a purgative.

Returning to the details of treatment, I have before pointed out that it is of the greatest importance to secure elimination by the bowels as speedily as possi-

ble, in order to cut short at the earliest possible period the process of infection.

Because the case appears to be a mild one is no reason for withholding treatment, for the case that appears mild may in ten days' time, by the process of gradual accumulation which I have described, show symptoms of the most profound toxæmia. In many cases, too, in which the symptoms are not pronounced, the local lesion may be so severe as to prove fatal.

It has been objected that so frequent purgations must do harm by carrying out useful bacteria from the intestine.¹ There is no ground for such a supposition, for experiments to determine that point show that a perfectly sterile intestine in no way interferes with health.²

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ON THE PREPARATION OF BLOOD FOR MICROSCOPICAL EXAMINATION.

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THE proper manipulation and mixing of the blood with diluents to facilitate the accurate counting of the different corpuscles is fully and properly described in various text-books, and accompanies the Thoma and other forms of apparatus that have been devised for the purpose. I have nothing to add to the published descriptions.

The various technical points to be considered in the examination of fresh undried blood are also to be found in the text-books, but are given in most elaborate detail in Hayem's extensive Treatise on the Blood. I cannot from my present knowledge improve on them.

There is, however, another branch of blood examination which at the present time is exciting an increased and well-merited interest. I allude to the preparation and examination of blood spread in a thin layer and dried on cover glasses. This, too, is treated of in more or less detail in the text-books and in special writings, but, I regret to say, is usually presented in a faulty manner. Instead of the best technique being given, it is usually the worst: important points not being alluded to, or directions are given that tend to obscure rather than elucidate the objects of the research. This criticism is intended to apply particularly to the German text-books and to the writings of American laboratory workers who learned their microscopical technique at the continental universities, and who in their teachings here still follow their early practices.

I will admit in advance that no matter how carelessly you manipulate the blood or conduct the examination, some facts can be ascertained; but if you desire to exhibit any given specimen in the clearest and most distinct manner, and to learn the greatest number of facts concerning it, the strictest attention should be given to each and every important detail, both from a histological and optical standpoint.

It will certainly be conceded that it is better to do a thing well than to do it negligently, and if the best results are to be obtained the best technique must be followed, even should it prove more expensive or

more troublesome than an inferior one; and yet I venture to say that the majority of blood examinations are not made under the most favorable conditions even by those who know or ought to know better.

Errors in technique naturally lead to erroneous observations, and these, in turn, to false reasoning and conclusions, and it is to this more than any other one cause that we have laid before us so many contradictory statements.

Blood films are studied from several standpoints and with several distinct objects in view. These are chiefly: (1) To determine the presence or absence of malarial plasmodia; (2) to ascertain the presence or absence of the eosinophil, neutrophil, or basophil granules of Ehrlich; (3) to observe changes and abnormal appearances in the leucocytes and red corpuscles; and (4) to determine the presence and kind, or absence, of micro-organisms. In all of these cases the manipulation is substantially the same, with the exception of the stains to be employed.

It is this technique which I desire to describe in the fullest detail, and with special reference to (1) the slide, (2) the cover glass, (3) the needle, (4) the forceps, (5) the spreading of the film, (6) the fixing and dehydration of the corpuscles, (7) the staining, (8) the mounting, and (9) the optical apparatus, and especially the condenser and objective.

Competition during the last few years has reduced the price of slides to an almost ridiculously low figure, but, unfortunately, this reduction has been accompanied with a deterioration in the quality of those offered by most of the supply houses. The glass, cut roughly to size, is imported, but afterward is ground and finished in this country so carelessly that a considerable proportion are smaller than they should be, and with ends that are not always square. The most satisfactory slides that I have been able to obtain are those furnished by Zeiss, at three and a half marks per hundred. These are cut true to size (76 mm. by 26 mm.) are of good glass, and easily cleaned for use with a drop or two of alcohol and a piece of Canton flannel. Zeiss also supplies slides of plate glass at double the price above mentioned, but these it is almost impossible to clean with either alcohol or acid. The slides chosen should be of medium thickness. Very thin ones were formerly of service when attempting difficult resolution with extremely oblique mirror illumination. With substage condenser, however, extreme thinness of the slide is not only unnecessary but undesirable, especially in high-power work. The majority of modern microscopes that pretend to any degree of excellence are provided with substage condensers, either N. A. 1 achromatic, or N. A. 1.20, or 1.40 Abbe. Now, these apertures are possible only when there is a layer of cedar oil between the condenser and the slide. The principal microscope makers list their condensers as having the apertures mentioned, but not one of them, so far as I am aware, has the honesty to state that these apertures exist only when they are used with oil immersion, and that when used dry, as is usually the case, the numerical aperture is very much less. If, now, the observer desires to employ an immersion objective of high aperture and to work it at its best, he must put oil on the condenser and focus it for critical illumination. If the slide is an exceedingly thin one, in bringing up the condenser to keep the oil in position he will project the flame image above the plane of the object under examination. If the condenser be now depressed so as to make the flame image coincide with the object, the oil is apt to run out, especially if the microscope be inclined. The condensers are constructed to work with slides of medium thickness, and such slides are the only ones that should be used.

In the selection of cover glasses, even greater care

should be employed. The dealers offer both square and round covers in various sizes and thicknesses. The square are cheaper than the round, and for this reason are used by many. Little economies of this sort may be thought well of in German and French laboratories, but should never obtain a footing among workers whose aim should be to spare neither pains nor expense to do their work in the most perfect manner. A hundred slides properly prepared and mounted will prove of far greater value to the operator and to the world than a hundred and fifty in which the operations have been conducted in an unskilful and slovenly manner. Square cover glasses should never be used in the preparation of blood films: First, because it is exceedingly difficult to obtain a good smear; and, second, it is next to impossible to mount them in a satisfactory manner for permanent preservation.

The most convenient size of round glass will be either $\frac{3}{4}$ ", or 18 mm. American dealers supply the covers in four classes, graded according to thickness, namely, Nos. 0, 1, 2, and 3. The first two are altogether too thin for general use, and should not be purchased under any consideration. A great deal of blood work can and had best be done with dry lenses, and the non-adjusting dry lenses in common use are corrected by their makers for a certain definite thickness of cover glass; and if a thinner one is employed, the image obtained will be imperfect, or "under-corrected," as the opticians say.

In order that this matter may be clearly understood, I will enter a little at length into the optical aspect of the case. The image formed by any lens is the resultant of a vast number of images formed by the different zones of the lens from near the axis to near the margin. If, now, these different zone images are all brought together at a common focus, the resultant image is clear, brilliant, and well defined. If, on the other hand, the images from the marginal zones come to a focus before the images from the zones nearer the axis, the resultant image is said to be "under-corrected," and will be found less brilliant and distinct than it should be. In fact, an under-corrected image is a composite, consisting of a vast number of separate images lying in different planes, and each of them differing in size from the others; those lying lowest being the larger. Under these circumstances, sharp definition is entirely out of the question. To test this experimentally, take a No. 7 Leitz objective which is corrected for a cover-glass thickness of 0.17 mm., and procure some cover glasses of that thickness. On these covers prepare some blood films. With the microscope in a vertical position, put a clean slide on the stage, and on this lay the cover, film side down, without balsam or any other medium intervening. If, now, the illumination is properly arranged, an exquisite image of the corpuscles will be seen. Next raise the objective and turn the cover over so that the corpuscles shall have no glass over them. If we again examine them, we shall have an image that is under-corrected to an intense degree. If, now, a blood film is spread on a cover glass, say 0.05 or 0.10 mm. in thickness, and examined film side down, the image will still be under-corrected, though not so greatly as before. With oil-immersion lenses of moderate aperture, N. A. 1.20-1.30, cover-glass thickness is of little moment. So, also, if dry adjustable lenses are employed. To obtain, however, the best results with the ordinary non-adjusting dry lenses, the thickness of the cover glass used should be that for which the lens is corrected. Most objectives of this sort are corrected for covers of from 0.17 mm. to 0.20 mm., each maker being a law unto himself in this respect.

The cover-glass thickness will be found to play an important part in blood examinations, and I would strongly advise any one who desires seriously to take

up this work at once to procure an instrument for measuring the thickness of the covers. Zeiss supplies such an instrument, and so also do Bausch & Lomb. The former I have never seen; the latter I use with the greatest satisfaction. If the cover-glass gauge be applied to half an ounce of No. 2 covers, the operator will probably be a good deal surprised at the varying thickness of the glasses, some being not thicker than 0.07 or 0.08 mm., while others will run up to nearly 0.30 mm. A half-hour will be well spent in sorting these over, putting each thickness into a small envelope by itself. Out of the half-ounce perhaps ten or twelve per cent. will be found of the exact thickness best suited to your objective: but if an objective of medium aperture (e.g., Leitz No. 7, N. A. 0.85) is to be used, a little margin in the thickness may be allowed, say from 0.15 to 0.20 mm., and the half-ounce will yield perhaps fifty per cent. of covers coming within this range. The No. 3 covers, though costing less per ounce than the No. 2, will yield a much smaller proportion of available covers. Zeiss supplies most admirable covers, selling only those which fall between 0.15 mm. and 0.22 mm. At a slight advance in price, he will supply any given thickness that may be desired. Such covers, however, are not carried in stock. I believe, by any New York supply-house, but will be imported on special order by Eimer & Amend; and I have for a considerable time procured most of my covers in this way.

The next step is the proper cleaning of the covers. A small glass dish should be partly filled with battery fluid (water, nine ounces; bichromate of potash, one ounce; sulphuric acid, one ounce), and into this the covers should be dropped, one by one, so that both sides of the cover may be wetted by the fluid. After remaining in this for twenty-four hours, the acid is poured off and the covers are flushed *en masse* two or three times with water. Then each should be taken separately and dropped into a dish of distilled water, from which they are to be transferred, singly as before, to alcohol (preferably pure methylic¹). A most convenient receptacle for the alcohol and covers is a one-ounce, square, screw-capped bottle, in which they may be kept until needed for use.

A very convenient instrument for drawing the blood is a small, straight, surgical needle, several of which should be kept in a vial of alcohol until needed. For a couple of years or so I have used needles made from an alloy of one part of iridium and two parts of platinum. When required for use the needle is sterilized at a white heat immediately before and after use. The blood may very conveniently be taken from the tip of the finger, though some writers insist that it is better to draw it from the lobe of the ear. In either case the part should be thoroughly cleansed.

Two pairs of forceps are required. One should be of the self-closing variety, with flat, broad points, and with spring sufficiently stiff to hold the cover firmly against moderate traction. The other pair may be any sort that will hold the cover nicely.

A sufficient number, say six or eight, of the covers are removed from the alcohol, thoroughly dried, and laid upon any suitable support, projecting a little beyond it. One of the covers is seized with the self-closing forceps and placed ready at hand. The puncture is then made, and another cover is quickly taken with the second forceps and applied to the droplet of blood as it issues from the wound. The second cover is then laid on the first, and the blood spreads out between them. A common fault with beginners is taking up too much blood; but this will be corrected after a little practice. As soon as the film is spread,

¹ I do not refer to the stuff called "methylated spirits" in English writings, as the latter is ordinary ethylic alcohol mixed with common wood spirit.

the projecting edges of the upper cover are taken between the thumb and index finger, and the covers are gently slid apart, care being taken to keep them parallel until entirely separated. The two covers, with films up, are now laid on a piece of paper to dry, and a second pair are prepared in the same manner. If more than four covers are desired, a fresh puncture should be made. As soon as the films are dry they may be placed in a small envelope (say $2\frac{1}{2}$ " by $1\frac{1}{2}$ "), properly labelled. If stored in a dry place they will keep unchanged for a long period. It is better, however, to fix them immediately. If water or any staining fluid were applied before fixing, most of the corpuscles would be washed off the cover, and from those that did remain the haemoglobin would be removed, leaving only the almost invisible stroma.

Ehrlich, who was the founder of one branch of hematic microscopy, declared that the corpuscles were best fixed by heat, and advised that the covers be laid on a metallic plate supported over a lamp, and be subjected for several hours to a temperature of 120° to 130° C. Some operators simply flirt the cover a few times through a lamp flame, just as they would in fixing bacteria. This procedure is to be condemned at the outset. However well or ill it may serve for bacteria, it should not be practised in connection with blood covers. If there be absolute necessity for haste, the corpuscles may be fixed by subjecting them for a few minutes to the fumes of a two-per-cent. solution of osmic acid, or they may be placed five, ten, or fifteen minutes in absolute alcohol, or a mixture of this with an equal volume of ether. My own experience, however, with human and other mammalian blood, as well as with the blood of birds and reptiles, leads me decidedly to prefer fixing by heat rather than by any of the other methods that have been employed.

Ehrlich's metal plate, however, is troublesome and not altogether satisfactory. If the operator has gas at his command, he will find a small Fresenius oven much more satisfactory. This should be fitted with a Reichert or Dunham thermostat and a centigrade thermometer. The Dunham is said by those who have used it to be a much more satisfactory appliance than the Reichert. I have used only the Reichert, and, finding it troublesome to manage, abandoned gas in favor of electricity. For the past year or more I have used an electric heater controlled by a rheostat, and am able to obtain a much closer adjustment and regularity of heat than I had previously been able to do with gas.

The covers are heated gradually to about 125° C., and then maintained at this for an hour or more. When the covers are taken from the oven, they are allowed to cool gradually and thoroughly before staining.

Those who desire to know in how many ways blood may be stained and for what purposes, may consult the pages of Friedlander: or, if more convenient, the recent translation of von Kahliden's "Methods of Pathological Histology."

For most purposes, however, double staining with eosin and methylene blue is all that is necessary. Grüber supplies three varieties of eosin, but the "soluble in alcohol" is the only one adapted to our present purposes. Of this dissolve one grain in twenty-five cubic centimetres of alcohol, and after it has stood twenty-four hours add an equal quantity of distilled water. The methylene blue to be used should be Grüber's "rectified." Most authors recommend Loeffler's alkaline solution. This stains the nuclei of the leucocytes deeply, but is also apt to stain the red corpuscles and platelets. I prefer, therefore, to dissolve 0.50 of the stain in fifty cubic centimetres of a five-per-cent. solution of formalin. This gives an intense and brilliant nuclear stain without affecting the other elements, unless its action is unduly prolonged.

When ready to stain the covers, place them film up on a plate of glass, and cover each with the eosin solution. Leave this on for two or three minutes, and wash off with distilled water. When the covers are dry, apply the methylene-blue solution in the same manner; and when this is washed off and the covers are thoroughly dry they are ready for preliminary examination.

Arrange the microscope vertically, with a clean slide on the stage, and place on it the cover, film down and without any intervening medium. Alongside of it, if you choose, mount another cover in balsam and compare the two. The difference between the two is so striking and absolutely in favor of the dry cover, that I venture to say you will never again use balsam for this purpose. This examination must, of course, be made with a dry lens. A No. 7 Leitz answers very well, but a $\frac{1}{2}$ " or $\frac{1}{10}$ " objective, with a numerical aperture approximating 0.90, is still better.

If the examination with the dry lens does not give all desired information, and you wish to examine further with a higher-power immersion, it will be necessary to attach the cover permanently to the slide.

Every book and every writing on this subject that I have seen advises that the cover be mounted in balsam. This advice and practice are decidedly and emphatically wrong, and I am amazed that men who have devoted so much time to the subject, and who certainly ought to know better, still continue to pursue a method that certainly destroys one-half the value of their work.

If you desire to mount blood covers to the best advantage, the first step is to procure a turntable. Centre the slide carefully on this, and spin a thin ring of shellac or other suitable cement, corresponding to the size of the cover; a second coat may be applied a few minutes later. Prepare a number of slides in this way, and leave them for twenty-four hours or more to dry.

When the slides are ready for use, take one and hold it over a flame for a moment or two to expel all surface moisture and to soften the cement a little. The cover in like manner should be flirted over the flame, to expel all moisture from its surface. It is then applied to the cement ring, care being taken to have contact at all points of the circle. When entirely cold, a fresh ring of cement may be spun around the cover, so as absolutely to seal it at every point. The slide is now ready for examination in any manner, and with any dry or immersion lens.

It matters not whether you are studying the changes in the leucocytes, hunting up the various granules of Ehrlich, or searching for the elusive plasmodia, the optical picture will be vastly superior and much more instructive than any you can obtain in balsam mounts.

Before closing, I desire to say a few words about the substage condensers. If circumstances restricted me to the use of a single condenser for all purposes, I would choose an achromatic N. A. 1, which may be obtained of excellent quality from Zeiss, Bausch & Lomb, Watson of London, and other makers, costing perhaps ten or twelve dollars more than the customary "Abbe." With dry lenses, except those of the very widest aperture, I should use it dry, that is, without oil between the condenser and the slide. By so doing you impair the nominal aperture about one-third, and throw it a little off its corrections; but even then it will be better than any of the Abbe construction. If used in connection with immersion lenses, oil contact should be used, so as to secure the full aperture. If circumstances permit the expenditure, an additional achromatic of N. A. 1.30 to 1.40 should be added; and for low-power work, an achromatic of low aperture, say N. A. 0.60 to 0.75. I know of but one optician that offers such a low-power condenser, and regret to

say that I have not found it satisfactory. In regard to the Abbe condensers that are in such general use, it may safely be said that they are a vast improvement on simple mirror illumination, that was almost the sole dependence before Professor Abbe introduced his simple device. The low cost has undoubtedly been the chief means of its wide introduction, but as an optical instrument of precision it is decidedly inferior to an achromatic of approximate aperture.

Through force of circumstances, fully nine-tenths of the laboratory workers employ diffuse daylight as an illuminant, and for the great mass of work to be done it is amply sufficient and satisfactory; but for the most delicate work a well-arranged artificial light is preferable.

At the present time the blood offers one of the most inviting fields of investigation, as an aid both to diagnosis and to therapeutics; and I cannot too strongly urge on those who design to take it up to pay the strictest attention to what at first may appear to be unimportant technical details.

10 WEST THIRTY-FIFTH STREET.

RHEUMATISMUS NEONATORUM.*

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ACUTE articular rheumatism, in early infancy, is regarded by all systematic writers as an exceedingly rare occurrence. Cheadle¹ mentions two cases referred to Senator, and credited by the latter to Stäger and Windeshofer, in which two infants, one four weeks and the other twenty-three days old, were affected with acute rheumatism. Strümpell,² in discussing the etiology of the disease, cites "a single interesting case" which he met in Leipsic. In this instance, the child was only a few days old, and suffered from "multiple purulent arthritis." On looking over the literature of acute rheumatism in childhood, I came across two more instances of the disease reported as occurring in two infants, one twelve hours old,³ and the other three days old.⁴ I looked in vain for more records of cases. If any escaped my study and scrutiny, I shall be grateful to learn of them. If we accept the traditional causation of rheumatism, viz., exposure to cold and hereditary tendency, there certainly can be no reason why a good many of our newly born should escape it. For the diathesis is admittedly prevalent, and as to exposure, who knows better than the little newcomer the cruel extent it is subjected to by the daily oiling, soaping, and washing, and bathing? With all that and in spite of that, recorded histories of rheumatic fever in the very young are so very, very few. To my mind the scarcity of such observations seems to be due to a lack of care on the part of the medical attendants. For instance, when the baby cries, the scion of Hippocrates readily submits to the supposition of the nurse or of a sympathetic neighboring woman that it must have colic; the drawing up of its tiny limbs is but infallible light on the diagnosis. The possibility that the infant may be suffering from painful ankle or knee joints may never appeal to his deep-seated centre of thought, and yet it may just be this and nothing else.

This is one reason, apparently, why rheumatismus neonatorum is not frequently recognized. Another and more potent reason for its non-recognition is the following one: Rheumatism, in infancy and childhood, does not exhibit those marked and characteristic joint affections we are wont to see in adult life. The medical mind is so accustomed to associate rheumatic affections with heat, pain, redness, and swelling of one or more articular joints, that sometimes only through

sheer good luck does one escape the brutal mistake of diagnosing a housemaid's knee as mono-articular rheumatism. Few, indeed, take the trouble to examine the heart of a restless, crying, painful infant, a procedure which may in a moment reveal the cause of the little one's anguish. Rather than this, the dumb creature is dosed with the staple remedies for colic—as, for example, castor oil, brandy, calomel, paregoric, and other things which will occur to the doctor and experienced aunts. Says Dr. James Finlayson, in his excellent article entitled "Diagnosis:"⁵ "Rheumatism in childhood is at times rather difficult of recognition, as the articular affection is only slight, and perhaps contemptuously spoken of as 'growing pains,' although such trivial attacks are often associated with endocarditis, leading to permanent mischief of the heart."

All authorities agree that rheumatism in early life is characterized in a majority of cases by valvular lesions of the heart: or, to put it differently, the heart, instead of the joints, is the target of the disease. In rheumatic fever of that age, a fatal endocarditis is not incompatible with a total absence of articular affection. Endocarditis, in the life of an infant or child, is almost positive proof (sixty per cent. to seventy-five per cent.) of either past or present existence of rheumatism. The inferences to be drawn from this statement of facts are, first, the importance of the routine examination of an infant's heart; and second, the rheumatic origin of an infantile endocarditis.

The lay more than the medical press bristles with reports of sudden deaths of infants. Is it not logical to assume, from what has been said, that this unexpected termination of young lives is as much the result of heart failure as it is in similar cases of older members of the community? And, furthermore, is it not reasonable to ascribe the cause of this form of infantile mortality primarily to acute rheumatism? And yet the abrupt ending of an apparently healthy infant is most often attributed to "convulsions," rather than to its true and probably only cause, rheumatism.

Sir Dyce Duckworth⁶ lately estimated the percentage of chorea as an expression of rheumatism to be about seventy-five. Now, sometimes in the course of our daily practice we come across a case of chorea in a child in whom there is no trace of rheumatism, past or present, in the joints, heart, or elsewhere; and, being at a loss to account for its presence, we are obliged to fall back on the ubiquitous but none the less perfunctory cause, fright. If, however, we kept in our minds the possibility of the child's having had rheumatism in its infancy, which, fortunately, left no indelible trace on it except the chorea, we would not adopt wildcat theories to account for the manifestation of the latter in advanced childhood. Furthermore, if the rheumatismus neonatorum had been recognized, so that the proper remedies could be applied, there would, perhaps, be no chorea to treat later on.

I must now turn to another phase of the subject of this paper—from the practical to what may be called the scientific side.

By recognizing and establishing the existence of rheumatismus neonatorum, we shall add tremendous weight to the modern conception of the etiology of acute articular rheumatism.

Acute rheumatism is struggling hard for recognition as an infectious disease. Some authors of eminence have already recognized its claim, and accordingly admitted it to the republic of infectious diseases; while others acceded it the right of belligerency only, waiting, meantime, for further proof of its deservedness. It is undoubtedly owing to the absence of clinical data, the sheet anchor and touchstone of certainty, that the profession hesitates to adopt that view of the etiology.

* Read before the New York Eastern Medical Society, September 11, 1896.

The rise and fall of the different theories regarding the causation of acute rheumatism are interesting. While all observers agreed upon several factors, such as chill, fatigue, climatic changes, and, last but not least, that mysterious entity—diathesis, as necessary elements in the etiology of rheumatism, yet they could not escape the conviction that something more than all this is at the bottom of the rheumatic constitutional disturbance and its train of disagreeable sequelæ. Here, then, speculation became rife. As a consequence, we have the neuropathic theory, the uric-acid theory, the lactic-acid theory, and the compromising theory, namely, that which promulgates the view that the disease is caused by an excess formation in the blood of uric and lactic acids. There are three more theories: one holds arterio-sclerosis responsible for some cases of rheumatism; another says that it is in a great many instances the fault of the white corpuscles of the blood; and still another attempts to lay the blame at the door of the lymph and its circulation in the lymph spaces and vessels. Dr. Cheadle,⁶ in an interesting review of the entire subject of rheumatism, thus speaks of the chemical theories: "While they command respect and admiration by the knowledge and ingenuity with which they are worked out, they must be accepted only as provisional explanations of the chemical and physiological process by which the result might be brought about, if uric acid should prove to be the ultimate factor of the disease."

These theories being problematical and insufficient, in order to satisfy the mind it was natural for the ingenuity of man to invent a new theory. So we find the theory of infection occupying the arena of speculation. According to Strümpell, this view was first advanced by Huter. The final appearance or evolution of the theory of infection was neither unnatural nor unexpected. It is a step in the direction of modern thought and ideas. If you take into consideration the clinical picture of acute rheumatism, you must be irresistibly impressed with the family resemblance it bears to other infectious diseases. The variety of type, the involvement of the heart, pericardium, pleura, tonsils, joints, and skin; the occurrence of albuminuria, the hyperpyrexia, the liability to relapses; and, lastly, its prompt yielding to a specific remedy—all add shape and color to the family likeness. Of course, this picture is only suggestive, not conclusive. For the theory of infection to become an accepted and indisputable fact, it must conform to three rules: First, it must prove that the disease depends upon a specific micro-organism. The specific germ must be invariably found associated with the disease, it must admit of isolation, and must be capable of reproducing the affection when inoculated in a human being or in a lower animal. A good many investigators set to work to discover the specific microbe. Many were the attempts and many were the failures. The serum of the pleura and joints, the urine and blood of rheumatic patients, and portions of brain and endocardium of patients who died of rheumatic fever were carefully examined, with greater or less encouragement and success. Among the many who were engaged in that work can be prominently mentioned Birch-Hirschfeld, Bouchard and Charriën, Triboullat, Soaza,⁷ and Leyden. While "all repeatedly found the staphylococcus albus and sometimes the streptococci in the synovial and pericardial fluids and the cardiac valves in cases of acute and subacute articular rheumatism," it remained for Leyden⁸ "to isolate from a number of cases of acute rheumatism, attended by complications, a delicate diplococcus, differing from any hitherto described, and unequivocally distinguishable from the various forms of staphylococcus, the streptococcus, and diplococcus of pneumonia." The logical conclusion therefrom is that this organism is the essential cause

of the malady and its complications. If the work of this illustrious man be continued by himself or his followers, we may reasonably expect to hear, sooner or later, of rheumatism being produced in lower animals by inoculating them with the specific diplococcus.

Great impetus was lately given to the second of the three rules by the careful and painstaking researches of Dr. Newsholmes,⁹ of London, viz., the epidemicity of acute rheumatism, or, as he prefers to designate the disease, rheumatic fever. To quote the doctor's words: "All the hospital records, all the Scandinavian imperial returns of cases, and all the death returns agree in manifesting very great irregularities in the yearly incidents of rheumatic fever, the excesses of prevalence in certain years being so great as to merit the name of epidemic." On another occasion he added the following suggestive remarks:¹⁰ "The clinical and pathological features of rheumatic fever were both best explicable on the supposition that it was caused by the entry into the system of a specific micro-organism." He further says: "Low subsoil water and high earth temperature were two of the most important conditions under which the specific micro-organism of rheumatic fever germinated in the soil and became capable of parasitic life in the human body."

Now we come to the consideration of the last and, from a practical standpoint, most important rule or element necessary in the support of the theory of infection.

In the days of yore, clinical data were everything. Nowadays, they stand in humble relation to the omnipotent instrument, the microscope.

As rheumatism is not an eminently infectious disease, evidence of transmission of it is comparatively scant. The same, however, may be said of pneumonia. There are cases on record which apparently show the transmission of the disease from individual to individual, in the same house where rheumatic fever prevailed. But a doubt is thrown on the illustrative accuracy of such records by the probability that all the victims in the same house might have been a prey to the same pernicious climatic or other external influence. I expect that the fetus and the infant will furnish the medical world with all the necessary corroborative testimony justifying the classification of acute rheumatism among the infectious diseases.

Pathologists are at present engaged in a work which, though as yet barren of results, is full of rich promises for the future. I refer to the study of the diseases of fetal life. There are already on record many cases of endocarditis of a pre-natal origin. An editorial writer in the *New York Medical Record*¹¹ thus hopefully sums up the literature of this new and interesting subject: "That a pregnant woman, suffering from an infectious disease, may give birth, prematurely or at term, to a child suffering from the same disease, has been recognized for a long time; and recent experience demonstrates that the transmission takes place through the placenta. We have also learned that any infectious process is capable of causing endocarditis. It may thus happen that the pregnant woman is attacked with rheumatism, or typhoid fever, or influenza, or pneumonia, or other infection, while her unborn infant, though possibly escaping the primary disease, is the victim of an inflammation of the endocardium of the right side of the heart, the consequences of which persist through life." Place these inferential remarks side by side with the accepted origin of the great majority of endocardial lesions in infants and children, and they will be but a splendid commentary on it. But, even putting this new light aside, let us ask the question: Can it be proven that a pregnant rheumatic woman can give birth to a child with acute rheumatism? I believe she can, and that she does. If we keep

our eyes wide open, if we remember that infants and children can have rheumatism without articular troubles, if we make it our business to examine a suffering infant's heart, we shall find in more than one case unmistakable signs of rheumatic endocarditis. Better and more convincing clinical demonstration of the infectiousness of rheumatic fever than that which could be furnished by the infant and its mother, could not be desired. I am, as you know, a general practitioner, and as yet free from the marks of the footprints of time; still, ever since my attention was accidentally called to this condition, I have gathered material and I present to your intelligent and critical examination three undoubted cases of rheumatism neonatorum, which, to all appearances, originated *in utero* of the respective rheumatic mothers—that is to say, women who suffered from acute articular rheumatism either shortly before or at delivery of their children. I shall add to my three cases the histories of the three others I found recorded, and with them all I will beg to complete my paper:

CASE I.—S—, infant, twelve days old; referred to me by Dr. Rosenblueth in the fall of 1891. The baby was perfectly developed, was carried to full term, and naturally delivered. According to its mother, the child did not stop crying from the moment it was born. On being handled, its cries were most pitiful and loudest. At the second bathing, about twelve hours after delivery, the midwife noticed that the child was a little feverish and seemed to be pained when its lower limbs were touched. On closer inspection she found the joints of both knees and ankles, one wrist and one elbow-joint, slightly red and somewhat enlarged, but intensely tender. The left knee was larger and redder than any other of the joints. Thinking that the trouble was a "cold," she applied to both knee-joints "potato poultices," and to the others flannel and wadding. The child seemed to feel better under this treatment, for it nursed and slept quite well. On the fifth day the infant was decidedly feverish, the knees being considerably inflamed. With this change of symptoms the treatment underwent some modification, for now the midwife applied hot linseed poultices. The latter treatment was kept up for four days; the child got worse, and then Dr. Rosenblueth was called in. When he saw the child the left knee-joint was inflamed and suppuration was threatened. A day or two after I assumed, through the kindness of the doctor, full charge of the case.

My examination revealed the following points: Fair-sized baby, crying, restless, and very tender to the touch. Skin moist and acid in reaction. Here and there on the body small erythematous blushes were noticeable, which disappeared on pressure, and were probably the result of irritation caused by the rough flannel in which the child was wrapped. Bowels costive, mouth aphthous; head and fontanelles normal in shape and size. Bones in the body presented nothing unusual. The temperature was 103.5° F. Pulse was so rapid that I could not count it with certainty. The heart's action was tumultuous and irregular. Respiration, from 50 to 60 to the minute. Excepting the shoulder-joints, all the rest were very tender when quiet, and especially so when moved. The left knee-joint, which was diligently poulticed with lard and linseed, was cedematous and purulent. This joint was incised and a thin pus escaped. A few days later the second knee-joint showed signs of suppuration, while the rest of the joints remained in the former condition. The child failed pretty rapidly and died on the eighth day after I took charge of it. The diagnosis of purulent rheumatic arthritis, complicated by acute endocarditis, was arrived at after mature consideration and exclusion of every other possible disease, as syphilis, tuberculosis, rachitis, erysipelas, or pyæmia. The

parents were absolutely free from all infectious, contagious, or communicable diseases, past or present, save one, and that was rheumatism. The cord was healthy, and no other avenue for entrance of sepsis to cause pyæmia could be discovered. I must add that the diagnosis of purulent rheumatic arthritis was made after the death of the infant, when in my leisure I could go over the entire history of the case with extreme care and minuteness. Mrs. B—, the infant's mother, suffered from an attack of acute rheumatism two weeks before delivery, and, while her acute symptoms were gone at delivery, she still had pain in some of her joints. Mr. B— was a victim of a mild chronic rheumatism and experienced frequent exacerbations. There may be humor and truth in his wife's remark that he had an equal share in the infant's death, for at the time of conception he suffered an exacerbation.

CASE II.—Mrs. M—, twenty-eight years old; family and personal history negative; pregnant for the third time. When she entered her ninth month of gestation, she was attacked by acute articular rheumatism. On the fourteenth day of her sickness I was called in to see her. I found her lying in the recumbent position, unable to make the slightest movement. I was informed by her relatives that she had been on her back ever since she was taken sick. All the joints, small and large, were involved. Both hip-joints were very tender, but there were no visible signs of inflammation. On forcibly turning her on one side, I discovered in the lumbar region an immense bed-sore undergoing sloughing and ulceration in several places. The temperature never ran lower than 104° F. morning and evening. The heart was rapid, but no damaged valve could be discovered. The pericardium and pleura were normal. In spite of large doses of salicylate of sodium, there was no diminution in the severity of symptoms and no reduction in the temperature. The bed-sore, owing to difficulty in turning her, could not be treated as well as was desired, and therefore it made very little progress in the direction of healing. At the end of the twenty-first day of her illness the temperature began to rise, and in less than twenty-four hours it reached 106° F. At this period I could detect for the first time an aortic murmur. Her pregnancy all the while went on undisturbed. The fœtus showed unmistakable signs of life by violent kicks, which added much to the poor woman's agony. On the twenty-fourth day of the disease the temperature went up, at times as high as 107° to 108° F. The condition of the heart became alarming: the aortic insufficiency was very much pronounced, the heart action was frequently irregular and tumultuous, and the patient at times was quite delirious. The urine showed no lesion of the kidneys. At this stage I decided to induce premature labor to save the child and possibly relieve the mother; but before doing so I consulted Prof. Paul F. Mundé. The professor saw her in the evening of the twenty-fifth day of her sickness. He regarded the case as very serious, but detecting feeble uterine contractions and finding the os somewhat dilated, advised against the induction of labor, predicting that she might be delivered in twelve hours. She was delivered the next evening of a boy weighing about nine pounds, well developed in every respect. Shortly after delivery the symptoms abated, but not for any great length of time. Three days after delivery the temperature rose again; the heart action was very rapid and very feeble. She was removed in this condition to Bellevue Hospital, where she died with a temperature of 109° F. The autopsy showed, in addition to other and minor things, an acute endocarditis involving the aortic and mitral valves; very little fluid in the serous cavities; serum of some of the joints was purulent; the uterus was perfectly normal.

In bathing the infant two hours after it was born, I noticed that it was not quite as supple as other infants are. I also noticed that its legs were somewhat drawn up, and when they were straightened it protested in unmistakable tones. Examining carefully, I discovered tender, somewhat stiff, but not swollen knee-joints. It seemed that the calves of the legs, as well as the muscles of the arms, were sensitive to the touch. Examining the heart, I found a distinct, soft, blowing, mitral systolic murmur. The temperature was 101.5° F. The highest point the temperature reached was on the fifth day, when it went up to 103.5° F. In that condition the heart was so irregular and the pulse so small and rapid that it was superfluous to count it. On the sixth day the temperature went down again to 101° F., and the heart action improved. There was considerable difficulty in keeping the infant in a good condition. The food was artificial, the feeder was careless, and all the surroundings were pretty bad. In spite of all these disadvantages, the child got along fairly well, and under the careful and judicious use of salicylate of sodium (two to six grains per day) the little patient completely recovered within six weeks of his birth. The joints were supple and free from pain, and the heart ceased to show any abnormal sign; in other words, the baby was cured. It kept up in excellent health until the age of six months, when it developed acute gastro-enteritis and died.

CASE III.—Mrs. K——, primipara, aged twenty-five. Rheumatism in the family; mother and father had it. In the beginning of the seventh month of her pregnancy she was attacked with subacute articular rheumatism; different joints became stiff and painful from time to time; her temperature was never higher than 100° to 100.5° F. Her heart was normal. Under the use of salicylate of sodium (sixty grains per day), she recovered in ten days. She felt well up to the middle of the ninth month of gestation, when she was seized with quite a violent attack of chorea; the choreic movements were bilateral. Within twenty-four hours of the attack labor began, and terminated in forceps delivery under chloroform anæsthesia. It may be interesting to note that the chorea stopped the minute the placenta was expelled. The infant, which was a female, was apparently healthy, nursed, and slept well. It could twist and turn its limbs whichever way it pleased with safety. No tenderness was ever elicited. But one thing was noticed, viz., when it cried the face and finger tips became abnormally blue. This condition suggested endocardial trouble, and accordingly I examined the heart, with the result of finding an aortic insufficiency. No elaborate explanation was necessary to account for the origin and presence of endocarditis. The result of treatment in this case with salicylates is not satisfactory.

The following cases are those which were referred to in the beginning of the paper, and in which the diagnosis of acute rheumatism was made:

CASE IV. (Strümpell's case).—He refers to it in this wise: "We may be permitted to mention a single interesting case which we met in Leipsic, where a child who died when only a few days old, and whose mother at the time of its birth was suffering from a severe attack of acute articular rheumatism, was found to have multiple purulent arthritis."

CASE V. (Pocock).—The reporter calls this "A Case of Acute Rheumatism, Occurring in a Newly Born Infant, treated with Salicylate of Sodium." On May 25th the doctor was called to see a Mrs. A——, whom he found suffering from acute rheumatism, with a temperature of 106.5° F. She "was pregnant within a month of her confinement." Thirty-six hours after she was seen labor set in. Delivery was accomplished in four hours. "The child was a very cross one and

cried very much, which the nurse and mother attributed to flatulence and want of food. However, dill-water, aniseed, etc., having no effect, I was sent for about twelve hours after birth. The child was decidedly feverish, with a moist skin, and an acid smell about him. I noticed that he appeared to cry more loudly whenever his right arm was moved. On removing the dress his right shoulder and elbow joints were found reddened; and on moving either joint he cried lustily. On using the thermometer I found the temperature 103.5° F., and his pulse 170, as accurately as I could count it. Under the circumstances, it occurred to me that he might have the rheumatic poison in his blood, and that, in fact, I had to do with a case of congenital rheumatic fever." The diagnosis was corroborated by the influence the salicylate had on the patient, for the child was completely cured.

CASE VI. (Schäffer).—The reporter of this case calls it a "Case of Acute Articular Rheumatism of the Mother and her Newly Born Child." A woman, aged thirty-five years, in her fifth pregnancy, suffered from an attack of acute rheumatism a few days before delivery. At full term a thoroughly healthy child was born. The child was rapidly delivered. "The midwife noticed on the third day a slight swelling on the back of both feet; the temperature was 38.7° C.; appetite poor. On the following day the swelling of the feet increased. The phalangeal joints of the first finger of the left hand began to show signs of redness and swelling. A doughy swelling was found in the neighborhood of the left hip-joint. There was no recognizable change in the heart. A day later the redness spread over both hands and all the finger-joints and both hip-joints. Temperature, 39.5° C. The child lies now more motionless, tightly-drawn hips; the arms, when slightly moved, make the child cry pitifully."

The writer of this report was sanguine in his convictions that this was a case of acute articular rheumatism in the newly born, acquired in the intra-uterine life.

Now, gentlemen, if I have succeeded in convincing you of the existence of the disease which I ventured to christen *rheumatismus neonatorum*, my work will be sufficiently recompensed; but if I also succeeded in rousing your interest in this unrecognized disease, so that in time you may help, through your intelligent observations, to increase its literature, I shall consider myself doubly and trebly rewarded.

156 CLINTON STREET, NEW YORK.

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Dieting in Dyspepsia.—Dr. Balfour, in his work on "The Senile Heart," gives the following rules for dieting which are applicable in many cases of dyspepsia: (1) There must never be less than five hours between each meal. (2) No solid food is ever to be taken between meals. (3) All those with weak hearts should have their principal meal in the middle of the day. (4) All those with weak hearts should have their meals as dry as possible.

SENILE ENDOMETRITIS AND VAGINITIS.¹

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THE assumption that women are necessarily exempt from uterine disease after they have passed the menopause is an error. It is a mistake also to think that they are peculiarly exempt from inflammation of the genital tract, though it may be true that they are not so liable to acute inflammatory conditions as younger women, or rather when inflammation occurs at this age it is not apt to be so active. This belief concerning women past the climacteric is prevalent with the laity and is strengthened by the attitude of the profession at large, who are prone to regard the question with indifference. This may be due to the belief that there is little to be done for chronic inflammation of the uterus if it exists at this time and that it is incurable, hence it had better be left undisturbed. This is an error which is the result of past ineffective methods in dealing with inflammation of the uterine mucosa in general and of the attempt perhaps to apply here the same method of treatment that is effective in other forms of endometritis depending upon quite a different cause and presenting quite a different pathological condition.

If the general practitioner will come to realize that women past the menopause may be liable to a chronic inflammation² of the uterine mucosa and that it is amenable to treatment, he will begin to look for signs and symptoms denoting it and he will find that it is by no means infrequent. He must be prepared for opposition on the part of the patient, who at this age is always reluctant to admit the possibility of such a condition and who would endure anything rather than submit to treatment for it. He will find it difficult to convince her that, having enjoyed, as she believes, an immunity from womb trouble previously, she can possibly have any such disease after the menopause. Yet, strange as it may appear, senile endometritis is more frequently found in women who have not received treatment for uterine disease earlier in life. This may be explained on the assumption that catarrhal inflammations, if they existed previously, were neglected because of the reluctance of most women to submit to treatment unless forced to do so on account of the severity of the symptoms. Still this does not by any means account for all of the cases of senile endometritis, for it has been discovered not infrequently in women who from the closest scrutiny of their histories gave no evidence of any uterine disease whatever during their menstrual life, and I have seen it in women who had never married and never had children, and who had remained virgins. Hence I believe that, while senile endometritis may result from neglected endometritis occurring during menstrual life, the change in the uterus incident to the menopause is directly responsible for a great number of cases.

There can be no doubt that an impaired condition of the general system may be a strong factor in the production of senile endometritis which should not be overlooked. Yet by far its most active cause is the atrophic changes which the uterus undergoes at this time of life, depending upon a diminished activity of the pelvic circulation resulting in impaired nutrition of the organ. Not only does this alter the character of the glandular structure and of the secretions, but the epithelium of the mucous membrane undergoes a radical change and in some instances disappears com-

pletely. A general shrinkage and contraction occur and the canal of the cervix becomes narrower in calibre and eventually becomes obstructed, sometimes even almost obliterated. This condition is hastened by destruction of the mucous membrane in places, due to the acrid character of the discharge, resulting in the formation of bands of cicatricial tissue. These changes are not limited to the mucous membrane of the canal of the cervix, but involve the whole endometrium and are also to be observed in the vagina, where not infrequently, if the disease has been neglected, the vaginal vault is so narrowed from contraction of cicatricial bands that it is difficult to reach the cervix in some cases. I have been able to show at my clinic repeatedly cases of this kind and also to demonstrate the cicatricial contraction of the cervical canal.

The appearance of the mucous membrane of the vagina is characteristic in these cases. The rugæ are effaced and the surface is pale and glistening in places, a more nearly normal membrane intervening, upon which may be observed minute ecchymosed spots or apparently elevated intensely reddened papillæ, which consist of exposed capillary vessels, the epithelium being destroyed, they show through the delicate structure covering them. In some cases the whole surface of the vagina is intensely injected and inflamed, and is covered with an acrid muco-purulent discharge, derived in great part from the uterus. An active vulvitis is sometimes produced by contact of this discharge.

The uterus is the seat of change beyond that of the mucosa. Its walls are in some cases atrophied and the organ is much reduced in size. In other cases the walls are softened and the organ is enlarged and relaxed, which may be due to constant distention from the secretion retained within the cavity.

The character of the discharge is muco-purulent or sero-purulent, depending upon the duration of the disease and the extent of the changes that have occurred. It is usually more profuse and acrid as the disease advances and if it has been neglected. It is profuse at times, then again almost absent, because it is often retained from obstruction of the canal until over-distention causes its expulsion. The discharge is sometimes, though rarely, mixed with blood.

The symptoms which this condition gives rise to are by no means constant or invariable. Sometimes the patient will complain of a burning on the top of the head or a burning pain in the lumbar region or over the sacrum, but seldom is pelvic pain a prominent symptom. Pain is more often complained of when a posterior displacement of the uterus complicates the case. I have known these patients to suffer positive discomfort while riding in a carriage even over a smooth road.

Rectal tenesmus, due to a chronic proctitis, is sometimes complained of. Vesical tenesmus is more frequent, and in some instances there is a chronic cystitis with urethritis and a discharge from the urethra, muco-purulent in character.

The digestion is often impaired and with it there is marked evidence of malnutrition, giving a worn expression and the appearance of premature old age (Skene). This is perhaps due as much to chronic sepsis as to reflex disturbances caused by the local irritation. The appearance is so characteristic that patients suffering with senile endometritis may often be told by their general appearance, the facial expression, and the peculiar bronzed appearance of the skin. The general circulation is poor and these patients suffer with cold extremities, a dry irritable condition of the skin, great nervousness, and not infrequently insomnia.

If a patient past the menopause complains of disordered digestion, is thin and poorly nourished, the

¹ Read before the New York Medico-Surgical Society, October 5, 1896.

² Skene is inclined to regard this condition as a senile degeneration in the majority of cases rather than as a chronic inflammation, with which view the author concurs.

skin is dry and irritable, and the general circulation is poor, a diagnosis of senile endometritis is safe, even if she denies the existence of any discharge or pelvic symptoms, and I always insist upon an examination, especially if her symptoms have resisted treatment for their relief.

Treatment.—To apply here the same method of treatment that is employed for endometritis in younger women will meet with signal failure. The attempt to dilate the obstructed canal with the steel dilator or graduated bougies in the usual manner will in many cases result in rupture. When the disease has progressed to the stage in which cicatricial bands have formed, rupture is certain to occur if forcible dilatation is attempted. These bands will not yield, consequently the intervening soft, friable tissue gives way. The use of the curette in most cases is unwise and unnecessary. The mucous membrane has already been destroyed and nothing remains to be removed. Likewise the application of caustics and irritants to the endometrium is most injudicious. Enough injury has already been done by the acrid secretion and only harm can result from such harsh measures.

Dilatation of the canal to promote free drainage of retained secretions is most important, in fact absolutely imperative, for persistent drainage with absolute asepsis of the endometrium is the only manner of effecting a cure. How drainage is best accomplished and how maintained, is the main question at issue.

In the early stage, when only a year or two have elapsed since the menopause, and particularly if there is retroflexion of the uterus, dilatation to rectify the malposition and careful curettage, followed by appropriate after-treatment, are unquestionably the wisest measures to adopt, but later these are not only useless but unwise. At this stage dilatation if carefully done will produce no injury, and the curette may be used to advantage, but after-treatment to maintain a patulous condition of the canal and an aseptic condition of the cavity by repeated irrigation must be persistently carried out.

In the beginning the patient's confidence must be gained, and she must be made to appreciate the fact that her disease is essentially chronic and dependent upon the natural changes that the uterus must undergo at this period; that these changes are progressive and continuous up to a certain point, and that consequently a cure cannot be accomplished quickly. She must therefore be made to realize the importance of keeping herself under observation and under treatment at gradually increasing intervals until these changes are completed. This done, we are prepared to undertake the treatment of the case and can promise not only speedy relief of her symptoms but a positive cure, if it has not been too long neglected and malignant degeneration has not occurred.

In those cases in which the disease has progressed and forcible dilatation is not permissible, some other means must be adopted for freeing the canal and maintaining drainage. For a number of years I have employed with entire satisfaction in these cases the negative pole of the galvanic current through conical electrodes of gradually increasing size. This will inflict no injury if care is taken to avoid cauterization or destruction of tissue by using a moderate strength of current. When the necessary degree of dilatation is accomplished in this manner, a small clinical double-current irrigator is inserted, and the cavity is thoroughly irrigated with a weak solution of lysol (one-half to one per cent.). The irrigator has an attachment which permits it to be utilized as an electrode, and it is connected with the negative pole of the battery and the current (ten to fifteen milliamperes) turned on while the irrigation is going on, from a half to one pint of the solution being used each time. Thus,

through the medium of the water, the stimulating effect of the agent is obtained upon the whole endometrium, and the cavity can be most effectually cleansed. The reaction of the current seems to enhance the value of the lysol solution in removing the sometimes tenacious secretion which adheres to the surface of the endometrium and is not otherwise easily removed. It seems likewise to neutralize the virulence of the discharge, which has an acid reaction.

After one or two applications the canal will usually remain sufficiently patulous to permit the introduction of the small irrigator without using the dilating electrodes previously, if too long an interval has not intervened. The irrigation should be repeated every two or three days during the first week or two, and as the condition improves the interval should be lengthened. Thus, during the second month once a week will suffice in some cases and during the third month once in two weeks. Then the patient should be required to return for treatment once a month for a few months. Some cases will improve more rapidly and others will require even a longer time before a positive cure is effected.

The surface of the vagina must be cleansed also, either by means of the irrigator with the lysol solution or it is wiped out with a pledget of absorbent cotton wet with the same solution and held in the grasp of a dressing-forceps. The vaginal surface and vulva as well are then dusted freely with some bland non-irritating antiseptic powder. For this purpose I have employed with much satisfaction markasol, a new preparation, said to be borophenate of bismuth, which answers the purpose admirably in counteracting the virulence of the discharge and soothing the inflamed membrane.

The patient is directed also to use the same powder in a vaginal douche once or twice a day, dissolving a teaspoonful in a quart of warm water. If the vulva is inflamed or excoriated, the surface after it has been thoroughly washed with the solution and dried is kept dusted freely with this powder. The labia are kept separated with a layer of absorbent cotton, which is removed when it becomes moist.

If the uterus is retroflexed it must be rectified, and, when possible, a vaginal pessary inserted. In those cases particularly not long past the menopause, the displacement can best be overcome by first carefully dilating and straightening the canal in the manner I have described elsewhere for overcoming retrodeviations. In some cases, however, the shrinkage and contraction of the vaginal wall will make impossible the employment of a pessary to any advantage. In these cases ventral suspension of the uterus may be resorted to. I cannot think that a hysterectomy would be justifiable for this condition, since I have never yet met a case that did not yield to the plan of treatment here outlined.

When the bladder is involved, it must receive attention also. It should be washed out twice or three times a week in the beginning with a saturated solution of boric acid, or, what I very much prefer, markasol, half a teaspoonful to a quart of warm water, because it is more soothing and the relief which it affords is more permanent. For this purpose the double-current irrigator or a glass catheter may be employed. It will usually be found that the urethral mucous membrane has undergone a decided change and has lost its epithelium in places, as shown by the intensely injected folds which project at the meatus, resembling very much urethral caruncle. At the entrance to the bladder the membrane is hypertrophied and very hyperæsthetic, and complete evacuation is prevented. This retained urine becomes decomposed and provokes irritation. For this condition I have found that dilatation of the urethral canal with the

conical dilating-electrodes connected with the negative pole yields the best result. Only a moderate strength of current (five milliamperes) should be used for two or three minutes each time the bladder is washed out. The vesical tenesmus and inflammation are promptly relieved by this method of treatment, and the patient will feel well repaid for the inconvenience it causes at the time.

In some instances the treatment of these cases of senile endometritis and its complications is tedious and taxes the patience of both physician and patient. But if in the beginning she is made to understand the situation clearly and can be made to appreciate the fact that improvement and relief of symptoms do not mean a cure, she can be controlled and kept under observation until a positive cure is effected, and she will be amply repaid by the relief it affords. I know of no gynecological disorder the treatment of which I undertake with more certainty of success.

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CHRONIC ENDOMETRITIS.¹

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I OUGHT to apologize for bringing before you a subject apparently so trite and so often discussed. It is, however, my firm belief that there are no, or at least not many, pathological conditions which we meet so frequently, explain, and consequently treat so differently, as chronic endometritis. It is this circumstance which induces me to read this short paper, which is not meant to solve scientific questions, but simply to deal with clinical facts.

It has been, and with some observers is still, customary to distinguish between cervical and corporeal endometritis. Although there is normally a vast difference in the structure of the cervical and corporeal epithelial linings, there is very little when they become chronically inflamed; in other words, the process and results of chronic inflammation are the same in both parts of the uterus. Furthermore, it is extremely difficult in most cases to decide to which part the disease is limited, if such a thing as limitation in a chronic state of inflammation actually exists. For these reasons I shall embrace the whole subject as endometritis, instead of differentiating endometritis corporis and endocervicitis.

For practical and clinical purposes, I still adhere to the distinction of simple or catarrhal and infectious or purulent endometritis; although I quite agree with a lately advanced opinion, according to which endometritis is always caused by bacteria.

The etiology of catarrhal endometritis may be varied in its factors, but it must be distinctly understood that there can be no actual endometritis unless pathogenic bacteria have entered tissues whose resistance to their invasion has been lowered. Normally, we find the gates open for the entrance of bacteria to the endometrium; but, unless the vitality of this mucous membrane has been impaired by disturbances of circulation, their presence is harmless. These circulatory disturbances consist either in active hyperæmia, as, for instance, in a fibromatous uterus; or in passive congestion, as in displacements, stenosis of the cervical canal, habitual constipation, and in numerous vascular and neurotic conditions. The results of these vascular disturbances are œdema and hypertrophy, both of which are increased in proportion to the permanence of their existence, and furnish an excellent culture medium for the producers of the inflammatory process.

¹ Read before the Metropolitan Medical Society, May 26, 1896.

In instances of purulent endometritis, however, we are not obliged to seek such a complicated etiology; for we can usually trace the condition directly to a previous acute infectious process. This may have been general, as an accompaniment of any acute infectious disease (scarlatina, cholera, diphtheria, etc.); or it may have been local. The local infection may have been gonorrhœic or septic; the latter subsequent to abortion, puerperium, or instrumental manipulation.

As a matter of interest only, I will add that lately, in some cases of endometritis, protozoa (*amœbæ*) have been found, and were supposed to be the cause of the disease.

Pathologically, we can distinguish two kinds of endometritis, one of which affects mainly the glandular structure of the endometrium, the other its interstitial tissue. In the glandular form of endometritis we have, first, an increase in the epithelial cells, a growth and a dilatation of the glands—an hypertrophy. If the process continues, an actual hyperplasia of the glandular elements follows, very often at the expense of the interstitial tissue. This hyperplasia may occupy only a part of the endometrium and form polypoid growths, or it may involve the entire cavity, the so-called fungous endometritis. If the interstitial connective tissue is the main seat of the morbid process, there is primarily a round-cell infiltration of a greater or less degree, depending upon the participation of the cellular elements alone or the intercellular substance as well. We always find connective-tissue proliferation in inflammatory processes of long duration, and this may lead to an increase in the size of the uterus as well as to a rarefaction of the glandular structure of the endometrium. I may add here that in cases of so-called senile endometritis, which appear during and after the menopause, in which there is often a total disappearance of the glandular apparatus, it is more than likely that the process does not rest on an inflammatory basis, but more probably upon a purely physiological atrophy or upon a general disease of the blood-vessels.

We find, of course, that the two distinct forms of endometritis may be blended, or that a mixed form may appear, in which all the histological elements of the uterus are involved, although not necessarily in equal measure. In these cases we have the endometritis combined with metritis, a condition which to my mind is more often the rule than the exception.

Although, commonly, a chronic endometritis seems to be free from serious results, it may and frequently does evoke symptoms, after a duration of some time, which would point to a much more serious disease than actually exists.

As in all chronic conditions, we find the symptoms of chronic endometritis to be local and general. Among the local symptoms one of the most prominent is an increased secretion, muco-purulent or purulent, often with a secondary effect, pruritus of the vulva. Menorrhagia, metrorrhagia, and dysmenorrhœa, all in greatly varying degrees of intensity, are the symptoms which most often cause the patient to seek medical advice. Sterility or frequent miscarriages are found to be due to chronic endometritis. Bimanual examination often discloses an enlarged, flabby uterus; the introduction of the sound is more painful than usual, and is easily followed by slight bleeding.

Erosions of the vaginal portion and hypertrophy of the cervix are symptoms which are almost pathognomonic of a very long existence of the disease. Among the group of local symptoms, we must include the expulsion of parts of the endometrium or of the endometrium in its entirety, as it occurs periodically in that peculiar form of endometritis which we call membranous dysmenorrhœa. In this variety, by the way, an interstitial inflammatory process unquestionably exists,

as described in other forms, with this difference, that the process is influenced by the menstrual wave and is localized between the endometrium and the submucous tissue. An intense exudation into both of these layers is followed by a necrosis and shedding of the more superficial one.

The general symptoms of a chronic endometritis vary widely in individual instances, and it must be noted that they are frequently in their severity entirely out of proportion to the local conditions. Some of these manifestations are the logical and natural outcome of the disease present; others depend on nervous origin—for a sensitive woman, once told that her sexual apparatus or any part of it is not in normal state, is apt, as is well known, to imagine pains and sensations which are far from real. The gastro-intestinal tract furnishes the most pronounced array of symptoms in this group. The most frequent manifestations are indigestion, nausea, vomiting, and flatulence, which may produce or be accompanied by diminished peristalsis. Headaches, more or less persistent, emaciation, and irritability of temper, or physical depression, not infrequently appear in connection with endometritis. These latter symptoms it is permissible to refer to reflex influences, since the intimate connection of the sexual organs and the central nervous system is so well known as merely to require mention. The fact that the gastro-intestinal symptoms above mentioned are, in a more intense degree, typical symptoms of acute septic processes within the pelvis, makes the supposition more than probable that in chronic endometritis these symptoms depend also, to some extent, upon a continuous absorption of toxic elements into the blood.

The treatment of chronic endometritis at the present day retains some relics of a bygone therapeutic age; but the indications and contraindications for every form of treatment must be clearly set forth. I can scarcely emphasize too strongly the *noli tangere* which should apply to cases based on constitutional conditions occurring in virgins and young married women. Believe me, the harm resulting from local treatment in these particular instances far outweighs the benefits derived. The mechanical irritation at the vulva, the pain necessarily produced by treatment, and, above all, the deep psychical effect of such measures upon the patient, are more pronounced in their bad results than the good we might possibly be able to do. Should there be symptoms, however, which clearly indicate interference—as, for instance, prolonged menorrhagia or obstinate metrorrhagia, which do not yield to internal medication—thorough curettage under anesthesia, with the correction of existing retrodisplacements, is the only rational treatment. In other cases of chronic endometritis, the treatment that has been advocated is so varying and so different in its technique, that I am compelled to restrict myself to a few of the most important.

The methodical irrigation of the uterine cavity with antiseptic solutions was believed, a few years ago, to be of great value in the treatment of this disease. But experience has shown that the throwing of bactericidal agents into the uterus produced no beneficial effect upon tissue already diseased. Although in the acute stage of endometritis dilatation and irrigation are followed by excellent results, this method has no hold in chronic cases. Another form of treatment was received with great favor at the time of its promulgation, but is at present considered even inferior to the first. This consists in the dilatation and packing of the cavity with iodoform gauze, to procure drainage. It was found, however, that only serous fluids escaped through the capillary action of the gauze, but solid substances, such as clots of fibrin and necrotic tissue, were retained, and not infre-

quently caused alarming complications. Still, in certain selected cases of endometritis combined with metritis, the tamponing of the uterus may yield beneficial sequelæ, since the gauze, acting as a foreign body, may cause contraction of the organ, an effect very much to be desired.

The electrolytic or galvanic treatment of chronic endometritis was heralded as a panacea for this ailment. It was alleged that finally the treatment for chronic endometritis had been found. But in its results it proved no more satisfactory than methods previously tried and discarded. In cases in which metrorrhagia is stubborn and the process is limited to the superficial glandular tissue, some good effects may occasionally be seen from galvanic currents of from one hundred and fifty to two hundred milliamperes strength. But, in general, it may be safely said that the electric treatment of chronic endometritis may be omitted from our therapeutic resources without loss.

At the present day the most effective treatment of chronic endometritis consists of two elements—rational intra-uterine cauterization with chemical agents, and curettage; and, in some cases, the combination of both measures. The most important agents used are the nitrate of silver, the compound tincture of iodine, the strong mineral acids, and the chloride of zinc. The purpose of this cauterization is to destroy the diseased layers of the endometrium and arouse reactionary inflammation, followed by necrosis and final expulsion of these tissues. The remaining tissues then take on renewed growth, and normal endometrium is usually the ultimate result, or at least the expected result. The destruction of tissue varies, of course, in intensity under the influence of different reagents.

In the use of these therapeutic measures, one must always remember the length of time required for each of the caustics to act, since it is impractical as well as useless to repeat the cauterization until the effect of the previous one has disappeared.

After an application of the tincture of iodine, for instance, it takes from three to four days for the period of expulsion to be reached; whereas, the application of a stronger solution of chloride of zinc—from twenty-five to fifty per cent.—requires two to three weeks to effect a similar change in the endometrium; but the diseased layers are then affected to a much higher degree.

My own experience is that in those cases of chronic endometritis in which there is an increased secretion, be it muco-purulent or purulent, the chloride of zinc is an invaluable therapeutic agent. I am accustomed to use a twenty-five-per-cent. solution applied on an ordinary applicator twice during the menstrual interval—that is, from twelve to fourteen days apart. After a very few applications I have found in the majority of cases a radical change for the better. I believe that the fear, so often expressed, of causing a stenosis of the uterine canal by the use of this agent, is overrated, for I have never seen any such result after its use in the strength and at the intervals mentioned. In no one case do I use this method more than from four to six times; for, if decided improvement is not then manifested, another plan of treatment, usually curettage followed by cauterization, is indicated. After quite an extensive experience with the use of a number of chemical agents in varying strength, I have reached the conclusion that by the use of chloride of zinc in a stronger solution (twenty-five per cent.) I require a smaller number of applications and accomplish better results more quickly.

In cases of chronic endometritis in which hemorrhage is the leading symptom, or in which there are extensive erosions, an hypertrophied cervix, or deep lacerations, it is practically useless to begin a course

of local treatment before curetting the uterus thoroughly and performing the necessary plastic operations. After these operative measures have been carried out, and there are still symptoms which show that a radical cure has not yet been effected, this latter will be attained by a very few applications of the chloride of zinc. It is, I think, a mistake to make an intra-uterine application immediately after curettage, since the endometrium is filled with blood, partly fluid, partly clotted, and the caustic never touches the surface it is supposed to affect.

In conclusion, let me say that since following the principles that I have briefly attempted to elucidate here, I have had the satisfaction of attaining good results, even in that class of cases which formerly resisted all possible measures, and, in fact, seemed incurable.

45 EAST SIXTY-FOURTH STREET.

ERUPTIONS OF THE SKIN PRODUCED BY THE LOCAL APPLICATION OF ICHTHYOL.

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THOUGH it is acknowledged that many drugs when applied to the integument are capable of producing eruptions in those peculiarly susceptible to their effects, the fact is frequently overlooked or ignored, much to the discredit of the diagnostician and the discomfort of the patient.

We not infrequently find that the very remedies used either locally or internally, for the relief of cutaneous diseases, are really the chief factors in the causation and aggravation of these maladies.

Ichthyol, called by Unna sodium sulpho-ichthyolate, and first recommended to the profession by R. Schrotter, is the distillate of a deposit of petrified fish and marine fossils found in Tyrol and Seefeld.

It has been used extensively as a substitute for sulphur to lessen hyperæmia, to cause desquamation of the epidermis and increased action of the sebaceous glands; though highly recommended by some dermatologists in such diseases as sycosis, acne, psoriasis, and the dry forms of eczema, it has been vigorously condemned by others. Piffard, who was the first to employ it in this country, said he used it as long as he could afford to, but he at last had to stop it or lose his patients. G. T. Jackson says that it is an unreliable preparation and not so good as many old and well-approved remedies; he found that it aggravated some of the diseases in which he applied it locally. Unna, though enthusiastic in regard to its beneficial effects in certain diseases, declares that when it is applied to raw surfaces it will produce catarrhal inflammation with œdema and pain.

I can find only one reference to any unpleasant result from its local application to the sound skin or in cutaneous diseases in which the corium is not exposed.

Dr. Morrow in his treatise on drug eruptions does not refer to it, nor have I seen any reference to it in the magazines or text-books, with the exception of Hyde's "Diseases of the Skin," 1893. He says, quoting Sinclair: "The unpleasant results have been reported as following its application in only a single instance. A four-months-old infant sank in a state of stupor two hours after its head and limbs were smeared with a salve composed of one part of ichthyol to five of vaseline."

Considering the infrequency of any deleterious re-

sults from its local use, the report of the following cases may be of especial interest:

Mrs. C—, referred to me by Dr. Cuthbert, reported that she had a scaly eruption of several weeks' duration on the back of the hands and wrists. Within forty-eight hours it had grown much worse in appearance and had caused much itching. On examination the hand and wrist were found to be swollen and extremely red. I ordered a salve containing fifteen per cent. of ichthyol in lanolin and water to be constantly applied. The next day the parts were more swollen and exuded serum from many ruptured vesicles. The sensation of itching had given place to burning and pain. The rash had extended over the whole hand and most of the forearm. I immediately stopped the ichthyol salve, and substituted lotions and dusting powders. Within twenty-four hours the parts were looking even more angry and inflamed. An acute vesicular eruption had appeared on the face. Here the exudation was so excessive that the features were almost obliterated; the nose and lips were enormously swollen, and the eyelids were completely closed. Dr. Cuthbert then informed me that he too had advised a mild ichthyol salve two days before I had seen the patient. A few hours later the symptoms had grown much worse. Though I was convinced that the ichthyol had caused the trouble, after the rash was looking somewhat better the same salve (with the full knowledge of the patient) was applied to the unaffected hand and wrist, when the same phenomena occurred within three weeks. The first eruption disappeared, however, and even "the rough itchy condition" of which she first complained was entirely relieved. In one year there has been no return of the trouble. She declared that this was the first time she ever had a rash upon the skin.

Mrs. S—, referred to me by Dr. W. W. Johnston. A week previously the physician who was then in attendance had applied an ichthyol ointment to her knee, which she had severely sprained in falling from a bicycle. She had rubbed the salve above and below the knee and over the calf of the leg. When I first saw the patient the skin was intensely inflamed from the middle of the thigh to the ankle, exuding a great quantity of serum that caused her stocking to adhere to the leg. The face was very much swollen; the eyelids were almost closed; there were a few discrete vesicles over the right thigh and leg. The patient was in a highly nervous hysterical condition, crying from the intense pruritus that gave her no rest night or day. She stated that she had never had an eruption of any kind on her body previously to this time, that her skin had been unusually free from all blemish. The eruption had appeared only a few hours after applying the salve, at first simply as a hyperæmia, followed the same night by a vesicular eruption and most intense itching. I applied cooling lotions and dusting powders. There was immediate improvement in the appearance of the eruption, which continued until, two weeks after the first appearance of the rash, there was hardly a sign of it left, but the pruritus still persisted. Carbolic acid and oil of peppermint lotion sprayed on the parts, followed by dusting powder of talc, gave relief, though she still complains of some pruritus. As there are no eruption and no scratch marks, this subjective sensation can be accounted for by the hysterical and nervous condition of the patient, brought about by worry and loss of sleep.

In both of these cases the eruption was probably caused by direct contact of the ichthyol, rather than by absorption through the skin, as the epidermis was unbroken (especially in the case of Mrs. S—) when it was applied to the perfectly sound integument. Though it is usual in all medicinal rashes for the

local manifestations to improve on the withdrawal of the drug, in some cases they continue for quite a little while. A disease of the skin may continue long after the cause has ceased to act, whether the etiological factor is local or constitutional.

818 SEVENTEENTH STREET.

Progress of Medical Science.

Congenital Absence of Kidney.—Ballowitz has gathered all available recorded cases of congenital absence of one kidney. They number two hundred and thirteen, to the exclusion of cases of fused kidney and of partial atrophy of one kidney. Relative to sex, this imperfection occurs nearly twice as often in males as in females, a circumstance attributable in a measure doubtless to the greater frequency of necropsies on the former; relative to age, there were twenty-three in fetuses, most of which had some other malformation, especially imperforate anus; the others were about evenly distributed up to seventy years of age. All cases considered, this deficiency is more often on the left than on the right side, and though the left kidney is more generally lacking in males than the right, in females the defect is equally common to both sides. In form and relation, the solitary kidney was almost invariably normal but much enlarged, apparently owing to hyperplasia rather than to hypertrophy. In many cases there were attendant deformities of the procreative organs, most constant on the side of the renal defect, the conducting channels being modified more than the glandular portions.—*Yale Medical Journal*.

Preventive Treatment of Inflamed Breasts.—Dr. Brindeau points out that galactophoritis plays a great part in the causation of mammary abscess. The inflamed breast may have been infected through the blood or through the lymphatics, but most frequently the poison reaches the gland through its excretory ducts. Mammary abscess is the homologue of the abscesses in surgical kidney infected through the ureter. In galactophoritis the staphylococcus albus and aureus are found, but both species exist in healthy mammary ducts. Infection extends through excoriations of the nipple, through the hand of patient, nurse, or doctor, fouled with the lochia, or, most frequently, directly from the child, as its mouth is full of microbes, and coryza or more severe infantile disorders render its saliva septic. There is also, not unfrequently, inflammation of the child's fingers at the roots of its nails. About the second week the symptoms appear—the well-known earlier signs of inflamed breast. On pressure of the nipple milk exudes from some of the ducts, but pus from others. The pus is, of course, yellower and more tenacious than the milk, but suspected exudations of this kind should be tested by absorbent wool, which takes up the largest drop of milk immediately, but cannot absorb pus. That fluid, when expressed from the duct, lies on the surface of the wool in the form of a greenish-yellow drop. Sometimes a drachm or more can be expressed. The process should be repeated twice or thrice daily, and the nipple carefully washed afterward with an antiseptic solution. The child must not be fed from the inflamed nipple. If the expression of the pus be neglected abscess will follow. Suckling from an inflamed nipple does great harm to the infant. Gastroenteritis, pemphigus, and conjunctivitis are undoubtedly caused by the ingestion of pus with milk. Purulent conjunctivitis in infants is a direct cause of infection of the mother's mammary ducts.—*British Medical Journal*.

Diseases Simulating Tuberculous Coxitis.—In referring to a case under treatment in which hip disease had been diagnosed, but in which it was entirely absent, Duplay states (*New York Medical Times*) that such mistakes are by no means uncommon, and divides conditions simulating hip disease, but with the joint quite unaffected, into two groups—viz., those in which there is an appreciable lesion more or less in the neighborhood of the articulation, and those in which no local lesion exists at all. As to the first group, he mentions inflammatory states of the pelvic bones or femur, suppuration in the bursæ beneath the glutei, and neoplasms of pelvic or femoral origin. Such cases are recognized as not originating in the hip-joint by the absence of one or other typical symptoms of the disease. The main point of the lecture, however, consists in the discussion of the diagnosis of hysterical hip when there is no local lesion. It occurs naturally most in women; it often starts suddenly from some insignificant cause, and may even arise from imitation. Various deformities arise from malposition of the limb, and any of the characteristic postures may be met with, although flexion with abduction and inward rotation is perhaps the most common. The great resistance to movement is also a marked feature, since in tuberculous disease, with time and patience, one can almost always obtain a certain amount of mobility, while in the hysterical form nothing is gained thereby. The gait, too, differs in the two cases: a neurotic patient will allow herself to be moved out of bed, and can get about without pain by hopping, though still retaining the deformity; a tuberculous subject will not be able to do this. Hysterical contraction rarely leads to atrophy of the muscles, which is so marked a feature of the true joint affection. Finally, it may be necessary to anesthetize the patient in order to demonstrate the integrity of the articulation.

Disseminated Spinal Sclerosis.—Dr. Oppenheim lays stress upon the importance of various intoxications as a cause of this disease. In taking the history of these cases the previous occupations of the patients should not be overlooked. In twenty-eight of thirty-six cases treated by the author during the last few years, the history was carefully inquired into, and in eleven out of the twenty-eight the patients had long been exposed to the influence of such poisons as lead, copper, zinc, etc. Intoxications rank in the author's opinion among the most important causes of disseminated sclerosis. On the other hand, other causes must not be overlooked. Not a few cases have been known to follow upon the infective diseases, such as influenza, malaria, etc. Trauma also plays some part in causing the disease. It must not be forgotten that occasionally the first beginnings of the disease may date from childhood, and that, therefore, congenital causes may exist. The author relates the case of a painter, aged forty-eight, who had suffered repeatedly from lead poisoning. During life his disease imitated very exactly disseminated sclerosis, but after death it was found to be a combined systemic disease of the cord. There were profound vascular changes both in the cord and brain, no doubt caused by the lead poisoning. In an atypical case related by the author there was a one-sided spastic paralysis, with early and marked mental changes. Another case began in a girl aged fourteen, death occurring from tuberculosis some twenty years later. The characteristic lesions of disseminated sclerosis were found. Oppenheim adds some interesting remarks in regard to the tremor, oculo-pupillary changes, bulbar lesions, etc. The relapses in disseminated sclerosis may often be traced to definite causes, over-exertion, exposure to cold, trauma, pregnancy, or parturition.—*Berliner klinische Wochenschrift*.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE ERYSIPELAS TOXINS.

ONE by one our fondest therapeutic hopes seem doomed to the crushing process, and still that hope which springs eternal in the physician's bosom rises above the disappointments of the past, which do not deter the scientific investigator from another attempt. The time seems to have arrived for the final verdict in the case of the curative effects of the toxins of erysipelas in the cure of malignant growths. Dr. Coley's experiments and cases treated have been watched with an interest which could be called forth only by the desire to find in the toxins a cure for otherwise incurable conditions. Many times the results seemed so favorable that much enthusiasm was elicited. Surprisingly good results were shown, but a close following up of the cases has resulted again and again in disappointment. Patients looked upon as cured would sooner or later turn up in the practice of other physicians, or return to report themselves only temporarily improved.

Some months ago the whole question was discussed in one of the medical societies, and the unanimous opinion was reached that this method of cure should no longer be held out to sufferers from cancerous diseases. Subsequently, the New York Surgical Society took the matter up, and, as a result, the following conclusions were presented by Drs. Stimson, Gerster, and Curtis:

"1. That the danger to the patient from this treatment is great.

"2. Moreover, that the alleged successes are so few and doubtful in character that the most that can be fairly alleged for the treatment by toxins is that it may offer a very slight chance of amelioration.

"3. That valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial.

"4. Finally, and most important, that if the method is to be resorted to at all, it should be confined to the absolutely inoperable cases."

And now, just as we on this side are beginning to acknowledge the inadequacy of these injections, they seem to be coming into favor abroad. Dr. Matague, of Brussels, as announced in the *MEDICAL RECORD* of August 8th, has treated fourteen cases by the mixed toxins of erysipelas and the bacillus prodigiosus, with "one complete cure." In the others there was nothing

very favorable to report. In the case of cure, the diagnosis was based wholly upon the clinical signs of cancer. The growth occurred in the floor of the mouth of an old man. It is not stated how long after cure the patient was kept under observation, to see if he remained cured. In so momentous a question we are not justified in accepting the diagnosis, in view of the fact that no histological examination of the tumor was made. When a malignant growth has advanced to that point where operative procedures are no longer to be entertained, then, perhaps, no harm may come from attempts in any legitimate direction; but to hold out the hope of cure by this or any other means in conditions which are non-curable cannot be too strongly condemned.

"NÆVUS UNIUS LATERIS."

To a physician who is not a dermatologist, and who has acquired that elementary knowledge of Latin which the average practitioner is now usually credited with, the designation *nævus unius lateris*, if it meant anything at all, would convey the impression of some kind of a *nævus* situated upon or limited to one side of the body.

In the April number of the *Journal of Cutaneous Diseases*, Dr. C. C. Ransom contributes "An Unusual Case of *Nævus Unius Lateris*;" and upon first glance at the picture of the young girl in nothing but a striking attitude the inference is drawn that the unusual feature consists in the *nævus unius lateris* being in this case *bilateralis*. Whether or not this impression was the one intended to be conveyed does not clearly appear from the text, which describes warty pigmented lesions distributed over both sides, affecting one, however, more than the other. According to von Bärensprung, one side only should be affected when this designation is employed. Turning to the latest edition of an American skin book at hand—that of Dr. Jackson—we read that *nævus unius lateris* "may be unilateral and confined to one region, or bilateral and on several regions."

The writer of the paper, therefore, has authority for his "*bilateral unius lateris eruption*;" but in all sincerity we would implore the gentlemen with dermatological proclivities to amend their nomenclature for the benefit of the outsider. The *nervus navi* of the Germans, or *ichthyosis hystrix*, or, in fact, anything, would be preferable to such a bilateral one-sided name.

A PHYSICIAN ON THE WHEEL.

UNTIL Dr. Gihon gave his opinions on the bicycle and its riders, at the recent meeting of the Public Health Association, it was thought that the only medical men who did not ride were those who lived in mountainous regions, where the hill climbing was too great, or on the seaside, where the sand was too deep. When, therefore, we speak of "Dr. Gihon on the wheel," we do it in the same sense that we would refer to "Hare on the Stomach" or "Skinner on Cutaneous Diseases." We would not imply that he had ever had a closer connection with this wonderful instrument of progress-

sion than arises from the practice of writing about it. Indeed, we are at a loss to know where, unless upon a bicycle racetrack, the writer could have gained portions of his knowledge and almost all of the inspiration which enabled him to write of "the gliding throng" of crouching forms "peering intently and anxiously with contracted brows." Now, we rather pride ourselves in New York upon our erect and manly carriage, and every wheelman who has the true interests of the sport at heart thinks of little else, while out for an afternoon turn around the now completed Grant monument, than to keep his brow smooth and his lip curled, so that no one can suggest the presence of the so-called bicycle face.

Accidents happen to devotees of the new sport, and the perineum may come in for a due proportion of resulting injuries; but the alarm the gentleman feels that the number of genito-urinary specialists now existing may be far too small for the demands of the immediate future, because of injury inflicted upon this region, we believe groundless. In point of fact, those who confine themselves largely to this branch of surgery find more leisure than ever for their own bicycle exercise, as Dr. Gibon may convince himself any fine day he will take a cab and drive up the Boulevard.

PARALYSIS FOLLOWING ANÆSTHESIA.

THE mere possibility of death occurring from the administration of an anæsthetic is so appalling to the mind that it is liable to make one forgetful of certain other occasional accidents which would be considered very serious if they were to take place under different circumstances. Among these lesser and rather rare but really serious accidents, is that of paralysis of certain groups of muscles. This paralysis may be central or peripheral in origin, temporary or permanent in duration. It may not occur sufficiently often to attract the attention of those who only occasionally give an anæsthetic, and when it does take place the relation of cause and effect may seem too obscure to excite more than suspicion.

In a paper read at the recent meeting of the French Medical Congress, Vautrin related three cases of post-anæsthetic paralysis—one involving the right deltoid, biceps, and brachialis anticus; the second involving the right deltoid and long supinator; the third affecting the face. Only the first had remained permanent. In two it is stated that chloroform was the anæsthetic used. The author comments upon the fact that the paralysis is nearly always of the right brachial plexus, but it may affect the face or the tongue, and is often accompanied by ocular trouble—dilatation of the pupil, amaurosis, etc. It may be observed just after the patient awakes from anæsthesia, or not until hours or days afterward. Sometimes there is partial loss of sensation, but this soon passes off. Certain German writers have designated it chloroform paralysis, but chloroform is not always the anæsthetic employed. Two forms are to be recognized—one of peripheral, the other of central origin. The first is the more frequent, the arm being the part usually affected. Büdinger

attributes it to pressure on the brachial plexus, especially when the arm is elevated to facilitate operations on the breast and abdomen. Traction on the arm or shoulder may produce the same result. But this cannot be the explanation of some cases in which no such pressure has been exerted, and for these Vautrin suggests a toxic origin provoked by the anæsthetic. The paralyzes of central origin are due to cerebral hemorrhages favored by the struggles of the patient during the period of excitement.

News of the Week.

Mothers and Babies' Hospital.—Dr. J. Carlisle DeVries has been appointed resident house physician of the Mothers and Babies' Hospital in connection with the New York Polyclinic.

Dr. George B. O'Sullivan died on October 11th, at his home in Brooklyn. He was born in 1866, and was graduated in medicine from the Long Island College Hospital in 1887.

The Plague in Bombay.—Between October 2d and 7th ninety-seven cases of the bubonic plague were reported, and since the beginning of the epidemic two hundred and seventy-six deaths have occurred. A quarantine against Bombay has been declared at Aden and at the Egyptian ports.

Academy of Medicine.—In the section on general medicine, October 20th, there will be a demonstration upon patients of the phonendoscope. On October 28th, in the section on laryngology, photography of the larynx will be illustrated by a lantern exhibition and demonstration of apparatus.

The Flower Hospital Annex.—The new building erected as an annex to Flower Hospital, at East Sixty-third Street and the Eastern Boulevard, was occupied by patients for the first time on October 12th. In it are three large wards, one of which is for women. There are also fourteen private rooms.

Physician's Wife Injured in a Bicycle Accident.—The wife of Dr. Lorenze, practising at 1,658 Lexington Avenue, was severely injured in a collision with a carriage on October 10th, at Bronxdale. The driver of the colliding vehicle tried to escape, but has been arrested.

The Bicycle in First Aid to the Injured.—A suggestion made a year or more ago by the MEDICAL RECORD was shown to be of practical utility a few days ago in a bicycle accident in this city. One of the first to reach the unconscious wheelman was a mounted policeman (on his wheel). Acquainting himself with the serious nature of the case he immediately remounted and sent in an ambulance call from the nearest box. Before the spectators had time to realize that any proper steps were being taken, a surgeon with the red cross of his calling upon his sleeve arrived upon his bicycle and took charge of the case, while the ambulance to which he belonged followed with the lesser speed of horse-power propulsion.

Spanish Losses in Cuba.—It is estimated in Madrid that, since the beginning of the Cuban revolution, the army of occupation has lost nearly fifty thousand men, of whom by far the greater number died from disease. The total number of patients in the military hospitals on one day recently was 9,475, of whom 1,035 were suffering from yellow fever, 1,331 from malaria, and 520 from wounds.

A New Serum.—This one comes from Bogota, where Dr. Juan de Dios Carrasquilla has injected kids and horses with leprous blood and with the serum from these animals has treated lepers. A report made to the New York Academy of Medicine shows decided improvement in the patients, such as return of sensitiveness to skin areas, resorption of tubercles, cicatrization of ulcers, and, more than this, no development of new lesions in some patients.

The Brooklyn Naval Hospital.—Secretary Herbert has adopted the plan submitted in competition by Mr. Smithmeyer, the designer of the Congress library, for the new ward of the Brooklyn Naval Hospital, and in a few days will invite proposals for its construction within the \$50,000 appropriated by Congress. The plans call for a structure of white brick and marble, of classic lines, designed in accordance with the most approved modern practice at home and abroad in public hospitals.

The Roentgen Rays in Nature.—At the recent meeting of the British Association for the Advancement of Science, Dr. Dawson Tucker stated that the ordinary glowworm emits α -rays which will pass through solid bodies, even a thin sheet of aluminium. It is probably not the visible light from the insect which does this, for Dr. Dawson Tucker in his experiments had a good deal of difficulty in getting the worms to glow, but he found that even when not visibly glowing they gave off a radiation which affected the photographic plate.

Prosperity of the Dispensaries.—Private practice in and about New York is reported to have been unusually quiet during the early fall. Not so in dispensary service. During the month of September 124,081 patients were treated at the outdoor department of Bellevue, against 92,434 in September, 1895—an increase of twenty-five per cent. The factors accounting for this would seem to be hard times, increase of poverty, and a tendency on the part of the frugal minded to save on the doctor's bill.

Dr. Hamilton's Conflicting Duties.—In speaking of the recent order of the marine hospital service, transferring Dr. Hamilton, the editor of the *Journal of the American Medical Association*, from Chicago to San Francisco, the *Medical Standard* says that the transfer was made in direct violation of the promise of the supervising surgeon-general to Dr. Hamilton that he should have at least two terms in Chicago, and it is apparently for personal reasons, rather than for the good of the service. Dr. Hamilton promptly appealed to the secretary of the treasury, but the latter has declined to interfere in the matter. The *Medical Stand-*

ard intimates that personal reasons or jealousy, rather than the needs of the service, are responsible for the transfer. The *Journal* has persistently opposed the scheme to convert the marine hospital service into a department of public health. Possibly, therefore, it is thought that the needs or the ambitions of the service would be promoted by the removal of the editor to another sphere of usefulness.

Died in the Doctor's Office.—It is always a regrettable occurrence for a physician to lose a patient at his own office. When death results from an anæsthetic administered or as a consequence of an operation performed, the disquieting features are the more pronounced. In the case of Dr. Bosburg's patient, who died of apoplexy or heart disease in his physician's waiting-room on Sunday last, no reflection can possibly be made upon the doctor, since he was not at home when the unfortunate accident happened. Medical assistance was, however, required, not only for the daughter of the patient, who had accompanied him and who became hysterical, but the physician's daughter, having been ill for some time, was prostrated by the shock, it is said, and her condition rendered serious.

Tuberculous Cows Destroyed.—A report has been made by Chief Inspector Martin upon the sanitary condition of all cows within the city limits, and the condition of the premises where they are kept. Below the Harlem there are one hundred and sixteen different locations, in which a total of three hundred and forty-three cows are stabled. Out of one hundred and fifty-three examinations made with the tuberculin test, twenty-eight tuberculous cows were found and destroyed. The post-mortem examination confirmed the test in every single instance. The health of a large number of persons has been in danger from the milk supplied from these sources, and it is sincerely to be desired that the work thus entered upon may be pursued until it becomes no longer possible for so many diseased animals to exist at any time, either within the city's limits or in herds from which the city's milk supply is drawn.

College of Physicians of Philadelphia.—At a stated meeting of the section of otology and laryngology on October 6th Dr. E. B. Gleason described a new operation for the correction of deflection of the nasal septum and exhibited four patients in whom the procedure had been carried out successfully. Drs. E. L. Vansant and M. B. Miller reported conjointly a case of carcinoma of the antrum of Highmore, apparently originating from the alveolus of the upper jaw, with such extensive recurrence after operation as to preclude hope of success even from excision of the entire superior maxilla. Dr. A. W. MacCoy made a preliminary communication dealing with certain pathologic conditions of the fossæ of Rosenmüller and the Eustachian tubes. Dr. Harrison Allen related the case of a girl in whom a copious white deposit of uncertain nature reappeared upon the tonsils after removal, in the absence of local evidences of irritation other than pain and of constitutional manifestations.

Dr. E. B. Gleason presented a specimen of cystic polypus removed from the pharyngeal aspect of the nasal septum. At a stated meeting of the college on October 7th Drs. W. J. Taylor and C. W. Burr reported conjointly a case of sarcoma of the medulla oblongata unattended during life with changes in the eye-grounds. At a meeting of the section on general surgery on October 9th Dr. Randolph Farles demonstrated a modified form of antero-posterior brace for the treatment of Pott's disease, in which the pressure is diverted from the spinal column and undesirable pointing of abscesses avoided.

Protest against Senate Bill 1,552.—The American Association of Obstetricians and Gynecologists assembled in annual session in Richmond, Va., September 22-24, 1896, desires to present to the Congress of the United States a protest against the passage of Senate bill 1,552.

Whereas, The enactment into law of the specified bill would greatly interfere with and retard the investigations that are at present being conducted at Washington by the laboratories connected with the Marine Hospital, the offices of the surgeon-general of the United States army and navy, and the bureau of animal industry of the department of agriculture; and

Whereas, The results of their investigations have been of immense importance to the health and wealth of the people of the country; and

Whereas, More brilliant results are promised for the near future in connection with preventive medicine and the health of men and animals;

Therefore, be it Resolved, That this association protests against the proposed legislation by Congress which has for its object the restriction of animal experimentation in the District of Columbia, and, while opposing needless cruelty and experiments upon animals in the public schools, this association considers that those who are trained in the special line of research necessary for the conduct of the work referred to are the ones best able to decide upon the advisability and utility of animal experimentation, and should not be hindered in the prosecution of their humane work.

Resolved further, That a copy of these resolutions be sent to the members of the House and Senate of the United States Congress and also to the President of the United States.

Schuylkill County (Pa.) Medical Society.—At a meeting of the Schuylkill County Medical Society, held at Pottsville on October 6th, Dr. G. H. Halberstadt delivered an address on surgery, Dr. George Farquhar read a paper on "Chronic Endometritis," and Dr. Wendell Reber reported a case of spinal disease attended with blindness. Dr. Joseph M. Spellissy reported "A Death during the Administration of Ether," in a case of umbilical hernia operated upon after symptoms of intestinal obstruction had existed for five days, and in which not more than one ounce of the anæsthetic had been most cautiously used. After death degenerative changes were found in heart and kidneys. Drs. J. William White and A. C. Wood read a joint paper, entitled "Some Recent Cases of Renal Surgery," detailing twelve cases of various kinds—ab-

cess, tuberculosis, calculus, hydronephrosis—all successfully operated on, although death occurred in one case two years after the operation, as a result of amyloid disease from protracted suppuration. Dr. John B. Roberts reported "A Successful Operation for Cleft of the Soft and Hard Palates," and exhibited the patient; and Dr. G. Hudson Makuen described the steps by which the movements of the tongue were increased and improvement in speech brought about by manipulation and exercise.

The Seventh Italian Medical Congress will be held in Rome, on October 20th and subsequent days, under the presidency of Dr. Baccelli.

The Cholera Epidemic in Egypt during August was of an unusually fatal type. Cairo returns show that of 4,816 cases, 4,004 were fatal.

Dr. William Mabon has been invited to the superintendency of the Ogdensburg Insane Asylum in place of Dr. Wise, who was appointed State lunacy commissioner. Dr. Mabon is now superintendent of the Willard Asylum. Before he went there he was the first assistant at Utica.

Medical Women in Turkey.—It is stated in *The Hospital* that the gentle Sultan of Turkey has forbidden women physicians to attend upon his subjects, and that Dr. Grace Kimball, who had established herself with success in Turkey and worked there for fourteen years, has now returned to London.

"**La Revista de Medicina y Cirujia**" is the title of a new journal published in Havana, under the editorial supervision of a committee of physicians. The first number is dated September 10th. The secretary of the editorial committee is Dr. José A. Presno.

American Dentists Not Wanted in Germany.—A dentist was recently arrested and fined in Berlin, for displaying upon the door of his office a plate describing him as a doctor of dentistry, with a diploma granted by an American dental college. The court held that it was against the law for him to use a foreign title in practice in Germany.

Vital Statistics of Newark.—Twenty-five of the seventy-six deaths reported in Newark during the week ending October 10th, were from infectious diseases. The number of cases of infectious disease reported was fifty-two—ten of typhoid fever, eight of scarlet fever, and thirty-four of diphtheria.

The Health of the Army.—In the report of the surgeon-general of the army for the year ended on June 30th it is stated that the health of the army was better last year than ever before. Dr. Sternberg writes: "All the rates that are usually considered by statisticians as throwing light on the physical condition of a community have been lower than in any previous year of the recorded history of our army. The number constantly sick was 33.89 per thousand of strength, as compared with 34.49 during 1894, and 41.87 as the average annual rate of the preceding ten years. The mortality rate from all causes was 5.16 per thousand of strength, as compared with 6.69 in 1894 and 7.85 for the preceding decade. The lowest previous rate was 6.35, in 1889."

Bovine Tuberculosis in San Francisco.—It is stated that nearly fifty per cent. of San Francisco's dairy cows will have to be slaughtered to stamp out tuberculosis.

Medical Study in New Zealand.—A bill has been introduced into the legislature of New Zealand which will lengthen the course of study necessary for a degree in medicine from three years, as at present required, to five years.

The Jenner Centenary in Russia, which was postponed from May to October, on account of the Tsar's coronation, has been put off for another month for the reason that his imperial majesty is out of the country. It is now hoped that the ruler's movements will permit the celebration to take place on December 3d.

Loss of Life in the Fishing-Fleet.—A summary of the disasters among Gloucester fishermen for the year just ended shows that seventy-four lives have been lost, against an average of ninety-nine for the twenty-two years previous. The number of vessels lost was thirteen.

Bovine Tuberculosis in New York City.—The board of health is making a thorough inspection of all milch cows kept within the city limits in order to exterminate tuberculosis. Of three hundred and eight animals which have been examined by the tuberculin test fifty-two have been found diseased and have been killed.

Norristown (Pa.) Insane Hospital.—Dr. Alice Bennett, after a service of sixteen years as chief of staff, resigned her position. The trustees showed their appreciation of her valuable services by passing appropriately complimentary resolutions.

Addition to a Hospital.—A new annex to the Samaritan Hospital of Philadelphia was opened with imposing ceremonies on September 26th. Several addresses were made and a memorial stone was placed in position. The addition to the hospital has been erected at a cost of \$10,000, collected by subscription. The new building is three stories high, fifty-eight feet deep by forty-four feet wide, and will accommodate twenty-two additional beds. It contains on the ground floor an accident ward, a bathroom with a cemented floor and provided with a portable bathtub, a waiting-room for patients, a kitchen, a drug room, and a maternity ward; on the second floor a children's ward, a ward for men and one for women, and a commodious, well-lighted operating-room; and on the third floor are quarters for the nurses. A sterilizing plant costing \$500 has been introduced and is capable of sterilizing enough water for all the needs of the hospital. A training-school for nurses will be organized. The hospital has been further enriched by the donation by Mr. P. A. B. Widener of a pair of fine horses for ambulance purposes. Dr. W. F. Haehnlen is physician-in-chief to the hospital.

Pathological Society of Philadelphia.—At a stated meeting of the Pathological Society of Philadelphia, on October 8th, the following officers were elected for the ensuing year: *President*, Dr. J. H. Musser; *Vice-Presidents*, Drs. John Guitéras, William E. Hughes, F.

A. Packard, C. W. Burr; *Secretary*, Dr. A. A. Eshner; *Treasurer*, Dr. T. S. Westcott; *Recorder*, Dr. W. S. Carter; *Curator*, Dr. D. Riesman.

Faith Curists Called to Account.—The coroner of Scranton, Pa., after investigating the death from diphtheria of a boy who received no other therapeutic consideration than the prayers of Christian Scientists, held the boy's father and two other faith curists for criminal neglect, and the district attorney has issued warrants for their arrest.

Epidemic Disease in Pennsylvania.—Typhoid fever is extremely prevalent in Chester County, although the number of deaths is not yet large. Diphtheria of a virulent type prevails at Harwood, a small mining town, two miles west of Hazelton. Hog cholera of a fatal character has appeared in Smithfield Township, Monroe County, and is causing considerable anxiety among the farmers.

Association of Lehigh Valley Railway Surgeons.—The seventh annual meeting of the Association of Lehigh Valley Railway Surgeons was held at Bethlehem, Pa., on October 6th. Dr. J. G. Zern, of Lehigh-ton, delivered an address; Dr. Frank D. Dowe, of Rochester, read a paper on "Untoward Factors in Traumatic Surgery;" Dr. G. R. Trowbridge, of Buffalo, one on the "Treatment of Fractured Clavicle by Means of the Dowel Pin;" Dr. C. R. P. Fisher, of Bound Brook, one on "Sprains;" Dr. L. E. Hollister, of Newark, one on the "Conservative Treatment of the More Severe Injuries of the Extremities, Particularly the Joints."

A Surgeon Disciplined.—The Columbus Academy of Medicine recently censured one of its members for violation of the code of ethics in permitting the publication in a daily paper of the report of an operation performed by him. The report was accompanied with a picture of the operator. The charges brought against the surgeon were three: First, that while conducting an operation at the clinic of the Ohio Medical University he had permitted a layman to be present and witness the operation and hear the lecture on the same; second, that he had revised the manuscript of the article which was published; and third, that he had erred in not withholding the article from publication while it was in his possession. The committee in charge of the trial found the accused guilty of the charges as presented, but it is claimed by the surgeon's friends that no censure was implied in this finding. The chief stress was laid upon the fact that a layman was allowed to be present at the operation.

Responsibility of Hypnotists.—Judge Foute, of Atlanta, has rendered a decision holding that the hypnotist is directly responsible for the acts of his subjects. During a performance at a local theatre a hypnotic subject grabbed a hat belonging to a man in the audience and bit a piece out of it. The man giving the exhibition and his business manager declined to make good the cost of the hat, and the hypnotist was prosecuted before Judge Foute upon a charge of malicious mischief. The judge sustained the charge and bound the defendant over to a higher court.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, October 8, 1896.

WALTER LESTER CARR, M.D., CHAIRMAN.

Congenital Stenosis of the Pulmonary Valves.—

The evening was devoted to the presentation of cases. DR. HENRY KOPLIK said he had the rare opportunity of presenting two cases illustrating the extremes, so far as the symptoms were concerned, of congenital stenosis of the pulmonary arteries. The first patient was an infant, eight months of age. The mother stated that the labor was a severe one; forceps were used. She did not see the babe until it was nine weeks old, when she noticed that when it cried it became blue. The skin then was of grayish color, and the extremities even in summer were cool and below the normal temperature. On percussion Dr. Koplik found nothing abnormal about the heart, but on auscultation he could hear a distinct rasping murmur over the second intercostal space to the left of the sternum, conducted to the apex and also to the base of the heart. The ends of the fingers and toes were slightly bulbous. It was not what was called a blue baby, but only at times became cyanosed.

The second case was that of a boy, aged sixteen years, who up to the fourth year was healthy. Then, after gastro-intestinal disturbance, he became blue and even in the summer the extremities were cool. At the present time the boy was markedly blue, the conjunctivæ and lips showed cyanosis, the surface temperature was below normal, the extremities of the fingers and toes were bulbous; on exertion he had attacks of great dyspnoea. There were frequent attacks of headache. In this case, in addition to the loud murmur over the second intercostal space to the left of the sternum there was dilatation of the heart. It was not unlikely that there was, besides stenosis of the pulmonary valves, a patent foramen ovale.

The discussion on these cases took place after others had been presented.

Arthritis Deformans.—DR. W. L. STOWELL presented a girl, nine years of age, and photographs taken at different periods, illustrating arthritis deformans. There was no family history of rheumatism and in other respects it was negative. The patient's trouble dated from an illness in the summer of 1893 when she had fever and chills for two weeks. She then had much lameness of the feet, and a month later the joints of the hands and wrists became involved, and within three months the elbows and knees were swollen. She was in a hospital three months, and in the fall of 1895 was sent to Randall's Island Hospital, at which time the head was immovable and nearly rested upon the sternum; the shoulder-joints were semi-ankylosed; the elbows semi-flexed and enlarged; the wrists enlarged, tender, and almost motionless; the metacarpal and carpal joints stiff, the hips fixed, the knees much enlarged, the ankles thick, tender, and stiff, and the foot was partly extended. The muscles were atrophied. There was no evidence of visceral trouble. The condition had been stationary for nearly two years until some months since, when in addition to medicinal treatment the nurse began patiently and systematically to carry out massage and encourage voluntary movements, including attempts at walking. The improvement had been striking, but all the joints were still more or less enlarged and stiff, and the muscles atrophied. The medicinal treatment had included from time to time iodide of potassium, wine of colchicum, cod-liver oil, iron, hypophosphites, and

strychnine, but the improvement was attributed for the most part to massage, motion, and hot baths.

In a brief review of the literature of arthritis deformans it was stated that Dr. J. G. Mitchell regarded it as neurotrophic entirely, and Dr. Osler agreed with him. There was no evidence that gout or rheumatism predisposed to it.

Progressive Muscular Atrophy.—Dr. Stowell presented a girl, aged thirteen years, with progressive muscular atrophy, which began, it seemed, after an attack of diphtheria when she was at the age of five years. The family history was negative except that one uncle committed suicide during an attack of melancholia. About a month after she had had diphtheria the parents noticed that the patient's face began to get smooth, lose its folds and expression; later the eyes could not be closed tightly; she could not whistle; within a year she would stumble easily; the muscles of the arm wasted, but the forearm had remained well to the present time. All of the muscles of the back and shoulders had wasted greatly. The gluteals were well developed. The author quoted Sachs to the effect that the several types of progressive muscular atrophy—the facial, the scapulo-humeral, and the pseudo-hypertrophic—were the same disease. Out of forty-nine autopsies thirty-four showed lesions of the spinal cord, so that the weight of evidence was in favor of its being due to a central lesion. The treatment had been tonic, including iron, strychnine, quinine, and arsenic, but the disease had progressed constantly.

Progressive Muscular Dystrophy.—DR. CHARLES E. NAMMACK presented a man aged twenty-six; family history negative except that his mother had died of phthisis. The patient remembered no illness, denied syphilis, but admitted free use of alcohol before the commencement of his present trouble. Eight years ago he began to have sensations in the back as of over-tire. Seven months later the shoulders began to diminish, the muscles wasted, and three years later the muscles about the hip and thighs began to waste and he lost power to walk. There was no muscular twitching and no sensory disturbance. The man's occupation threw some light on his disease, he having been a public contortionist. The disease had advanced so far as to render him almost helpless.

Progressive Muscular Atrophy.—Dr. Nammack presented a colored boy, about nine years old, with commencing muscular atrophy or pseudo-muscular hypertrophy. Three months ago the mother noticed that he was disinclined to stand, and about a week ago he began to stumble and fall easily. The shoulder muscles showed greatest atrophy, but those of the back were also weak, permitting of marked antero-posterior curve of the spinal column. The thigh and calf muscles were large, presenting apparently pseudo-muscular hypertrophy. The neck and arm muscles also showed wasting.

Arthritic Muscular Atrophy.—Dr. Nammack presented a third patient, a boy of about thirteen years, who was said to have had rheumatism three years ago, affecting the right elbow and shoulder. The atrophy seemed to have been limited chiefly to the supraspinatus and infraspinatus of the one side. It was an interesting fact that since the mother had begun to rub the region (with soap liniment) in September the atrophy had largely disappeared.

Rachitic Muscular Atrophy.—DR. H. D. CHAPIN presented an infant, fifteen months old, which had been well up to the sixth month, and then it was noticed that the head seemed too heavy for the body. It became very irritable, and at times would lie in a semi-comatose condition. There was flattening of the occiput, the muscles of the body were very weak, but seemed not much atrophied. Dr. Chapin thought the case was one of rachitis, a disease which manifested

itself in various forms, in some instances the muscles being most affected.

Cardiac Disease; Epistaxis.—DR. KOPLIK presented a girl of about seven years, who at about the age of two years began to have attacks resembling rheumatism, with fever and pain in the joints. These attacks recurred nearly every year. Later she began to have attacks of very persistent nasal hemorrhage, recurring at intervals of a week, a month, or several months. The last hemorrhage threatened life, and left her nearly exsanguinated, but finally ceased of its own accord. The child was still anæmic. Examination of the heart showed double mitral lesion and dilatation of the left ventricle, and possibly also of the right.

Early Enlargement of the Liver.—DR. THOMAS S. SOUTHWORTH presented a boy of five years, with enlargement of the liver, which he attributed to fatty infiltration. There had been four other children in the same family, of whom one had died of tuberculous meningitis, one of gastro-intestinal fever, one was feeble-minded. The patient presented had always had a large abdomen, and when a baby had diarrhœa, was in a condition of marasmus, and was given brandy. The abdomen continued to increase in size, which increase at the second year was attributed to sarcoma of the kidney; but this was proven not to exist. Before coming under Dr. Southworth's observation at the fourth year, the boy had convulsive seizures, which had been pronounced epileptic. Under treatment directed more particularly to the gastro-intestinal tract, the convulsive seizures had ceased and the patient had improved; yet during the past summer he had had occasional attacks of fever, vomiting, pain in the abdomen, slight jaundice, sometimes diarrhœa. There was purulent otitis media. In connection with the etiology of the fatty liver, mention was made of the use of starchy food, as well as of brandy during infancy.

The Treatment of Cretinism.—DR. KOPLIK presented two patients and reported progress on the treatment of cretinism. The patients were about three years of age, and had been under treatment over a year. When first seen the signs of cretinism were well-marked—dwarfish appearance, protuberant abdomen, thick lips, thick tongue, flattened nose, cedematous eyelids, dull appearance. One patient had abscesses; rectal temperature, 96° F.; extremities blue; hæmoglobin, twenty-five per cent. The treatment had been use of thyroid extract. When the patient was last shown, a year ago, the percentage of hæmoglobin had risen from twenty-five to forty-five, and at present was seventy-five. In the other case there had been a similar rise from eighteen per cent. He had been told by Dr. West that the original dose of thyroid could not be adhered to as the children grew older: they should be kept on just as large doses as they could stand. Notwithstanding there had been marked improvement, he thought his patients would become still brighter under larger doses of the thyroid.

DR. J. P. WEST, of Ohio, presented by invitation photographs of the case of cretinism treated with such success with thyroid, and reported by him in the *Archives of Pediatrics*.

DR. W. P. NORTHRUP congratulated Dr. West on the success attained in the treatment of his case of cretinism. He had himself treated two cases by thyroid, and was able to bring them up to a certain point of improvement; but they would return again to their former condition. He had thought a change of the proportion of thyroid might help, but the relapses continued to take place.

DR. WEST said that after nine months' treatment he was able to increase the dose, given twice a day, to a grain and a half, and within a year the girl grew eight and one-fourth inches and gained fourteen

pounds. At one time the thyroid was left off three months, and there was a relapse. He thought it advisable to increase the amount whenever relapse threatened.

Congenital Cyanosis and Cerebral Abscess.—Discussion of the several cases being in order, DR. NORTHRUP said, with regard to congenital narrowing of the pulmonary arteries, that two cases of "blue baby" had appeared at the foundling asylum about two years ago, and, on turning to Dr. J. Lewis Smith's book on "The Diseases of Children," they concluded that the lesion must be congenital narrowing of the pulmonary artery and defect of the septum ventriculorum. In the same book it was stated that many such subjects, surviving the second year up to the twenty-fifth year, died of cerebral abscess. One of the patients had whooping-cough, and they expected then soon to confirm the anatomical diagnosis; but the patient survived, and also passed successfully through an attack of measles. It was then expected to live indefinitely, but one day was found blue, delirious, and stupid. They made the diagnosis of cerebral abscess. Autopsy revealed congenital narrowing of the pulmonary artery, defective septum ventriculorum, and cerebral abscess. They expected a similar result in the second case, but the child was still living. One of the physicians connected with the Presbyterian Hospital in the neighborhood, who was interested in these cases, met a young man on the street whose face and hands were blue, and ventured to ask him some questions and received the promise of a visit to the hospital, where he could be examined. He did not, however, come on the appointed day, but later was brought in delirious and with symptoms pointing to cerebral abscess. As in the cases presented this evening, and in Dr. Northrup's, there was a purring thrill at the second costal cartilage on the left, pointing to the diagnosis already suspected to exist. Autopsy revealed narrowing of the pulmonary artery, defective septum ventriculorum, and cerebral abscess. Dr. Northrup said two similar cases had been reported at the recent meeting of the American Pediatric Society.

DR. MARY PUTNAM JACOBI remarked that not all of these subjects died of cerebral abscess, for she knew of one "blue" young man, who at the age of twenty-four went to Spain for the advantages offered by the climate, and after remaining two years died of the fever of the country.

DR. E. D. FISHER regarded the case of the man presented by Dr. Nammack as a typical one of progressive muscular atrophy of hereditary type. Such cases commencing in youth, whether of the scapulo-humeral or other form, were, as a rule, of hereditary taint, and were quite distinct in their course and in their pathology from the progressive muscular atrophy of spinal type. In the former no lesion was found in the spinal cord. He had shown this man to classes at the University Medical College the past two years, and regarded the case as typical, but had not been able to obtain a history of hereditary taint. The subject belonged to a family of acrobats, and it was not unlikely this career had had something to do with his disease. As long as the muscular atrophy was not complete, there was always some electrical reaction. In his experience there was rarely complete reaction of degeneration, but there might be partial reaction.

DR. FISHER said, in relation to Dr. Northrup's remarks, that he knew no reason why there should have been abscess of the brain, unless some lesion in the heart should cause septic abscess.

DR. FREDERICK PETERSON thought the colored boy had not pseudo-hypertrophic paralysis, although there were some of the symptoms of that disease. The gait was rather a spastic parietic gait, the knee jerks were much exaggerated, there was ankle clonus—symptoms

pointing to a lesion in the pyramidal tracts, probably somewhere in the cord. Furthermore, there had been some incontinence of urine and some rigidity of the neck muscles. There was weakening and wasting of the muscles of the arm, without loss of power in any particular muscle. Everything pointed rather to a lesion in the cervical cord, yet in the short examination made he would not pronounce that a final diagnosis. The statements of Dr. Northrup had interested him very much. He had never before heard of the frequent connection of abscess of the brain with cyanosis. The pathological relation would make an interesting study. As a rule, the differentiation between atrophies and dystrophies was not difficult. The atrophies were generally called spinal, the dystrophies were primarily muscular. In the latter the muscular fibres, as a rule, underwent degeneration at an early period of life. The differentiation was made by about four symptoms: In the spinal form of progressive muscular atrophy there were atrophy and fibrillary tremor, no heredity, no hypertrophy, presence of reaction of degeneration. In dystrophy there was heredity, atrophy with hypertrophy, no fibrillary tremor, no reaction of degeneration. As long as any of the muscle remained, it reacted in the normal manner. Dr. Peterson had never seen even partial reaction of degeneration in such cases.

DR. J. L. SMITH remarked, with regard to cerebral abscess referred to by the last two speakers, that he did not remember having attempted to give an explanation of its occurrence. The case of the colored boy seemed to him one of incipient pseudo-hypertrophic paralysis, as stated by Dr. Nammack.

DR. DESSAU mentioned a case of arthritis deformans of perhaps three years' duration, in a patient of six years, which had not improved under hydrotherapy, etc.; but he would now apply massage, in view of the success obtained with it by Dr. Stowell.

Clinical Department.

UTERINE FIBROID AND PREGNANCY.

By FRANK L. BURT, M.D.,

BOSTON, MASS.

PREGNANCY and uterine fibroid are associated sufficiently often to occasion little if any comment, and might call for nothing more than ordinary ability and good judgment in the way of making a good differential diagnosis. The following case is of sufficient importance for record as a surgical case on its own merits, but is doubly interesting because of a condition of accompanying pregnancy which is unique from a surgical and embryological standpoint.

Mrs. T—, colored, was brought to me in September, 1895, and history and examination were as follows: Aged thirty-six; twice married, covering a period of ten years. She had had no children and no miscarriages, and pregnancy was considered as impossible. A small bunch was developing in the pelvis, which she first noticed about ten years ago. Its growth was gradual and constant. She was especially troubled in the left groin, having considerable bearing-down, which increased to severe pain at the menstrual period. There was at this time very little flow. Backache was constant and more or less severe. The bowels were interfered with by pressure. Added to these symptoms, which gradually became more severe, were those from frequent inflammatory attacks, which confined her to bed for two or three weeks at a time and resulted in the production of adhesions. She had managed to work, except at these periods. The menstrual flow, which was always small, began to grow less in March, 1895, and was still less in April, May,

and June. There was very little in July, and none in August. On June 10th she left her home in New York for Bar Harbor, to fill a position for the summer. Taken sick late in August, an attempt was made to move her home, but she could not get beyond Boston.

On September 6th, lacking three days of thirteen weeks since she left home, I operated on her. Her condition was such that to operate or not to operate was a serious question, although I considered that she had a very favorable chance, notwithstanding the fact that her case had been pronounced inoperable by several expert surgeons and had been refused at large hospitals of reputation. I decided to perform abdominal hysterectomy. The uterus occupied the whole of the abdomen, extending up under the ribs and pressing on the chest organs. It was absolutely immovable. I incised to the umbilicus. I found the growth flattened (spleen shaped), and strongly adherent over the whole anterior wall. After breaking down these adhesions, the top of the tumor was felt as high as the hand could reach. It was manipulated so as to draw the top of the growth out from the cavity. Below there was an extensive adhesion to the omentum, about fifteen inches in length and supplied by numerous vessels as large as a pencil. The vessels were tied and adhesions cut away.

After the tumor had been pulled out, the breathing was greatly relieved. A rubber tube was drawn around the stump, as low as possible in the pelvis. I incised the growth just above the tube, and, strangely, out popped an ovum sac, very small, containing very little fluid, and, to judge from a macroscopical examination, it could not be of more than eight weeks' development. The stump was treated extra-abdominally in the usual manner. Loss of blood was little, and the shock was not great. Recovery was perfect.

It is interesting to ask how it could be that a woman, married twice and for a period of ten years, with no previous pregnancy, could have become impregnated at this late date and under these conditions. How was it possible for those unhealthy ovaries to develop an ovum which could bear fruit? And how could an ovum pass through those unhealthy, adherent tubes, and the heavy, dense, large fibroid growth, so as to deposit itself and pregnancy result? The process could not have gone on to any great length. The fœtus would probably have been thrown off by pressure, or would have died *in utero*, with its consequences. It was probably removed at about the right time.

The embryo shows points of great interest, as will be seen from the report on the examination made by Prof. J. S. Flagg, as given below:

"September, 1895, Dr. Frank L. Burt, of the Union General Hospital, Boston, handed me an embryo, which on the day previous he had removed from an uterine fibroid of some seventeen pounds' weight. Examination revealed these facts: Age of embryo, slightly over twelve weeks. Weight of embryo, with amnion only (emptied, yet fresh), forty-six grains. Length of embryo, one and nine-tenth inches. Chorion thin and imperfectly tufted. Development of fœtus uneven, especially in sense organs and all fissure unions. Amnion perfect, false amnion not united well to chorion. Placenta not well formed, and associated tenuity of umbilicus. Whole embryo showed evidence of deficient nutrition, and in general appearance was like a fœtus of eight weeks."

The Physicians in Belgium at the beginning of the year 1895 numbered 2,965. The proportion of doctors to population was one in 2,100. In addition to these there were 2,394 midwives, 1,828 pharmacists, and 522 veterinarians.

A CASE OF UNILATERAL BRONCHOCELE
WITH MYXEDEMA.

BY FRANK D. MERRITT, M.D.,

BROOKLYN, N. Y.

THE case that I herewith report is of interest because it differs from any case of either goitre or myxedema that has come to my notice.

Mrs. F——, aged thirty-eight; born and resided in Westchester County, N. Y., until five years ago; since then in Brooklyn. Her history up to the time of the birth of her first child, which occurred seven years ago, presents nothing worthy of note. The labor was a difficult one, requiring the application of forceps. Two years later she gave birth at term to a still-born infant. The cause of death I am unable to learn. Since that time she has had two miscarriages, believed in both cases to be at about the fourth month of uterogestation.

On March 6th she presented herself for treatment, complaining of a swelling in the neck, which she stated had existed since the birth of her first child, seven years before, and which was increasing in size so that it was beginning to interfere with her respiration. She complained of violent headaches of almost daily occurrence, and loss of memory, and stated that she was fearful lest she was about to lose her reason. She was extremely nervous; speech was slow and hesitating; expression was dull, the eyes having a watery look; the nose and lips were thickened, the face and ankles œdematous; the skin was very dry and the hair thin and lustreless.

Upon examination I found a firm mass on the left side of the neck, extending from near the median line a distance of about seven centimetres, and measuring from above downward about five centimetres, the lower border extending slightly below the left clavicle, moving with the larynx when the act of deglutition was performed. The skin over it was freely movable. There was no perceptible abnormality on the right side of the neck. Heart normal; pulse small, frequency 84; temperature, 97.8° F. Urine normal; specific gravity, 1.016. Exophthalmos entirely absent; tongue slightly coated.

In answer to my questions the patient admitted that she suffered from habitual constipation and drowsiness during the day, with inability to sleep soundly at night. She did not sweat even when undergoing severe exertion. I prescribed a five-grain tabloid of thyroid extract, twice daily an hour after eating.

March 10th.—The patient has neuralgic pains in the lower extremities; otherwise her condition reveals no change.

March 18th.—The bronchocele is greatly reduced in size; dyspnœa is lessened; there have been no headaches for over a week. The patient sleeps well, the bowels are open, the expression is improved. She complains of loss of flesh and spells of dizziness and weakness. The heart is irritable, the pulse running up to over 100 at times; there is a pruriginous eruption on the back, chest, and limbs. Temperature, 98.2° F.; tongue clean; appetite good. Urine contains no albumin. There is excessive thirst and some sweating.

The thyroid tabloids were continued, and two minims each of tincture of digitalis and strophanthus were ordered to be given four times a day. For the eruption a mild solution of carbolic acid was given.

March 27th.—A further reduction of the goitre has occurred; no return of headaches; skin normal; the eruption has vanished, but the fluttering sensation in the region of the heart persists.

April 5th.—The tumor in the neck is scarcely perceptible. There has been one slight headache since my last visit. Enunciation distinct and without hesita-

tion; face full of expression; eyes clear; œdema completely gone. Pulse, 92; temperature, 98.8° F. Urine normal; specific gravity, 1.020. There has been a loss of over twenty pounds in weight since beginning treatment.

April 20th.—Tumor gone; a flabby tissue feeling like an empty sac can be indistinctly made out. There is excessive sweating.

The digitalis and strophanthus were discontinued, and the thyroid extract was reduced to one five-grain tabloid a day.

I saw the patient at frequent intervals until June 3d, when all treatment was stopped.

On July 20th the patient returned, stating that she had remained well until three days before, when the severe headaches had reappeared. The thyroid gland had not enlarged, and there were no other symptoms of a return of her former disease. I ordered one five-grain tabloid of the thyroid extract daily for two weeks.

At the present writing she is taking the above-mentioned dose for two weeks every second month, and the disease is apparently held entirely in abeyance. I believe the headaches above noted were premonitory to the return of other symptoms, which were checked by prompt recourse to the thyroid extract. Dr. George R. Murray, to whom we owe the introduction of thyroid feeding in myxedema, in a paper read before the British Medical Association, in July, 1895, states as a result of his experience that "a relapse might be expected in about one hundred days after a patient had given up the dose of the extract."

An additional interest is given to the case I here report, in that the patient's mother suffered from a tumor in the neck, presumably thyroid, from the pressure effect of which she died. I am also informed that a young woman, living on a farm adjoining the one on which the subject of this article was born, has a goitre and has recently become insane, and is at present confined in an asylum.

The differentiation of this case of simple goitre from Graves' disease rests upon the absence of exophthalmos; the absence of tachycardia or even irritable heart until the treatment was pushed; the involvement of one lobe only of the thyroid gland; the presence of symptoms of myxedema, due to impairment of function; the relief of symptoms by the administration of thyroid extract.

689 LAFAYETTE AVENUE.

RUPTURE OF THE URETHRA.

BY H. A. GATES, M.D.,

DELHI, N. Y.

I WAS much interested in the discussion at the meeting of the Practitioners' Society of New York, April 3d, of the paper of Dr. R. F. Weir, regarding the treatment of ruptured urethra, as it was my fortune to encounter one of those rare cases recently, which I beg to report.

Mr. B——, aged forty-two, fell astride of a wagon wheel from a hay mow at 9 A.M., September 6th, and sent for his physician at 3 P.M., because of inability to void his urine. The latter made ineffectual attempts to pass a catheter, and sent for me, but I was also unable to pass the instrument. These attempts were followed by a discharge of blood from the meatus; there was extensive swelling of the scrotum and also of the perineal region, but no lesion of the skin.

I advised and performed perineal section on September 7th, and found extensive extravasation and clot, and entire severance of the urethra in the posterior part of the bulbous portion, the ends being at least one and one-fourth inches apart; the laceration was very

extensive, and it was impossible to locate the posterior portion at first, even after irrigating the tissues. I, however, resorted to the device of directing an assistant to press gently, with both open hands, over and on the fundus of the bladder, when the orifice was located by the escape of urine. A soft catheter was passed into the bladder through the meatus, and fastened. No attempt was made to approximate the divided ends of the urethra at this time, on account of the extensive injury and extravasation. Afterward the tissues on either side of both the anterior and posterior portions of the divided urethra were deeply caught with silkworm ligature and drawn together. This procedure brought the ends of the divided urethra well together over a soft catheter, which had been previously passed through into the bladder.

The perineal wound was kept clean and allowed to unite by granulation, and the bladder kept washed out with boric-acid solution and glycerin. When the wound healed the sound was substituted for the catheter, and the patient is now entirely well.

It would seem to me that the suprapubic opening is very seldom required, that repair of the urethra may be shortened by stitching, but that most of the firm union comes by granulation long afterward.

A CASE OF CHRONIC APPENDICITIS.

By S. P. PRESTON, M.D.,

LYNCHBURG, VA.

E. W.—, male, aged thirty-four; occupation, business man. Family history good. As far back as the patient can remember he has suffered pain in the right iliac region, especially after increased exertion. On his remaining quiet, the pain was of a dull, aching character, and most acute anteriorly above Poupart's ligament, ranging back toward right lumbar region. On exertion the pain would become intense or aggravated even by walking, and at times he would be seized with a paroxysm of the most agonizing pain, lasting for perhaps half an hour or longer and abruptly ending, followed by sleep; and on his awaking the pain in its acute character had disappeared, leaving the dull, aching pain as before, but aggravated. Thereafter he would not suffer enough inconvenience to keep him from his ordinary daily affairs.

Status *præsens*: The patient is a large, powerfully built, well-nourished man; complexion dark, at times bluish. He states that although the pain is much less than it was at former times, he still suffers considerably; in fact, during his whole life he has never been absolutely free from it. The appetite is good. The bowels are extremely constipated at times; the stools are well colored; the urine is normal. Physical examination shows a spot of tenderness three inches above the middle of Poupart's ligament, two inches within the right superior spine of the ilium, and a line of tenderness extending back to the lumbar region, parallel with the crest of the ilium and about an inch above it, and becoming more sensitive at its termination to the right of the spine. When the patient suffers with the acute paroxysm, the spot in the iliac region becomes exquisitely painful. The pain is somewhat relieved by warm applications, and is especially lessened by flexion of the thigh on the abdomen. Patient states that during the acute paroxysm, priapism often occurs. In the past six years the pain has become progressively better, owing to his having paid better attention to his health; but he is still annoyed to such an extent as to seek constant medical advice.

Diagnosis: Chronic catarrhal appendicitis: dilatation of appendix, with formation of stercoliths, and

expulsion of concretions at times into the cæcum (as indicated by acute seizures, short in duration).

Indications for treatment: An exploratory incision is advised, with excision of the appendix, if it be found diseased as supposed.

AN EXCEPTIONAL LAPAROTOMY.

By JAMES E. MOORE, M.D.,

MINNEAPOLIS.

In April, 1895, Miss A. M.—, aged twenty-five, came under my care at the Northwestern Hospital. She gave the history of having suffered a criminal abortion in November, 1894, which was followed by an abscess to the left of the uterus, which finally opened near the umbilicus. After many weeks of suffering the patient got about, with a sinus near the umbilicus, which discharged both pus and fecal matter.

When I first saw her she was weak and greatly emaciated. Her appetite was good, but digestion poor. Diarrhœa was present most of the time. There were at this time around the umbilicus five openings discharging fecal matter. The abdomen was slightly distended and yielded tympanitic resonance everywhere on percussion. The patient was weak, suffering, and in an altogether pitiable condition, so I concluded to try to relieve her.

Upon passing probes into the fistulæ about the umbilicus, it was found that all led to one cavity underneath. They were thrown into one by an incision and a cavity was found underneath the umbilicus, seemingly in the abdominal wall, which communicated with the abdominal cavity by one small opening. I removed the umbilicus completely to gain better access to the deeper opening. A probe passed into this opening seemed to enter the intestine. There was tympanitic resonance just below, so I made an incision in the median line, in order to get into the abdominal cavity and reach the bowel into which the fistula opened. Very much to my surprise and disgust, gas and fecal matter appeared in the wound as soon as I got through the abdominal wall. It seemed certain that I had opened into adherent intestine: but upon introducing a finger I found that I was in the general abdominal cavity, and that the tympanitic resonance, supposed to be due to distended bowels, was due to gas in this cavity.

I then began with the fistula at the umbilicus, and laid the abdomen open well down toward the symphysis. After washing a large quantity of fecal matter from the abdominal cavity, I found that the intestines were all bound down to the posterior abdominal wall in a mass, and that by introducing the nozzle of an irrigator underneath one side of this mass, fecal matter could be washed from the other side. It was simply impossible to form any idea as to the locality of the opening into the bowel, so I introduced some iodoform gauze into the wound and left it open. After a few days the patient began to improve, but the dressings were filthy in the extreme; so I removed all of the gauze and ordered the abdominal cavity to be flushed with warm water twice a day or oftener, if necessary. The patient gradually improved, and the opening in the bowel closed. The large abdominal wound closed, the abdomen filled out, and at the end of three months the woman was in perfect health and had a very presentable abdomen. I have recently learned that she is employed in a neighboring city as a domestic, and that she enjoys good health.

The Offspring of the Corset is what a contemporary calls the obstetrical forceps.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF SIR J. E. ERICHSEN, F.R.S., LL.D., ETC.—
BRITISH ASSOCIATION—BANQUET AND SYMPOSIUM TO
SIR JOSEPH LISTER—METRIC SYSTEM—EVIDENCE AT
INQUESTS—THE LATE DRS. MILLETT AND POWELL.

LONDON, September 25, 1896.

SIR JOHN ERICHSEN died on Wednesday (23d). His name will be familiar to all your readers and his personality will be remembered by not a few who welcomed him to the States in 1873. He was a man of pleasant presence, courteous in manner, upright in all his relations—in a word, a gentleman. All who knew him—and who among us did not?—speak well of him. He had retired from active practice, but continued to be a conspicuous figure in professional circles. It seems a long time since he used to come down to lecture in his faultless attire and new primrose gloves, which some thought made him the dandy of University College, but his geniality made him a favorite with most of his pupils. His intimates could see that he had been breaking for some time. He admitted that the less he did the better he felt. Occasional attacks of angina pectoris had troubled him of late and loss of control of some muscles lasting only a few minutes had also occurred. On the 17th inst. he retired at night in his usual health, but the next morning his valet found him to be unconscious. He soon recovered consciousness, but aphasia and hemiplegia remained. On Tuesday the lungs became engorged, and he died on Wednesday afternoon, the last illness being thus under a week's duration.

Erichsen's "Science and Art of Surgery" is known everywhere as the most successful surgical text-book of this generation. It first appeared in 1853. The fifth edition was extended into two volumes in 1879, and it has continued in that form, the tenth edition being published last year. It has been translated into German, Spanish, and Italian. The American issues have been very large.

Besides this *magnum opus* he wrote a small work on "Railway Injuries" and one on "Hospitalism," and contributed to the societies and journals. In his early days he received the Fothergillian medal of the Royal Humane Society for his work on "Asphyxia." He became a member of the College of Surgeons in 1839, a fellow in 1845, and served all the offices in due course up to the presidency (1880). So at University College, of which he was an alumnus, he became professor of surgery and surgeon to the hospital, and held these offices until he resigned. He was elected president in 1887 and retained this post until his decease. He was the recipient of honors from academies, universities, and societies in various countries and last year was created a baronet.

The British Association continued its sittings at Liverpool until Tuesday. Besides the proceedings I have mentioned, there were interesting papers in the physiological section and a good number of medical men in this and other sections joined in the discussions.

The chief event was perhaps the splendid banquet to Sir Joseph Lister given by the medical institutions of the neighborhood, at which more than three hundred and fifty of his admirers were present. In the galleries about one hundred nurses occupied seats and were in uniform. They were highly complimented by Sir Joseph in returning thanks for the toast of his health proposed by Dr. Caton and received with enthusiasm. There was another large gathering in his honor at a symposium held on Friday.

In the section of mechanical science Sir Frederick Bramwell ridiculed the metric system in a light humorous way, and said that in France he found when a sum was in metres or kilograms the ordinary Frenchman first worked it out in fractions and then converted it into decimals. So he held the English system to be better, as it only required the work to be gone over once.

The metric system had been ably advocated by Sir Douglas Fox in his address as president of this section.

We are accustomed to curious incidents at inquests and often have to complain of coroners, but it must be acknowledged that doctors do not always shine in these courts. Only on Wednesday the newspapers reported a case in which a jurymen remarked in the midst of his evidence that the doctor seemed "slightly fogged," and after he left another said he "was at least a rum 'un." And looking at the answers he gave, I cannot say the criticism was unjust. Take this colloquy between coroner and doctor and draw your own conclusions. "Then you say death was due to fatty degeneration of the heart?" "Well—er—not exactly." "Was it due to heart disease then?" "Not valvular disease." "Syncope then?" "No, I should say not." "Well, doctor, tell us the cause. You have made the post-mortem." "I think the state of the heart prevented proper circulation." "Then you mean heart failure?" "Well, yes, but not in the regular way." "Really, doctor, I do not understand you." "Well, the heart didn't stop in the manner as if he had taken poison." "But you don't suggest he had taken poison?" "Oh, dear! no. I think if he had been woke up he might be alive now." "Well, shall I be wrong to certify that he died from heart failure due to fatty degeneration?" "No, I think that is the real cause."

Mr. George B. Millett, medical officer of health for Penzance, died on the 17th inst. He was a well-known authority on Cornish antiquities, president of the Penzance Institute, vice-president of the Antiquarian and Natural History Society, and honorary surgeon to the Infirmary.

A sad case comes to me from Ireland. Dr. G. H. Powell, of Toomevara, was eating an apple, when a wasp which was in the core stung him on the tongue, and he died in three hours from the glossitis induced. He was only thirty-five years of age.

OUR PARIS LETTER.

(From our Special Correspondent.)

BEGINNING OF THE MEDICAL YEAR—LOWEST DEATH RATE IN PARIS KNOWN SINCE 1879—DIPHTHERIA NO LONGER FEARED—THE ACADEMY OF MEDICINE—THE ACADEMY OF SCIENCES—NEW OTOSTETHOSCOPE—PROPOSED LAW AGAINST THE CREATION OF NEW FACULTIES OF MEDICINE, ETC.

PARIS, October 1, 1896.

It is the beginning of the medical and academic year. Janitors are sweeping and cleansing laboratories, amphitheatres, and libraries; every day brings back from their vacations one or more professors or some hospital and private-practice celebrity, students are seen once more in the Quartier Latin, and professional Paris is getting into swing again.

We begin the year with a clean bill of health as regards epidemic and zymotic diseases; that is to say, the lowest record since the service of the Statistique Municipale of the city of Paris has been established, which was in the year 1879. The number of deaths for the thirty-eighth week of the year is six hundred and ninety-eight—even in the thirty-fifth week the mortality was only seven hundred and fifty-three, a very low figure for that or any time of year. Zymotic

diseases continue to be rare; for instance, there were but six deaths for the week just ended instead of twelve, the average, from typhoid fever; one from small-pox instead of two, the average; measles three, instead of six, the average; scarlet fever two, average; whooping-cough two instead of five, the average. Finally, diphtheria has caused no deaths in the city of Paris. There were, it is true, two deaths in the hospitals, but these were of children from the country who had been brought to Paris to be treated. This total absence of deaths from diphtheria is remarkable, for previous to 1893 the average of deaths from this disease was twenty during the weeks of September and the number of deaths never went below seven, which figure it reached in the thirty-sixth week of 1886, which was regarded as very exceptional. During the last few years, thanks to the discoveries of modern science and above all to orrhoterapy, diphtheria has become much less deadly, and already the thirty-fifth week of 1895 has passed without a single death attributable to that malady. Whatever may be said for or against orrhoterapy, these facts are irresistible. It is now only necessary to detach from the pharynx or tonsils a small portion of suspected membrane, to make a bacteriological examination and diagnosis at the same moment, to inject a few grams of antidiphtheric serum, and we master one of the most if not the most dreaded and fatal of all diseases, thus relegating gargles, washes, applications, caustics, and cataplasms to the past.

As might be expected so early in the year, there is very little doing at the Academy of Medicine or at the Academy of Sciences.

There was a meeting of the Academy of Medicine on September 22d. Professor Debove read a report on Dr. Clozier's work on "Toxæmia in Cases of Gastro-Enteropathy." Professor Debove maintains, contrary to the opinion of the author, that the nervous complications in cases of gastro-enteropathy are not due to digestive troubles but to a general neuropathic condition. Dr. Clozier assumes that the stomach and intestines pathologically affected manufacture poisons and that these poisons engender a toxæmia, which in turn provokes the appearance of nervous phenomena.

This hypothesis not being justified by the facts upon which the author bases his opinion, it appears much more natural, in the reporter's judgment, to suppose that the patients of Dr. Clozier were affected by divers nervous disturbances, among them disorders of the intestine, than to admit a production of intestinal poisons, a toxæmia, and nervous phenomena dependent upon that toxæmia.

I would note in this connection that, notwithstanding the opinion of so eminent a physician as Professor Debove, in the practice of internal medicine many cases of auto-infection or toxæmia are met with and that this auto-infection manifests itself not infrequently in the nervous system—usually through irritation of the sympathetic directly due to the absorption of toxins or ptomains, for the development and multiplication of which the intestines, above all tracts or organs of the body, are the most fertile ground; and I am now treating a case of polymorphous eczema of nervous origin caused by the generation of just such enteric poison.

Professor Debove was followed by Dr. Bendersky, of Kiev, who spoke on auscultatory percussion as a method of delimiting internal organs. This method consists in percussing lightly the region of a given organ and that the sound, which cannot be heard at a distance, may be gathered by the ear, Dr. Bendersky uses a soft stethoscope like those often employed by American and English diagnosticians (really a modification of Flint's double-tubed bell-shaped instrument); only Dr. Bendersky's stethoscope has one long

tube of one hundred and forty to one hundred and fifty centimetres, one end of which is adapted to the base, the other being fastened to the end of an otoscope. This is placed against the ear. With his left hand he steadies the base on the organ and percusses with his right hand. The sounds or resonance, as the case may be, are thus brought out very clearly, and may even be heard through the clothing.

Dr. Bendersky added a few words on gastric mobility, stating that the diagnosis of gastroptosis was made when the inferior limit of the stomach passed below the umbilicus—and that this diagnosis was greatly facilitated by the above-mentioned method. Dr. Le-reboullet read the oration that he delivered at the grave of Dr. Rochard, recently deceased.

At the Academy of Sciences on the 14th of September Dr. Joachimsthal made a communication upon a new adaptation of the muscles of the leg after the cure of clubfoot. He said, in substance, that a patient after the cure of a clubfoot had recovered the functions of walking; nevertheless the gastrocnemian muscles presented a deformity characteristic of diminution in the extent of movement of those muscles; the gemelli were considerably reduced in size, and the relief of the upper calf of the leg was hardly half its normal length. As regards the protuberant outline of the soleus, that had disappeared entirely. Dr. Joachimsthal in order to ascertain whether the modification of the muscles was due to any change in the length of the calcaneum, photographed the skeletons of the two feet of his patient by means of the Roentgen rays. These photographs showed on the abnormal side a marked atrophy of the calcaneum, but without change in the length of that bone as regards the lever of the tibio-tarsal articulation. Then photographs were made of the two feet in their positions of flexion and extension. The second photographs showed plainly what might already have been deduced from the first, viz.: that the extent of movement on the abnormal side was extremely limited. It was therefore to this cause that the diminution in length of the fibres of the gemelli muscles must be attributed. These muscles, however, had retained their action as flexors of the knee: this explains their partial conservation, while the soleus, having its function abolished by the tibio-tarsal ankylosis, appeared to have been completely effaced. This case is not only a remarkable example of what the Roentgen rays have done and are doing for surgery, but also of the adaptation of muscles to the change of their functions in general.

Faculties of medicine are not numerous in France, there being only six on the official list, these being part of a composite whole designated as the University of France. And yet M. Deandreis, senator, has filed in the "bureau" of the senate a proposition that no new faculty shall be created without the enactment of a law. The principle of protection as regards medical schools and medical practice in France is, metaphorically speaking, a cast-iron one.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE PSYCHOLOGICAL CONGRESS.

BERLIN, October 2, 1896.

At present quiet reigns supreme, for all local medical meetings have ceased. The International Psychological Congress held its third session at Munich a few days ago. In all about one hundred and fifty medical papers were presented and read. About four hundred and fifty men from all parts of the world participated.

The congress was opened by the president, Professor Stumpf, of Berlin. He gave a very interesting review of the scientific work performed by this body

since its first meeting, which took place at Paris in 1889. The work was divided into five different sections, viz.: I. Anatomy and Physiology of the Brain and the Senses. II. Normal Psychology. III. Psycho-pathology and Criminal Psychology. IV. Psychology of Sleep, Dreams, and the Hypnotic Condition. V. Comparative and Pedagogic Psychology.

After the address of welcome was delivered by the minister of state, the mayor of Munich followed. Then lastly the rector of the Munich University spoke. These welcomes were answered by Richet of France, Baldwin of America, Sedgwick of England, and Tokowsky of Russia.

Professor Richet then spoke on "Pain." He regarded pain as a sensation given to us by nature which prolongs life. Pain is called forth by any ill-treatment of the nerves which changes their condition. Richet expressed the belief that even smell and taste could cause pain under certain conditions.

Professor Flechsig next spoke on "The Associated Centres of the Human Brain." He did not like to see the brain divided into lobes, but rather into "areas" and therewith communicating filaments, or as he termed them "Leitungsbahnen." The centra for the senses on the surface of the brain he considers very small. They form four distinct areas or parts. In these four areas there are neither motor nor sensory communications. This paper, which was profusely illustrated by brain specimens, aroused great interest and created an animated discussion. Dr. Wendensky, of St. Petersburg, believed he could prove by animal experiments which part of hemisphere of brain was used. Dr. Patrizi found that music induced a greater blood supply. Dr. Epstein found that light influences markedly the circulation (vascular), the strongest effect being produced by red; the weakest was that of green light.

Dr. Liszt, of Halle, read a paper on "Medico-Legal Responsibility." This he believed should be determined by the age; so, for example, according to German law responsibility is not determined below the twelfth year. He did not believe that a chronic criminal is to be held absolutely responsible for his deeds. Formerly all weak-minded people were regarded as criminals. He recommended that all habitual criminals should be put into insane institutions, although he believed that they should be kept separate and classed as criminals.

Dr. Lehmann, of Copenhagen, had devoted some study to the question of "fright," as, for example, its influence on the pulse, and had found at times permanent conditions caused by this influence.

The "Pathology of Memory" was the subject of the next paper by Dr. Strumpell, especial attention being devoted to traumatism, epileptic attacks, and intoxication.

A most interesting subject was brought out by Dr. F. C. Müller, of Munich, in a paper entitled "The Relation of Suicide to Alcohol." He found that both the consumption of alcohol and the number of suicides have increased very much lately. In thickly populated districts, workingmen's towns, the number of suicides is enormous and the alcoholic consumption is positively the cause of the suicide, inasmuch as neurasthenia is caused by alcohol. It is false to believe that beer is not detrimental or less so than whiskey. In countries where whiskey is prohibited, *e.g.*, in Norway, the number of suicides is surprisingly small. The author believed that alcohol so completely demoralizes the human being that suicide is a sort of relief to him. He was sorry to see alcohol introduced into therapeutics, for its ill-effects are far greater than its benefits. He believed alcohol to be a poison and thought that physicians should take a decided stand against it. In fact he believed we should be as careful in prescribing alcohol as we are in prescribing morphine or digitalis.

An interesting communication was one by Dr. Bonjour, of Loussanne, in which he reported the treatment of warts by suggestion. The author claimed to have been cured of a wart by suggestion.

Dr. Ebbinghaus read a paper on the necessity of examining school children to determine their mental sufficiency or insufficiency.

Along with these papers there was an exhibition of various apparatus and one of especial value built by the Berlin Electrical Company for Roentgen illumination. All the internal viscera, more especially the heart, stomach, and diaphragm, and the movements of the latter, could be plainly followed on the fluorescent screen.

Professor Strumpf adjourned the congress, which had lasted four days, until 1900, the next session to be held at Paris the year of the exhibition.

"THE APPENDICITIS CONTROVERSY."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: As a constant reader of the New York MEDICAL RECORD, I have taken a great deal of interest in the recent discussion carried on in your columns about the effectiveness of the operation for the removal of the appendix vermiformis in cases of inflammation of the appendix. I am, as a section of the Populists call themselves, a middle-of-the-road man, believing that while the operation has saved a large proportion of patients, it has also killed not a few of them—not for lack of skill in its performance, but for lack of judgment in the selection of cases to be operated on. Nowadays it is quite the style to belittle the physician and to elevate the surgeon. I honestly believe that the mortality arising from operative surgery would be decreased if the physician were given a little more consideration. To differentiate between the qualities which enter into the makeup of the successful physician or surgeon would take up too much of your space, even if I were capable of doing it properly; so I will content myself with detailing a brief and incomplete history of the following case, which may, perhaps, serve as an illustration of the point I wish to make. I was the family physician of the patient, but, as the history will show, was not responsible in any way for the treatment.

A telephone message was sent to my office on the evening of September 15th, asking if I was at home. The sender of the message was the father of the patient, who said if I was at home he would take his son down to my office, as he had been complaining of stomachache. On being told that I was absent and would not be home for some hours, he asked that I call at his house the next morning to see the boy. The boy, R. H.—, eleven years of age, had returned from the country the previous Saturday, September 12th, and, as his mother expressed it, "was in the pink of condition, never looked better in his life." On Sunday, September 13th, he complained of pains, supposed to be colicky and attributed to the fact that he had eaten some muskmelon the previous day. His mother gave him a dose of rhubarb and castor oil, which opened his bowels freely, and the pain ceased. He was up and out during the morning; toward evening the pain returned, but was less violent. He vomited several times during the day. Hot applications were imperfectly applied, and in the evening he went to sleep and did not again complain until early on Monday morning. He kept to his bed Monday (September 14th), resting at intervals and not complaining of pain. Thus the time passed until Tuesday (September 15th) evening, when, the pain having returned and in a more violent form, the father telephoned to my office. The parents became alarmed and sum-

moned a neighboring physician about nine o'clock that evening. The doctor remarked that the patient made a correct diagnosis of his own case, as he placed his hand over his appendix, pointing out the seat of trouble.

The physician recommended his immediate transmission to the hospital, and removed the appendix and had his patient resting in bed by 11 P.M. the same night. The father of the patient told me that the doctor said: "There was no pus found in the appendix, but it was in a catarrhal condition." The following day (September 16th) was passed comparatively quietly, with little rest, occasional vomiting, and more or less mental excitement, due probably to the ether inhaled.

I saw him, not in my professional capacity, but as a friend of the family, on Thursday (September 17th). I took his pulse very carefully, and found it beating 120, thready and dicrotic. To me he seemed dying, but I learned that the attending physician had expressed a hopeful opinion of his chances. He declined day by day, his temperature varying from 99° to 103° F., pulse from 110 to 140, until the following Monday (September 21st), when he died at about 5 A.M.

Now, here was a healthy boy, suffering from appendicitis, who seemed to start for the grave, not rapidly but gradually, from the moment of operation. At no time after the operation did there seem a chance for his recovery. The operation was uncomplicated, as shown by the rapidity with which it was done. Would it not be reasonable to infer that the wrong time was chosen? Might it not be even inferred that without the operation the patient would have recovered? Even with the operation, the chances of recovery would have been better if it had been delayed for twenty-four hours, during which time every effort might have been made to reduce the tendency to general peritonitis by warm applications effectively applied, by the administration of opium, and the consequent rest. In cases like the above, the physician, in my opinion, would be a very important factor in determining the ultimate fate of the patient. His training and his powers of observation are very different from those of the surgeon, who is always looking for the concrete, while the physician takes both abstract and concrete into consideration.

FREDERICK J. HALTON, M.D.

BROOKLYN, N. Y.

CONGENITAL INFERIOR INCISORS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The undersigned was called February 22, 1896, to Mrs. L— who was in her second confinement and at the eighth month of gestation. Twins were born and on examination one of them was found to have two congenital inferior incisors. The teeth were projecting probably one-sixteenth of an inch above the gums but were very loose and movable, and could have been removed with the fingers. The children were both small, poorly developed, and rachitic in appearance. One tooth disappeared at the tenth week and the child died the twelfth week. This occurred suddenly and away from home. The physician who was called found it in convulsions and considered death due to meningitis. The remaining tooth was removed and given to me. The case was seen at various times by a large number of medical students and physicians, was shown at the April meeting of the Obstetrical Society of Cincinnati, and the tooth was presented to the Cincinnati Academy of Medicine. None of the gentlemen had ever seen a similar case. Margitot, Schürig, Pliny, Bartholin, Ballantyne, Vargas, Buist, Mackenzie, Forchheimer, Jacobi, and Pierce have written on the subject.

E. S. MCKEE, M.D.

CINCINNATI, OHIO, October 6, 1896.

MOVABLE EARS IN MAN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with great interest an article in your issue of September 12, 1896, on "Rudimentary Organs," by Cora H. Flagg, M.D. In reading what the author says of the external ear, I remembered having seen two or three people who were able to move voluntarily their ears. There is a good anecdote of a German professor of anatomy (of course such things occur only with German professors) whose son possessed that exceptional gift. Every year, when the time came, the professor used to take his son to the class and at the proper moment said to him: "Now, Charlie, move your ears for the gentlemen."

I once knew an old man from Central America whose ears had a peculiar animal-like form. They were elongated and pointed above and covered all over with upward-tending hair of about one inch in length, forming at the point a brush as we find it on the ear of the squirrel.

F. SEMELEDER, M.D.

CORDOBA, STATE OF VERA CRUZ, September 28, 1896.

"COLLAPSE FROM EXCESSIVE VOMITING."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was much interested in the article appearing in the MEDICAL RECORD of September 26th, by Carlos C. Booth, M.D., of Youngstown, O., relating the history of a case entitled "A Case of Collapse from Excessive Vomiting Successfully Treated by Intravenous Infusion of Saline Solution." He states that he found his patient, at 5 P.M., July 28, 1896, vomiting large quantities of fluid, associated with general cramps, for which he administered a large hypodermic injection of morphine, and repeated the same large dose at 8 P.M. On the following day, "although he had received large hypodermic injections all this time at intervals of two or three hours, the vomiting continued." July 30th, at 9 A.M., he was still vomiting, and from excessive loss of fluid (?) was rapidly approaching death. Now the treatment was changed to nitroglycerin and strychnine.

As I look upon the situation, it was the patient's good fortune when the doctor began the use of the two last-named drugs and stopped the morphine, as it is well known that in many the use of morphine produces vomiting and depresses and weakens the vital forces, especially in those unaccustomed to its use, and particularly so when used in "large doses" and repeated at frequent intervals for a considerable time. I believe the doctor can congratulate himself, not only upon the use of the saline solution, but upon the disuse of the morphine and the substitution in its stead of nitroglycerin and strychnine. I further believe that too great caution cannot be exercised in the administration of morphine in large and repeated doses, especially at a time when the patient is suffering from a disease that is prostrating in its effect, as collapse may precipitate the case beyond reaction before we are aware. In the case to which the article refers, there was no secretion of urine from July 28th to the 31st. I believe this condition of suspension of the function of the kidneys was also largely, if not wholly, due to the use of the morphine rather than to the disease itself.

F. L. SANTWAY, M.D.

THERESA, N. Y.

Blood Purifiers and Nerve Tonics.—The chemist of the Massachusetts board of health has made an analysis of ten of the most popular nerve tonics and blood medicines, and has found them to contain from 7.9 to 26.2 per cent. of alcohol.

Surgical Suggestions.

Tuberculous Glands should be removed without rupture of their envelopes, as otherwise systemic infection is liable to result.

Puerperal Septic Disease.—Dr. G. A. Solovioff, of Moscow, in discussing the treatment of diphtheroid lesions of the womb and vagina in puerperal cases, recommends painting the affected areas with iodine tincture.

Compound Fractures.—Tyson says the time has come when all compound fractures should be treated by uniting the ends of the bone, the wound being thoroughly irrigated. Five cases of apparently hopeless fractures of the ankle-joint are reported by Bach as giving very good final results.

Epilepsy.—Among the causes of reflex epilepsy may be mentioned ingrowing toenails and even corns, scars about the limbs, disorders of the genitalia (phimosis with adhesions, irritative conditions of the clitoris and mouth of the vagina), pinworms, rectal disorders, and even defective teeth.

Neoplasms.—Dr. Wiggin (*North Carolina Medical Journal*) says that neoplasms occur with greater frequency in the female than in the male subject. Statistics show that the breast, next to the uterus, is the most usual site of these morbid changes—seventeen per cent. in the latter. Williams found, in a collection of 13,824 primary neoplasms, 2,397 cases in which the female breast was affected.

Acute Osteomyelitis of Long Bones.—Dr. Walter is reported in the *Revue de Chirurgie*, December, 1895, as saying that: 1. The results of treatment depend on the thoroughness and promptness of operation. 2. The bone shaft must be freely opened; thorough curettage, disinfection, and drainage must be employed. In mild forms bone trepannage with local and constitutional measures may succeed.

Shock.—In France, for cases of severe shock from hemorrhage, instead of the intravenous injection of normal salt solution (six parts salt to one thousand parts sterilized water), hypodermic injections of Hayem's serum are employed. This serum consists of five grams of sodium chloride, twelve grams of sulphate of sodium, and one litre of distilled water. This fluid is sterilized by being brought to the boiling point.—*Medical Recorder*.

Varicoceles.—Dr. Dardignae (*Revue de Chirurgie*, September, 1895) reports eighteen cases of resection of the scrotum for painful varicoceles. The resection was bilateral when the varicocele was double or very large and the scrotal tissues were badly stretched. In three cases the resulting hæmatoma made it necessary to relieve tension by cutting the stitches, but these were the only unfortunate events in the series. Most of the operations were done three to five years ago, and the patients express themselves as perfectly satisfied with their condition. All have been actively employed and some wear no suspensory.

Phlebitis.—Dr. White treats phlebitis arising as a sequela of typhoid fever as follows: He elevates the limb and keeps it at rest. He applies over the vein an ointment of equal parts of the ointments of belladonna, mercury, compound iodine, and cosmoline. He applies a flannel bandage to secure a proper amount of pressure. As the swelling subsides, cautious massage is applied. Rest is imperative, otherwise there is danger of embolism and consequent paralysis.

Osteomyelitis.—Dr. Wyeth says that when osteomyelitis is present, it is not necessary to amputate the whole limb, as has been taught, and many a leg has been sacrificed that might now be saved. Bones affected by osteomyelitis can be saved, provided good drainage is established. In the femur a large opening just above the knee, in the humerus just above the elbow, is to be made, and the canal thoroughly curetted from one end to the other, under irrigation with some powerful antiseptic solution, and a large drainage tube inserted, with iodoform gauze stuffed lightly around it. Antiseptic irrigation has to be made every day or two, the tube being gradually withdrawn. This practice has been attended with invariable success.

Prognosis in Cerebral Hemorrhage.—Dr. Barr, in a lecture delivered at the Leeds General Infirmary, concludes as follows: In any case of apoplexy due to hemorrhage into the hemisphere, if renal disease, Cheyne-Stokes respiration, or hyperpyrexia, either or all of them, or two of them, are present, the patient will almost certainly die. If no one of these is present and does not supervene, he will probably recover, regardless of the degree or duration of insensibility. Diabetes, chronic alcoholism, typhoid fever, or extreme anæmia (idiopathic) exert an effect just as fatal as associated disease of the kidney in hemorrhagic apoplexy.

Mammary Growths.—Dr. Rodman closes a paper on the subject with the following propositions: First, all mammary growths should be removed at once, for innocent tumors carried for a long time become a menace. Second, the complete operation should always be done in cases of malignant disease. Third, in nearly every case it is simply impossible to detect enlarged glands until the axilla is opened. Keen says that he cannot do so once in ten times. Fourth, the mortality should be with average operators about three per cent. Fifth, a radical operation should promise from twenty-five to fifty per cent. of permanent cures, according to the time when patients apply. Sixth, when in doubt, operate; never wait for symptoms.—*American Practitioner and News*, March 7th.

Cerebral Tumors.—Dr. H. G. Brainerd, professor of diseases of the mind and nervous system, University of Southern California, says the symptoms of cerebral tumors are of two kinds, viz.: those of cerebral irritation; and those arising from involvement of definite areas, which we call focal symptoms. The classical symptoms of cerebral irritation are: Pain (exacerbations paroxysmal), vertigo, vomiting, convulsions, slowness of speech, mental hebetude, emaciation, slow or irregular pulse, and double optic neuritis—all of which are increased by meningitis or softening, one or both of which usually accompany tumors. Focal symptoms vary with their location, the rapidity and character of the tumor, and may be either sensory or motor—which latter may be either convulsive or paralytic.

Only Once Before.—Dr. Keen, of Philadelphia, tells a good story of the famous Langenbeck. A patient was brought in whom he had examined previously and whose case he had diagnosed as a malignant tumor of the breast. He proceeded to remove the entire gland in a rapid and very brilliant manner. While an assistant was dressing the wound, Dr. Langenbeck, in the presence of the class, cut into the tumor to verify his diagnosis. The result was a liberal discharge of pus. He looked surprised, but with great composure remarked: "I never did that but once before in my life." An incision before removing the breast would have saved the great clinician some humiliation and the woman her mammary gland.

New Wound Dressing.—The Japanese surgeons during the late war employed as a dressing for wounds the ash of rice; the contained carbonate of potassium making it antiseptic.—*Medical Age*.

Painful Urination.—Dr. Parker (*Kansas Medical Journal*) says: "Causes other than gonorrhœa are as follows: Aerid vaginal secretions, endocervicitis, endometritis, discharges from malignant disease, pus from a healthy abscess, powerful injections, rough catheterism, passage of stones, and other causes."

Vulvo-Vaginal Catarrh.—Dr. Randolph Wilson, of Baltimore, Md., says that in his experience nearly all cases of vulvo-vaginal catarrh are of gonorrhœal origin; even in children as young as two or three years this is true, infection occurring through soiled linen, etc. Dr. Lanphear, of St. Louis, has recorded one case in a child of eight months, the nurse girl wiping her infected vulva with the napkin which she subsequently placed on the baby.

Lacerated Wounds of the Hand.—In cases of severe injury to the fingers by laceration or contusion, put the entire hand into a very ample soaking-wet dressing. Do not even trim off a piece of flapping skin. Incision for drainage is all that is allowable until healing is very well under way or even quite complete. You may then look over the ground and see whether it is worth while to sacrifice anything. A half-inch of boneless finger may be of incalculable value to the possessor.—*Cincinnati Lancet and Clinic*.

Colles' Fracture.—The splints should never be allowed to remain more than five or six days at the beginning of treatment, and after that not more than three days at any one time. It has always been my practice to remove all dressings on the fifth day and examine the condition of the arm, using massage and slight passive motion. After that I remove the splints and use massage and passive motion every second day until union is complete, which is from four to five weeks later, according to the age of the patient.—Dr. BEATTY, *Maryland Medical Journal*, April, 1896.

Hip-Joint Disease.—In young children the very beginnings of hip-joint disease are announced by muscular twitchings during sleep; added to this, the subject is irritable, the secretions are disturbed, the appetite is fictitious, the muscles are flabby and shrunken away on the affected side, the countenance is pale, and the signs of illness are very apparent. Soon follows a little limp in the gait, attended by pains in the knee or ankle-joint—not often in the hip. These pains are at first very slight and may escape attention, unless the medical attendant is very alert. A rise of temperature will sometimes be noticed in the evening, and it may be continuous; toward the last of this stage more or less spasm of the muscles will have supervened.—*Medical Arena*.

Indications for Nephrectomy.—Dr. Kuster (*British Medical Journal*) restricts this operation to the following conditions: 1. Tumors of the kidney. 2. Tuberculosis of the kidneys; experience has shown that renal tuberculosis occurs very often primarily and unilaterally; it affects the genitals and the lower urinary passages more frequently than some other parts of the body. Severe persistent catarrh of the urinary bladder is one of the first symptoms which tuberculosis of the kidney presents; in cases of this kind nephrectomy gives excellent results, and complete recovery ensues. 3. Suppurating kidney caused by metastatic processes and foreign bodies, especially calculi. 4. Renal hæmophilia. 5. Movable kidney. 6. Injury to the kidney. 7. Calculous diseases of the kidney. 8. Uretero-abdominal fistula.

Buried Sutures of Silkworm Gut.—Dr. Edebohls (*American Gynecological and Obstetrical Journal*, May, 1896) says: "Proof was thus forthcoming, in the course of time and in the shape of resurrected buried sutures, that aseptic burial and primary union did not always end the matter. The aseptically buried silkworm-gut suture did not always remain as an innocuous and encapsulated foreign body in the tissues, but in a proportion of cases—estimated in my experience at between five and ten per cent. of all sutures thus aseptically buried at the time of operation—the suture at a more or less remote period caused suppuration, and, either with or without extraneous help, found its way to the surface and was discharged. I have given up trying to make the cæliotomy incision exactly in the median line, but, with a number of other operators, prefer to make it through one of the recti muscles, a little to one side of the median line. The purpose is to get bare muscle surfaces on either side of the wound, which, when brought together by suture, will help by the strength of their union to make the cicatrix just that much stronger."

Gauze Dressing.—Dr. Martenson (*La Médecine Moderne*, February 22, 1896) prepares dressings as follows: Rolls of cheese cloth, about thirty yards, are placed in jars, and different kinds of gauze are prepared by the following solutions:

Carbolized gauze, five per cent.: Colophene, 50 parts; castor oil, 15 parts; carbolic acid, 28 parts; alcohol, ninety per cent., 207 parts. Three hundred parts by weight of this mixture to 500 parts of gauze.

The following may be used: Vaseline, 30 parts; carbolic acid, 28 parts; benzene, 242 parts. Three hundred parts to 500 parts of gauze.

Thymolated gauze: Thymol, 10 parts; spirits of turpentine, 3 parts; paraffin oil, 10 parts; benzene, 200 parts. Equal parts of the solution and of the gauze.

Sublimated gauze: Bichloride of mercury, $1\frac{1}{2}$ parts; chloride of sodium, $\frac{1}{2}$ part; glycerin, 15 parts; distilled water, 500 parts. Equal parts of this solution and of gauze.

Iodoform gauze: Iodoform, 20 parts; paraffin oil, 10 parts; ether, 400 parts. The weight ratio is 460 parts to 500 parts. The gauze is allowed to soak for twelve hours, and is then dried and stored in an antiseptic air-tight jar.

Hernia.—Dr. Bannister (*Kansas Medical Journal*) concludes as follows: 1. The radical operation for the cure of hernia as now practised, especially by the Bassini and Halstead methods, is in the immense majority of cases eminently successful. 2. When performed by a competent operator under strict asepsis on a patient in good general health, the operation is devoid of danger to life. 3. By operating and securing a good result, the patient will not only be relieved of a great affliction, but will be spared the ever-threatening complication of strangulation, with all its dangers. 4. These propositions being true, it is the duty of the surgeon to advise operation in suitable cases, that is, in all cases in which the patient is not too old, or too fat, or in poor general health, whether the hernia can be retained by a truss or not. In the latter case, operation is urgently demanded.

Dr. De Garmo, of New York, says: (1) All reducible hernias should be operated upon, unless contraindicated by age or condition of the patient. (2) All omentum found outside the abdomen, or that will protrude under gentle traction, should be removed. (3) Multiple independent ligatures of good-sized silk, which surround the vessels alone or small pieces of fatty tissue, are believed to be safer. (4) The use of some film-forming substance, as aristol, on the stump, is believed to protect in a measure from subsequent adhesions.

Acute Pancreatitis.—Dr. Fowler (*Brooklyn Medical Journal*, April, 1896) gives the following diagnostic points: 1. The location of the primary seat of the disease in the epigastrium. 2. The suddenness of the attack, with severe gastric, epigastric, or abdominal pain, accompanied by great prostration and vomiting. 3. Tenderness in the epigastric region, with tympanites and a mass recognizable by deep palpation. 4. Absence of fever, or but moderate fever during the first two or three days of the attack.

Germ in the Vagina.—Many of the germs found in the vagina have no action upon the tissues. The fact "that micro-organisms are present in great variety" in the vagina does not endanger the parturient woman. The bacteria that possess pathological significance are mostly anaerobic. They do not enter the circulation or thrive in the blood, neither are they absorbed through the vaginal walls. They may be the source of fetid odors, which reflect upon the cleanliness of the patient. Doederlein has discovered a bacillus which intensifies the acid reaction of the vaginal secretion, and renders it unfavorable to the multiplication of the streptococcus.—WILLIAM T. LUSK (before the section on gynecology of the College of Physicians of Philadelphia, January 16, 1896).

Division and Immediate Suture of the Left Vagus Nerve.—Dr. Makins (*British Medical Journal*, May 16, 1896), in removing a secondary epithelioma of the neck, divided the left vagus nerve above the centre of its cervical portion and sutured it immediately. The muscles supplied by the recurrent laryngeal branch were paralyzed. The quality of the voice improved rapidly, and two months later it was nearly normal. Laryngoscopical examination showed the left vocal cord fixed near the middle line, and in phonation the right cord moved up to it. Apparently the adductor fibres partially recovered, but not the abductors. The operator admitted that the functional activity of the vagus might have been lowered by long-continued pressure by the tumors. He thinks it proves that one vagus can be divided without danger, and that at least a partial restoration of function is possible.

Wounds of the Peritoneal Cavity.—1. A penetrating wound of the peritoneal cavity is not accompanied by symptoms commensurate with the extent of the injury. 2. Many fatal lesions may be present, yet give rise to no marked symptoms. 3. Fatal lesions may exist, yet shock be wanting. 4. The wound of entrance should be enlarged, and, if the missile have entered the abdomen, a section is called for. 5. Operation is proper soon after the injury, before the peritoneal membrane has become infected or much blood has been lost. 6. Flushing the open peritoneal cavity with hot water or hot normal salt solution is an excellent stimulant to the heart. 7. The abdominal wound should be closed when practicable without drainage.—DR. TIFFANY, *American Journal of the Medical Sciences*, May, 1896.

Shock.—1. Inhalation of nitrite of amyl, not alone while the patient is on the operating-table, but repeated afterward at intervals. 2. The hypodermatic injection of nitroglycerin in large doses; that is to say, when this drug is indicated at all we must secure its full effect speedily, and in order to accomplish this the dose must be such as under ordinary conditions might be toxic. One-fifteenth to one-twentieth of a grain, repeated until the effect on the pulse is evident, should be the rule. 3. Repeated injections of hot saline solution, given by high enema so that the fluid will pass into the transverse colon, are most valuable adjuvants, not only tending to relieve vasomotor

spasm, but also supplying to the circulation the fluid lost by hemorrhage during the operation. 4. Finally, hypodermatic injections of strychnine, in the dose of one-fifteenth of a grain, assist markedly.—BOISE.

Brain Tumors.—1. A new growth may be present in the brain without causing any general cerebral symptoms whatsoever. In order to make an early diagnosis of a new growth it is well, therefore, to be guided by the symptoms present rather than by the absence of other customary symptoms. 2. A cystic tumor of the brain not of parasitic origin is not so innocent in character as many would believe. 3. The simple evacuation of such a cyst when found is not sufficient; if it is surgically possible, the wall and the surrounding brain tissue should be excised, in order to prevent a future growth of the malignant elements left in the wall of the cyst. 4. If the immediate excision is not possible, it would be advisable to open the wound a few months later and attempt to excise the collapsed cyst wall, which is compressed into a small space by the general cerebral pressure, in the same way in which an abscess cavity is quickly obliterated after evacuation.—DRS. STIEGLITZ, GERSTER, LILIENHAL, *American Journal of the Medical Sciences*, May, 1896.

How to Protect the Internal Organs in Gonorrhœa.—Dr. Auvard (*Arch. de Toccol. et de Gynéc.*, June, 1895) advises against the use of the curette in the course of acute gonorrhœa. Experience has shown that its use is attended with the danger of extending the disease to the tubes and ovaries. In spite of the greatest care, a minute piece of infected glandular tissue may be left behind. The entire surface of the uterine cavity may be disinfected by and after the scraping, yet then the mucosa, which acts as a rampart against microbic infection, has been destroyed. The probable entrance of specific pus from the vagina sets up a uterine gonorrhœa whose type is worse than the first attack. In order to prevent inflammation of the tubes and ovaries, complete rest must be enforced. In gonorrhœal salpingitis the great danger is sterility. The uterine cavity is best left alone. The vagina and cervix should be swabbed with a one-per-cent. solution of nitrate of silver once or twice a week, and a solution of bichloride of mercury (1 to 1,000) should be employed twice daily as an injection. In the early stages of inflammation of the appendages, Dr. Auvard uses ice topically. When pain is less intense, blisters will be of use. The patient should not get up till after all the pain has passed off. Then glycerin plugs should be applied about three times a week. By these methods of procedure, employed sufficiently early, sterility and the need of removal of tubes and ovaries may be averted.

Nitroglycerin.—It is an excellent stimulant in syncope, in threatening heart failure or collapse from various causes; in acute lobar pneumonia, used early enough and boldly enough, it may render venesections unnecessary, and its skilful use often aids recovery from apparently desperate conditions. It is useful in chronic interstitial nephritis, in conditions of arterial fibrosis and atheroma, in gout and rheumatoid arthritis, and sometimes in anæmia, chlorosis, and the anæmia of tuberculosis. In the management of cases of muscular and valvular disease of the heart it finds a wide field of usefulness; in dilatation it may be used with digitalis; in fatty heart it may be used without other drug; in cases of mitral lesion it may be conjoined with digitalis, strophanthus, sparteine, and the like; in cases of aortic lesion, atropine, strychnine, and caffeine may be used with it.—*Philadelphia Poly-clinic*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 10, 1896:

	Cases.	Deaths.
Tuberculosis.....	112	90
Typhoid fever.....	24	5
Scarlet fever.....	50	4
Cerebro-spinal meningitis.....	1	3
Measles.....	33	6
Diphtheria.....	159	17
Smallpox.....	0	0

Antitoxin Collective Investigation (Second), American Pediatric Society.—To the Profession: The American Pediatric Society is encouraged to ask the co-operation of the profession in a further collective investigation. Laryngeal diphtheria is believed to furnish a crucial test for antitoxin; the present aim is to ascertain: (1) What percentage of cases of laryngeal diphtheria recover without operation, under antitoxin treatment. (2) What percentage of operated cases recover.

The society asks for records of cases of diphtheria involving the larynx, whether operated or not, occurring in private practice in the United States and Canada, treated with antitoxin. It is expected that cases occurring this year will probably be treated with reliable preparations of the serum, will be treated early, and will be given efficient doses.

In order to secure data which shall make the tables complete, circulars containing blanks for ten cases have been printed and are now ready for distribution. It is desired that physicians shall fill out the circular as cases occur, not trusting to memory, and shall urge their friends having similar cases to record them. Circulars can be had by applying to the committee, (address below). Several groups of cases in the first investigation arrived too late and were lost to the report. It is desired that circulars as soon as filled (ten cases) be returned to the committee. The collection of cases must close at the end of March, 1897.

The second report is designed to be a study of cases occurring between the closing of the first report, May 1, 1896, and the closing of the present collective investigation, April 1, 1897.

For extra circulars (blanks), for returning circulars (filled), and for further information please address the chairman of the committee, W. P. Northrup, M.D., 57 East Seventy-ninth Street, New York, N. Y.

The action of the society upon the first report. (1) **Dosage.** For a child over two years old, the dosage of antitoxin should be in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary: a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

(2) **Quality of antitoxin.** The most concentrate strength of an absolutely reliable preparation.

(3) **Time of administration.** Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

Syphilitic Reinfection.—According to the conclusions of a paper read at the late congress of dermatology in London by Dr. Cotterrell, one attack of syphilis, though generally conferring life-long long immunity, does not always do so, and reinfection, though rare, is surely possible. The negative evidence presented by several who spoke was preponderatingly outweighed by the statements of those who had seen instances.

A Doctor's Manifold Duties.—The following extract, says *La France Médicale*, is taken from the "Memoirs of Marshall Castellane:" The Marchioness of Talam is over fifty, but she believes it is absolutely necessary for the good of her health that she should have a man beside her at night. Whenever M. de Talam is absent she consequently makes her people sew up M. de Courtivron, one of his relatives, or else M. de Chavagnac, one of his friends, in a sack, and has him put into her bed. In the morning she is careful to summon her attendants, or, at all events, the chambermaid, in order that they may testify that the sack has not been unsewn. At present MM. de Chavagnac and de Courtivron both happen to be away at Madrid, attached to the embassy of M. de Talam, so it is M. Boirot, physician of the Nérís hydropathic establishment, who for the moment occupies the post of honor. I can assure you that this is in no wise a jest. My secretary is connected with the doctor, who, positively, is shut up in the sack every night.

The Surgical Corps in the Cuban Army consists of eighty physicians, distributed among its six different corps. The head of the service is Dr. Joaquin Castillo Duany, surgeon-general, a graduate of an American university, and formerly attached to the United States navy, in which capacity he formed part of the crew that started in the Rodgers relief expedition to the Jeannette. When the present revolution broke out he was medical inspector at the Juraque iron mines. He joined the ranks of the Cubans, together with Mr. Kilpatrick, one of the managers, and several of other employees, all Americans. Surgeons in the Cuban army have no limited time of service, receive no pay, acquire no fame or rank. These men, brought up under the refining influences of civilization, abandon their practices, their homes, their families, and start on a gloomy career of hardship and danger, with the possibility of being caught by the Spaniards and shot by the roadside. The surgeons are all provided with first-class French instruments and in their operations they always make a lavish and intelligent use of antiseptics, for in Cuba's burning climate tetanus and secondary suppuration set in with astonishing rapidity. Drugs are often hard to obtain, there being no regular base of supplies. In many cases in which mercury, bichloride, iodoform, and carbolic acid are unattainable, wounds are sprinkled over with finely powdered burnt coffee, which proves a powerful antiseptic. Fevers are often and successfully treated, in default of quinine, with a decoction of the "condeamor" leaves from creeping plants of valuable febrifuge properties. As alcohol can be had plentifully at any sugar plantation in a reasonably pure state, tinctures of many native plants are constantly prepared which have been found effective by previous trials. Chloroform and ether are things unheard of in those wildernesses, and nothing illustrates more graphically the Spartan heroism latent in the Cuban nature than the unflinching way in which they submit in full consciousness to the ominous knife. It is not strange there to see a man light his cigar and look on coolly while his arm or leg is being amputated, just as if it were a matter of no concern to him.—*Journal of the American Medical Association.*

The Total Abstainer's Tipple.—The following preparations were recently examined by the Massachusetts State board of health, with reference to the percentage of alcohol contained in them: Ayer's sarsaparilla, 26.2; Paine's celery compound, 21; Hood's Sarsaparilla, 18.8; Greene's nervura, 17.2.

The Drug Habit.—The American people have been called a medicine-taking nation. If the quantity of drugs prescribed by physicians, the masses of patent medicines, the barrels of so-called home remedies, such as teas, decoctions, infusions, and other monstrosities, swallowed by the American people were ascertained, collated, arranged, and published in a book, it would strike the reader dumb with astonishment.—ULRICH.

War Dogs.—In the German military manoeuvres of this year, dogs will be used in the ambulance department. At the command "seek," accompanied by a gesture indicating the direction in which search is to be made, the trained dog goes off to the field, finds the wounded man, returns with a cap, helmet, or piece of clothing, brings this to the ambulance men, and then returns with them to the spot at which the wounded man lies.—*The Physician and Surgeon*.

Every Medical Man should be a member of a medical society. He will never know how great a man he is till some one praises him in a discussion, nor how small a man till some pompous fellow-member takes him to task; but all these frictions serve but to round and smooth a busy life, and no one can do without it who desires to be a physician in the highest acceptation, and not a man who doctors.—*Atlantic Medical Weekly*.

Effect of Occlusion of the Nutrient Vessels of the Brain in Rabbits.—In some recent experiments (*Arch de Biol.*) C. Giltay found that temporary occlusion of the carotid and vertebral arteries in the rabbit caused, through vasomotor influence, dilatation of the collateral vessels arising from the subclavian arteries, recognizable by the augmented pressure in the cephalic portion of the carotid. The dilatation of the collateral vessels was sufficient to enable the animal to live after permanent occlusion of all four cerebral vessels if it were not brought about too suddenly (two or three minutes). The experiment was not successful unless the subclavians were left unoccluded.

False Alarm.—There is a physician in Cleveland who is pretty sure to stutter when under the stress of excitement. Some time ago he had occasion to officiate professionally on an interesting occasion, and his vocal infirmity was the cause of a funny misapprehension. The husband and prospective father, who, by the way, had set his heart on a son and heir, was nervously pacing the library when the doctor entered. "Well, doctor," cried the husband, forcing a smile, "is it twins?" "Tr—tr—tr," began the doctor. "Triplets! Great Cæsar!" "Qu—qu—qu—" stammered the doctor. "Quadruplets! Holy smoke!" "No, no," cried the doctor. "Qu—Qu—quite the contrary. Tr—tr—try and take it ph—philosophically. It's just a girl."—*Cleveland Plain Dealer*.

Longevity and Labor.—An English report mentions thirty-three persons upward of one hundred years of age alive in Great Britain in the year 1893. The oldest was a woman, one hundred and sixteen years old, if the claim was correct, though such cases are usually to be taken with some discount. One of the most striking facts regarding these centenarians is that their lives were those of simplicity and industry. It is not useful work, but anxiety which kills men. Overwork of the stomach, liver, or kidneys is vastly

more damaging to a man than overwork of the brain or muscles, since so long as the stomach is intact, overworked muscles may be easily repaired; and so long as the liver and kidneys retain their integrity, the effects of excessive brain work are easily removed by the elimination of the resulting poisons from the body. Many die from overwork, but it is overwork at the dinner table rather than in the field, workshop, or counting-room. Hard labor is healthful. The majority of men, and women also for that matter, are suffering, not from overwork, but from too light work. More work is required. It may be more mental activity or more muscular exercise. Evil results from work flow not from excessive work, but from a lack of the proper distribution of work so that every organ and every faculty receives its own share and not one organ an excess and another a deficiency.—*The Journal of Hygiene*.

The Survival of Typhus Fever.—Typhus fever has long been the reproach of Liverpool. Though greatly reduced in its proportions, it still lingers there in spite of all the efforts of the sanitary authorities. It looks, indeed, as if students of this disease would soon have no other field for its observation. It is disappearing in Ireland. Doubtless Glasgow could still supply a few cases. But in the hospitals of the Metropolitan Asylums Board of London last year there were only three cases, all in the Eastern Hospital; all the patients happily recovered. In any general hospital of London it is a veritable rarity, but in Liverpool the disease still has a habitation and a name. There were last year in the city, according to Dr. Hope's report, one hundred and sixty-two cases, of which twenty-four died. Even in Liverpool the increasing rarity of it makes diagnosis difficult, especially in the dirty and dark conditions under which the poor in Liverpool live. The first cases, it is said, usually occur among children. The symptoms are obscure and the eruption much covered and concealed. The ages at death of the cases were as follows: from two to five years, two; from five to ten years, one; ten to fifteen years, one; twenty to thirty years, one; thirty to forty years, eight; forty to fifty years, eight; fifty to sixty years, one; and sixty years and upward, two.—*The Lancet*.

Crimson Clover Hair Balls in Horses.—The division of botany of the United States department of agriculture has recently investigated the cause of death of horses that have been allowed to feed on overripe crimson clover (*Trifolium incarnatum*), a species of clover recently introduced from Europe. The calyx of this clover is densely beset with stiff hairs, which at maturity become thick-walled, and doubtless, though not so stated by the department, the cellulose, constituting the young cell of which the hair is composed, is transformed into lignin, or some other substance indigestible for the horse. The surface of the hair is marked by sharp-pointed tubercles bent toward the apex. Taken into the stomach of the horse, these hairs form themselves into masses of a spherical shape. They are arranged with their bases toward the centre of the ball, this position being facilitated by the tubercles pointing toward the apex of the hair. When the balls reach a certain size, apparently in from a few days to several weeks, they pass into the intestines, where they form obstructions, causing intense suffering and death in a few hours following the appearance of the first symptoms. No bad effects are observed when the clover is eaten before the seed matures. The fatal effects have mainly occurred when the plants were allowed to fully ripen and the straw and refuse, after threshing, had been fed to the horses.—*Pittsburg Medical Review*.

Teacher: Name the most important canal in America. Bright Youth: The alimentary canal.—*Kansas City Medical Record*.

The Hair of the Dog.—The natives of Bushmanland, in South Africa, swallow the poison from the glands of freshly killed snakes to obtain immunity from snake bite.—*North West Lancet*.

Roentgen-Ray Dermatoses.—Dr. Marcuse, of Berlin, has observed a peculiar brownish-red discoloration of the skin after exposure to the x-rays, followed by desquamation and falling of the hair, as in alopecia areata.—*Lancet*.

Management of Disease in Infancy.—No matter how strongly we may be convinced of the value of any drugs or combination of drugs, if they continue to disturb the stomach they are worse than useless. The use of all drugs is of very minor importance as compared with dietetic and hygienic treatment. In the management of any single (acute) case the important points are thorough evacuation of the stomach and bowels, and then rest to these organs again for from twelve to twenty-four hours. No patients do worse than those whose mothers cannot appreciate the value of starvation and insist upon giving milk in violation of the rules laid down.—DR. L. EMMET HOLT.

A Certain Doctor had occasion, when only a beginner in the medical profession, to attend a trial as a witness. Counsel, in cross-examining the young M.D., made several sarcastic remarks, doubting the ability of so young a man to understand his business. "Do you know the symptoms of concussion of the brain?" asked the learned counsel. "I do," replied the doctor. "Well," continued the attorney, "suppose my learned friend, Mr. Bagwig, and myself were to bang our heads together, should we get concussion of the brain?" "Your learned friend, Mr. Bagwig, might," said the doctor quietly.—*Argonaut*.

The Goat and Sheep Will Not Cross.—Ch. Cornevin stated before the French Academy of Science, August 3d, that certain biologists admitted that the sheep and goat were capable of cross-breeding, and that Gay in his writings had accepted this as the origin of the wool-producing animal of Chili called the chabin. Cornevin, however, found that while the male goat copulated freely with ewes, yet there was no offspring, and the same observation had been made during experiments instituted at the school of agriculture of Santiago. Further, it was shown at this school that the sheep and the chabin crossed freely, proving that the latter was only a race of sheep, as was further attested by its anatomy, which resembled that of the sheep and differed from that of the goat.

Graveyard Soil.—Dr. J. B. Young (*Journal of the Royal Microscopical Society*) writes that the soil of graveyards contains, as a rule, more bacteria than virgin soil, the difference being most marked in the deeper layers, although the number of bacteria is not so great as one might expect. The bacteria are not most numerous immediately surrounding the coffin, but at some distance above, while at a short distance below the coffin there is a marked diminution in the number. Liquefying bacteria are abundant in the soil in the immediate vicinity of the coffins. Burial has little if any effect in increasing the organic matter in the upper reaches of the soil, whereas it has a very marked effect on the layers containing the coffin, *i.e.*, at depths greater than four feet from the surface. The organic nitrogen and carbon in graveyard soil are by no means so great in amount as is commonly supposed.

Nostrum Selling in France.—According to the *Paris Journal de Médecine*, the tribunal of the Seine has decided a case against certain parties named Hirschfield, Bryant, Guillon, and Picard, who opened a store on the Boulevard Poissonnière, where they sold a "Le Tueur de Microbes Radam," or Radam's Microbe-Killer—a watery solution of sulphuric and sulphurous acids. The courts held that this was illegal practice of pharmacy and medicine. Each defendant was fined \$100 and expenses under the criminal code, and under the civil code were compelled to pay the Seine Society of Pharmacy \$200, with damages and interest. This finding must be published at their expense in two daily papers. The nostrum shop of Radam's wonderful American germ-slayer was ordered closed. Alas, that such a great discovery should be shut out! It is to be feared that American nostrum dealers will find fatal opposition in France.

Books Received.

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A SYSTEM OF SURGERY BY VARIOUS AUTHORS. Edited by Frederick Treves, F.R.C.S. Volume II. 8vo, 1,120 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

FOODS, THEIR COMPOSITION AND ANALYSIS. By Alexander Wynter Blyth. Fourth Edition. 8vo, 735 pages. Illustrated. D. Van Nostrand Company, New York. Price, \$7.50.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA. Forty-sixth annual session. Volume XXVII. 8vo, 499 pages.

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PROSTATIC ENLARGEMENT: REMARKS INTRODUCTORY TO A DISCUSSION ON ITS NATURE, DIAGNOSIS, AND TREATMENT.*

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ALTHOUGH the subject proposed for discussion has long been under the scrutiny of the profession, and notwithstanding the progress made toward its elucidation, there is still need of much additional information respecting an ailment which is so distressing to humanity. The suffering caused by obstructed urination was graphically recorded by many observers in remote times, but the origin of any particular kind of obstruction was not discovered until the dissection of human bodies became frequent, and until Riolan, early in the seventeenth century, suggested that the neck of the bladder could be obstructed by a tumor of the prostate. Marked advances toward a more exact knowledge of the nature and treatment of prostatic enlargement and its effects began with this century, and honorably associated with these advances are the names of Everard Home, Jean Civiale, and Auguste Mercier. These eminent men were truly venerable pioneers in this field of investigation, and the present generation is reaping the benefits of their labors.

The results of recent researches into the nature, effects, and treatment of prostatic enlargement will, this day, be made known to the association, by several inquirers, in the hope that the debate they evoke may serve to help the general physician in the difficulties he sometimes encounters while endeavoring to form a diagnosis, and to enable him to give safe and speedy relief to the sufferers who have recourse to him in their distress.

The questions propounded for discussion are:

I. What is the nature of prostatic enlargement?

II. How is prostatic enlargement recognized?

III. What are the effects of prostatic enlargement, and how may they be counteracted?

IV. When is operative interference indicated, and what operations may be safely performed for prostatic enlargement?

Some consideration of the few subjoined points in the anatomy and physiology of the prostate is suggested as likely to be a helpful preliminary step in the direction of a right estimate of deviations from its normal state. This vesical prostatic body—said to have been discovered by Nicolas Massa about the middle of the sixteenth century—this mass of muscular and glandular substance, though ordinarily shaped somewhat like a chestnut, is subject to many variations, not only of form but of size and weight, as ascertained by the dissection of great numbers of specimens taken from men between the ages of twenty-five and fifty years, that apparently had had no serious urinary disorder. Among these specimens are very flat and short prostates, one inch in length, not over

half an inch in thickness, but occasionally very broad at the base, reaching two inches; there are also long and disproportionately slender prostates; and a few examples of the nearly globular which are one inch and a quarter in mean diameter. In a few cases they are undersized though of regular form; while others are in excess of size and weight of the normal typical organ, whose average length, from base to apex, is one inch and a half, whose average breadth, near the base, is one inch and three quarters, whose average thickness, near the base, is seven-eighths of an inch, and whose average weight is five drachms.

Springing from the antero-inferior part of the bladder, the prostate is directed downward and forward, its base embracing the vesico-urethral orifice and the anterior extremities of the seminal vesicles together with the ends of the spermatic canals, its apex being lost in the membranous portion of the urethra. Its antero-superior convex surface, distant from the pubic arch about three quarters of an inch, is covered by a closely adherent layer of muscle-tissue bands derived from the anterior wall of the bladder. Upon and among these superficial muscular bands are many veins which end in the plexus of Santorini, whose efferent veins pass along the sides of the prostate where the muscular layer is much thicker and gives attachment to the pelvic fascia and to the levator ani muscle. Its postero-inferior nearly flat surface, resting upon the lower end of the rectum, is invested with a prolongation of the thin layer of muscle tissue covering the seminal vesicles. This muscular layer is attached to the prostate by moderately dense connective tissue, and to the rectum by very loose connective tissue. Thus the prostate is securely encapsulated by layers of connective and muscular tissue. Its two lobes are united, from base to apex, by a superior isthmus and by an inferior isthmus, and this union forms the prostatic region of the urethral canal. The posterior third of the inferior isthmus, much thicker than the anterior two thirds, is called by Home the third lobe, and by Mercier the supramontanal region because it is above the *veru montanum*.

The prostatic body consists largely—from two-thirds to three-fourths of its bulk—of smooth muscle tissue which encloses the acini and tubes of great numbers of compound racemose mucous glands; the acini containing microscopic albuminoid sympexia, which first make their appearance during adolescence. The writer has found sympexia in the acini of prostatic mucous glands of boys of sixteen years. These acini, in adults, are about the one-three-hundredths of an inch in mean diameter; some of them are round and others are oval or oblong. In disease they are often distinctly visible to the naked eye. The tubes of different bunches of acini unite to form larger tubes, and these coalescing make up terminal excretory ducts, the greatest numbers of which open obliquely on the floor of the prostatic sinus at either side of the urethral crest. The orifices of some of the excretory ducts appear on the upper and lateral walls of the sinus, and a few open inside the utricle. The posterior third of the lower isthmus ("third lobe") seems to be the part which is richest in mucous glands.

* Read before the New York State Medical Association, October 13, 1896.

The prostate is well supplied with blood and lymph vessels, and derives its innervation mainly from the sympathetic system; the acini, the vessels, and the nerves being accompanied by fibres of connective tissue which form their delicate framework.

Physiologically considered, the prostate is both a genital and urinary organ. Genital, because its mucous secretion contributes largely to the dilution of the semen, and because, as a muscle, it helps much the ejaculation of the semen; urinary, because it aids in expelling the urine, being an integral part of the urethra. As a genital organ it is practically rudimentary until the period of adolescence, and does not attain its full size until about the age of twenty-five. It increases slightly in bulk after the age of fifty.

Question I. What is the Nature of Prostatic Enlargement?—Before endeavoring to answer this question, it is proper to say that the term enlargement is here used instead of "hypertrophy" with its strict meaning of overnourishment and its arbitrary signification of increase in size of existing individual component parts of organs as distinguished from hyperplasia—the multiplication of cellular elements—which occurs in the prostate as well as in other parts of the body. Although increase in size of the acini occurs in the prostate, hypertrophy cannot, with accuracy, be employed in respect of this organ, because the morbid states which give rise to increase of its volume are many and in none of them is the organ overnourished. The contrary seems to be the case, for the venous stasis which exists in diseased conditions of the prostate surely points to under rather than overnourishment. Physical exploration during life and dissection after death have long since demonstrated that prostatic enlargement is neither a single morbid entity nor a single morphic entity.

The chief morbid states that cause increase in bulk of the prostate are as follows:

1. *Acute inflammatory action* gives rise to prostatic enlargement which disappears when resolution is completed or which persists longer, as in the case of suppuration and abscess formation. In some cases acute prostatitis ends in the gradual shrivelling of the organ instead of its enlargement. A variety of acute inflammation with œdema of the prostatic mucous membrane extending to and closing the urethro-vesical orifice, and involving the prostatic ducts, causes not only retention of urine, but often general swelling of the prostate which, ordinarily, is transitory. Sometimes, however, this prostatic swelling persists several weeks or even several months after the subsidence of the acute inflammation. In subacute prostatitis the persistence of swelling is even more common than in this variety of the acute form.

2. *Chronic parenchymatous prostatitis* is a cause of transitory as well as of permanent enlargement of the organ. Transitory when, after a suitable course of treatment, the swelling vanishes, or, when rapidly increasing calcified sympexia are artificially removed, the prostate soon decreases or even shrivels. Permanent when dilatation of the acini occurs together with some increase of the muscle tissue, the calcified sympexia remaining almost microscopic in size. Such prostates generally become very large, are comparatively soft, and occur with greater frequency than the other kinds. In his work on "Diseases of the Urinary Apparatus," "Phlegmasiac Affections," 1892, the writer discusses the subject of chronic prostatitis and its effects at p. 170 *et seq.*

3. *Dilatation of the prostatic sinus* sometimes greatly increases the bulk of the organ. Of this kind, three cases have been observed by the writer. In one case the ectasia was due to the damming up of the urine by a narrow urethral stricture. The cavity thus formed had a capacity of sixty cubic centimetres. The

walls of the sac, consisting of the substance of the prostate, were of irregular thickness, from three to twelve millimetres. In consequence of cystitis and of frequent violent efforts to urinate, the bladder capacity was diminished, the walls of this viscus were thickened to more than a centimetre, and there was on the right side, close to the ureter, a diverticulum whose capacity was seventy cubic centimetres. There was also a well-marked urethro-vesical bar. The kidneys, which were not preserved after examination, showed signs of inflammation and fatty degeneration, and weighed two hundred and six grams. In another specimen the dilatation was quite as great and the prostatic sac contained a calculus which nearly filled it.

4. *Retention cysts*—due to extreme dilatation of acini from accumulation of the secretion owing to closure of excretory ducts—sometimes attain such dimensions as to increase very considerably the bulk of the prostate or interfere with urination. A prostate of normal size, dissected by the writer, contained a superficial retention cyst, one centimetre in diameter, at the right of and almost closing the urethro-vesical orifice. Large degeneration cysts are also sometimes found in this organ. Hydatid cysts very rarely occur in the substance of the prostate; they are generally found in its immediate vicinity and by mechanical pressure interfere seriously with urination.

5. *Tuberculosis*, though of rare occurrence in the prostate, increases markedly the volume of this organ, which it finally destroys. One specimen of this kind is in the writer's collection.

6. *True adenomata*—new-growths of adenoid substance with imperfectly elaborated and sterile structure—which do cause increase in size of the prostate, are very rare, and are transformable into carcinomata and sometimes into adeno-sarcomata. Careful examination of many hundreds of diseased prostates, during the past thirty years, has revealed to the writer only three cases of carcinoma of this organ.

7. *Fibrous tumors* are of extreme rarity and are transformable into sarcomata, but primary sarcoma does sometimes occur in the prostate to give rise to its enlargement.

8. *Diffuse increase of the prostatic fibrous framework* is also very rare and, like the isolated fibrous tumors, is liable to sarcomatous metamorphosis. Although diffuse increase of the fibrous tissue causes but little augmentation in bulk, it obstructs urination nearly as much as do very large prostates, owing to its hardness and to the urethro-vesical bar which it forms.

9. *Circumscribed multiple myomata* are known to cause increase in size of the prostate. Good illustrative specimens of this kind are preserved in the writer's collection.

10. *Diffuse increase of muscle tissue* makes up the greater part of the substance of some hard prostates, which do not always become very large, but cause obstruction to urination by forming a bar at the vesical neck.

Although the prostate is often uniformly enlarged without producing serious effects, it is clear that its enlargement cannot reasonably be regarded as a single morphic entity, as shown in the following statement of the main varieties of form:

1. The enlargement may be limited to one lobe of the prostate or may involve only the two lobes.
2. Enlargement of the lobes may be unequal, one being much larger than the other.
3. One or both lobes may project into the bladder.
4. One or both lobes may encroach upon and nearly close the prostatic region of the urethra, rendering its course irregular or even spiral.
5. The posterior third of the lower isthmus alone may be enlarged in the form of a roundish peduncu-

lated tumor, or of an irregular sessile mass, or of two separate sessile growths.

6. The whole of the lower isthmus alone may be enlarged.

7. Both lobes and the posterior third of the lower isthmus may be enlarged.

8. Both lobes and isthmi may be enlarged.

9. The enlargement of both lobes may be downward and backward toward the rectum, overlapping the anterior third of the seminal vesicles.

10. There may be only a bar at the neck of the bladder with little if any general enlargement of the prostate.

11. There may be intramural isolated tumors which are not perceptible before incision of the organ, or which, being sometimes superficial, are discoverable through rectal exploration.

12. Multiple tumors, from one or both lobes, may project into the urethra, with or without enlargement of the posterior third of the lower isthmus.

13. Multiple tumors, with or without general enlargement, sometimes spring into the bladder from the posterior third of the lower isthmus, and cause true incontinence of urine.

Here then are greatly differing morbid states which cause enlargement of the prostate with many varieties of form. Does it not seem plain, in consideration of such diversity of morbid states and freaks of form, that no exclusive method of treatment of these conditions can consistently be adopted, and that the proper management of any case must be premised by a diligent inquiry into the nature of the particular morbid state and the form and extent of the enlargement?

Chronic progressive enlargement, being the most frequent of the diseases of the prostate in elderly men, is entitled to the largest share of attention. Very often physicians are consulted by younger brethren in behalf of patients, under the age of forty, supposed to be suffering from chronic enlargement of the prostate, but in reality are harassed by dysuria due to transitory prostatic swelling or to spasmodic contraction of the vesical neck, either being a common sequel of urethritis or of persistent hyperlithuria. This misconception of the nature and era of chronic prostatic enlargement still exists in the minds of some physicians, notwithstanding the frequent reiteration, for many years past, that this affection does not generally occur until the sufferer has attained two score and ten years of age. The inexperienced are constantly mistaking transitory inflammatory swelling of the prostate for the chronic, slow, steady increase in bulk of this prostatic body, which very seldom begins before the age of fifty. It therefore seems justifiable to emphasize the often repeated statements that chronic progressive enlargement of the prostate is a disease of elderly men; that not more than forty per centum of men between the ages of fifty and seventy years are affected with chronic enlargement of the prostate; that the ailment does not ordinarily manifest itself before the age of fifty-five; that it rarely begins after the age of seventy; and that out of the forty per centum of cases not more than one in every six suffers seriously from disordered urination.

During the first half of this century, progressive enlargement of the prostate was regarded, by some physicians, as a result of chronic inflammatory action, but that opinion was not shared by many others, who, however, offered no better explanation, although they admitted the existence of passive congestion of the organ. A re-examination of the question, with the aid of modern methods of study, has led to the belief that phlegmasia action—often excited by persistent hyperlithuria, which is so common between the ages of fifty and sixty—is a potent factor in the causation of

this chronic enlargement. Post-mortem evidences point to a low grade of inflammation of the prostatic parenchyma, and microscopic inspection of the soft enlarged prostate of elderly men shows that its structure is not identical with what is known as a new growth, but that the increase of bulk is due to dilatation of the acini with augmentation of muscle-tissue bands. Such increase of muscle tissue seems to be an effect of violent and frequent contractions of the bladder and prostate in their efforts to expel retained urine. Therefore, this increase of muscle tissue is secondary to the diseased state of the acini involved in the passive phlegmasia, that yields an exudate sufficient to distend them and float the symplexia, which are soon encrusted with concentric layers of calcium phosphate, and thus become irritant bodies serving to aggravate the existing condition. Many of these calcified symplexia are discharged through dilated ducts and are found in the urine, but others remain in the acini or are impacted in ducts, and the consequence is accumulation of the secretion, further dilatation of the acini, and general or local increase of the prostate. Among the dissected prostates of men between the ages of fifty and fifty-five, many of the specimens showed marks of beginning enlargement of the lower isthmus and lobes and also in the form of small foci of dilated acini in the substance of the organ. In a few instances the foci projected to the surface of the posterior third of the lower isthmus. Some of these foci were not more than a millimetre in size, others were between two and three millimetres. The process of enlargement is so slow that the organ does not become inordinately bulky until the sufferer is much advanced in years. In some cases the muscle tissue is greatly in excess, while in the vast majority it is the dilatation of the acini which predominates. The gritty calcified symplexia are discernible when the prostate is incised with a sharp knife.

Analysis of the record of nearly every new case affords some evidence of the phlegmasia origin and slow development of chronic enlargement of the prostate. The following example is cited out of many carefully studied cases: A patient—now, May, 1896, fifty-five years of age—who had suffered from persistent hyperlithuria for more than five years before his first symptoms of chronic prostatitis, noticed, at the age of fifty-two, a slight muco-purulent urethral flow, particularly during defecation, together with uneasy sensations in the perinæum and rectum, but did not apply for treatment until a year thereafter, when he began to be annoyed by unduly frequent urination, for which he consulted the writer. At that time—when he was fifty-three years of age—there was no appreciable prostatic enlargement and he was able to empty his bladder. In the course of a year he was again examined through the rectum and the volume of the prostate seemed slightly increased, but there was no residual urine in the bladder. Six months after this he had an attack of cystitis, during which his urine was purulent and fetid, but became clear after six weeks' treatment, when his physician declared him well. Nevertheless, the frequency of urination by day increased and he was obliged to rise to urinate twice each night. He returned to New York, in May, 1896, complaining of pain in the hypogastric region and perinæum, and of frequent desire to urinate day and night. His act of urination, in presence of the writer, was characteristic of urethro-vesical obstruction. At the first attempt he could pass only an ounce of urine; after moving about for two or three minutes, he passed four ounces, and a few minutes later two ounces; in all seven ounces. A curved silk-web catheter was then easily introduced and four ounces of clear residual urine drawn. Digital rectal exploration revealed undue rotundity of the prostate and an

increase in volume estimated to be about one-third in excess of the normal average. By the aid of Mercier's short-beaked rectangular staff, a moderate increase of the posterior third of the inferior prostatic isthmus together with a corresponding depth of the lower vesical fundus was detected, and this accounted for the residual urine drawn. The hatching of the prostatic enlargement, in this case, seems to have lasted at least six years.

In the case of a man aged seventy-seven years, prostatic enlargement had existed ten years before complete retention of urine occurred and subsequent regular catheterism became necessary. In that time the prostate had not more than doubled in size. In another case fourteen years had elapsed from the beginning of enlargement before the catheter became indispensable. The patient was at that time eighty years of age, and during these fourteen years the prostate had more than quadrupled in size.

Mercier recognized the dilatation of the acini and the calcification of the symplexia, but was one of those that rejected the notion of the phlegmasiac origin of chronic enlargement of the prostate ("Recherches," etc., 1841); and yet he believed this enlargement to be due, in great part, to passive congestion. This admission is surely favorable to the phlegmasiac theory. Some modern writers regard chronic enlargement of the prostate as adenoma, but this view is certainly not in accord with the present definition of an adenoma, which is: a new growth of adenoid substance with imperfectly elaborated and sterile structure. It has already been stated that adenomata, as well as other new growths, are found in the prostate, but that their occurrence is very rare. In the great majority of cases of chronic enlargement, there is not the least appearance of new growth of glandular substance. The acini are not increased in number, but are greatly dilated—some of them from five to twenty times their normal dimensions—and ordinarily the muscle tissue is only slightly increased. Besides, there are, in and around these prostates, unmistakable signs of secondary phlegmasiac action. The periprostatic veins are gorged with blood, and in some cases are occluded by phleboliths. Although the surrounding tissues are indurated, the substance of the prostate is soft and spongy.

The diseased prostate sometimes attains very great dimensions. Among the last specimens dissected, one, taken from a patient who died at the age of sixty-seven, was, by external measurement, two inches and a half in thickness, two inches and a quarter from base to apex, and three inches and a half from side to side. In addition, the posterior third of the lower isthmus, one inch and a half broad, projected one inch and a quarter into the bladder, bulged toward the rectum, and pushed aside the spermatic canals and seminal vesicles, which were shrivelled and hardened. The length of the prostatic region of the urethra was two inches and three-fourths. The vesical wall at the lower fundus was much indurated and irregularly thickened from half an inch to three-fourths of an inch. The bladder, whose capacity did not exceed four ounces, contained a small phosphatic calculus. The calibre of the ureters was more than doubled, and there was on both sides pyelonephritis, the kidneys being more than twice their natural size. Notwithstanding the great increase of this prostate, the introduction of instruments was exceptionally facile; and the fact was accounted for after dissection, when the two lobes were found to be equally enlarged and the prostatic urethra very slightly curved, owing to inordinate thickness of the superior isthmus, the whole of the inferior isthmus being also very much enlarged. In a specimen prepared some years ago, the posterior third of the inferior prostatic isthmus

made up about one-third of the bulk of the diseased organ, in the form of a rounded mass, two inches in mean diameter, which nearly filled the lower vesical fundus. Many examples of extreme prostatic enlargement are on record, but only a few of them need now to be mentioned. In his work on "Diseases of the Prostate," fourth edition, Sir Henry Thompson figures and describes a prostate which was "nearly the size of a cocoanut, and weighed nine or ten ounces." The patient "expelled his urine very frequently and with difficulty, but emptied his bladder completely." This is a valuable illustration of the fact that general enlargement of the prostate, with great protrusion of the so-called third lobe, does not always abolish urination. Ford is cited by Mercier as having published, in 1802, the account of a diseased prostate that weighed nine ounces. Bartholinus is said to have seen a prostate equal in size to a man's head. This was regarded by Mercier as an exaggeration. Probably the largest prostate exhibited in modern times is the specimen figured by Dr. F. S. Watson, of Boston, in his essay on "The Operative Treatment of the Hypertrophied Prostate," 1888, plate xvii. The bladder having been dissected away, the diseased mass was photographed. The picture measured seven inches and one-eighth in extreme longitudinal diameter, five inches and three-fourths in largest transverse diameter, and four inches in smallest transverse diameter.

The other extreme in point of development is illustrated by a specimen taken from an elderly man whose death was due to the consequences of obstruction to urination by a very slight enlargement of the posterior third of the lower isthmus, which, however, had almost entirely closed the urethro-vesical orifice; the rest of the prostate being not more than two-thirds the average size.

Question II. How is Prostatic Enlargement Recognized?—To ascertain the existence of prostatic enlargement is often easy, but to identify any particular kind of enlargement requires a clear discernment of the several morbid states and varieties of form to which this organ is subject. Hurried, superficial examination is almost certain to lead to erroneous diagnosis, and this to improper treatment. A case in point is that of an elderly man, affected with prostatic enlargement, whose physician seemed to take into account only the fact of the enlargement, and therefore suggested what he conceived to be a radical operation. The patient then consulted another physician, who, after a very careful examination of the case, advised against any operative interference, for the time being, other than evacuative catheterism and daily vesical irrigation, because his diagnosis was sarcoma of the prostate, with a secondary nodule in the hypogastric region of the abdominal wall. The prostate then increased so rapidly that suprapubic cystotomy for drainage became necessary, and afforded great relief to the doomed sufferer.

In its inception, enlargement of the prostate is seldom recognized. Patients very rarely seek medical advice until the disease has advanced sufficiently to impede urination. In the case of those who do not suffer in consequence of the enlargement of their prostates, this condition is often only incidentally discovered. Large prostates, that had not caused the least inconvenience and the existence of which was never suspected, have been found in the bodies of old men dead of acute disease. In like cases, the enlargement is generally uniform. It should, however, be borne in mind that these prostates are liable to such swelling—due to exposure or to debauch on the part of the patients—as to cause retention of urine and cystitis, necessitating frequent catheterism; and that this swelling often lasts many weeks or even months, finally

subsiding so that the patients are able to urinate in a good stream and empty their bladders.

When urination is much disturbed, day and night, in an elderly man free from urethral stricture or vesical stone or tumor, the existence of multiform enlargement of the prostate may be predicated. It has already been said that the hatching of chronic prostatic enlargement is a very slow process, several years generally elapsing before any symptoms of impediment to the exit of urine are perceived. The patient then first becomes conscious of something being wrong with his urinary apparatus, on account of frequent desire to urinate, and, later, of difficult and sometimes painful urination; but these symptoms, being common to several other urinary affections, are likely to lead him astray as to the nature and, consequently, as to the management of his complaint. Frequent and difficult urination by day and by night, a sense of fulness and weight in the perinaeum and rectum, lumbago, and sciatica, are valuable symptoms when rightly interpreted. Frequent urination points to stagnation of urine and consequent cystitis. Difficult urination is evidence of obstruction, but the obstruction may be of the nature of a urethral stricture or of the impaction of a calculus in the urethra. However, in the case of an elderly man, free from urethral or calculous disease, difficult and frequent nightly urination forebodes prostatic obstruction. Chemical and microscopical examinations of the urine, so helpful in diagnosis, prognosis, and therapeutics, need to be made from time to time during the conduct of each case.

The mode of urination as indicative of prostatic obstruction is worthy of special notice. The patient stands leaning forward with his legs spread. After some delay the urine issues in a small, feeble, vertical stream, which soon stops, to be followed by the dribbling of twenty or thirty drops, that are succeeded by the small stream; and this continues until, in the course of two or three minutes, one or two ounces may thus be expelled. This process is repeated two or three times, with varied success, when the introduction of a catheter reveals the presence of six or eight ounces of residual urine. This kind of urination only specializes obstruction from prostatic enlargement; it does not characterize any of the varieties of form.

Digital rectal examination reveals, with sufficient precision, the extent of enlargement of one or both prostatic lobes, abnormal rotundity of these lobes, or multiple nodules indicating the presence of large calcified symplexia, isolated myomata, or cancerous growths. Hardness does not necessarily signify induration of the whole prostatic mass, for the peripheral parts only may be indurated, while the central portion may be soft and spongy. Exploration through the urethra with Mercier's rectangular short-beaked metallic staff reveals the existence of a urethro-vesical bar, or of a more or less extensive growth of the posterior third of the lower isthmus. Digital rectal exploration is negative when there is no enlargement of the prostatic lobes. In that case the physical diagnosis is made entirely by the urethral route, either with the rectangular staff or with the cysto-pylometer, by the aid of which the thickness of a urethro-vesical bar may be determined.

The exact statement of the diagnosis of prostatic enlargement is of importance not only to the practising physician but to the vital statistician. Too frequently only a condition common to prostatic enlargement, urethral stricture, and stone in the bladder appears in tables of diseases without explanation, as "retention of urine, chronic cystitis," etc. The writer, in endeavoring to obtain information respecting the relative frequency of the urinary diseases of males, examined the annual reports of many institutions for the care of disabled elderly men, and found it very

difficult and sometimes impossible to determine the character of the diseases catalogued in these reports, whose great value would undoubtedly be much enhanced if the compilers were permitted to place in brackets and in italics the name of the primary disease—as, for instance: Retention of urine [*from urethral stricture, from prostatic enlargement, or from vesical stone*], as the case may be; chronic cystitis [*from prostatic enlargement, from urethral stricture, or from vesical stone*], etc. Such additions would lighten the labors of, and be gratefully appreciated by, medical investigators and statisticians.

Question III. What are the Effects of Prostatic Enlargement, and How may They be Counteracted?—Uniform general enlargement of the prostate, without encroachment upon the urethra or bladder, except in the case of malignant disease or of tuberculosis, gives no inconvenience to the affected individual, who, however, if he be exposed to cold and moisture after excess in drink, is likely to suffer from retention of urine, due to transitory swelling of the already enlarged prostate, which generally yields to rest, systematic catheterism, and vesical irrigation.

The effects of those forms of prostatic enlargement by which the capacity of the urethra or of the vesico-urethral orifice is lessened are soon felt by the bladder, that vainly struggles, for weeks or months, against the obstacle, to rid itself of irritating urine. Hence the dysuria, the strangury, and the increase of muscle tissue of the bladder and of the prostate itself. The stagnant, alkaline, slimy urine affords sustenance to myriads of saprophytic and other organisms, and the resultant cystitis adds to the distress of the patient. Later, the phlegmasia process, if not checked, creeps up the ureters, reaches the kidneys, and the sufferer succumbs to ascending microbic pyelonephritis. Such is the end of neglected cases of prostatic obstruction to micturition. These ill-effects are often counteracted by regular evacuative catheterism—from two to five times in the twenty-four hours—and thorough cleansing of the bladder with a solution of corrosive chloride of mercury, 1 to 10,000, adding thereto one per centum of phenol, or 1 to 1,000 of formalin. In the course of a few days, a solution of nitrate of silver, 1 to 5,000, may be used once daily for vesical irrigation. This weak solution of silver nitrate seems to act beneficially upon the vesical epithelium, while it is as destructive of the bacteria as are the other antiseptics. When the bladder is very foul, the sublimate and phenol solution may be used in the morning, and the silver-nitrate solution in the evening, after having rinsed the bladder with warm sterilized water. Not more than four ounces of fluid should be injected into the bladder at a time, but three or four such injections may be made at each sitting. This palliative treatment is of great value, and often is the only kind indicated or practicable. In the case of small recurring phosphatic concretions, irrigations with acidulated water—one part of hydrochloric acid to two hundred parts of warm water—destroy the calculi without injuring the vesical mucous membrane. The same result is obtained by the use of acetate of lead, first suggested by Dr. Hoskins, of Guernsey—one part of acetate of lead and one part of acetic acid to four hundred parts of warm water.

The treatment designed to counteract many of the ill-effects of prostatic enlargement may be summed up as follows, and consists in taking suitable means:

- I. To combat hyperlithuria.
- II. To secure moderate acidity of the urine.
- III. To empty the bladder artificially—slowly and gradually when it is much overdistended.
- IV. To effect gradual hydraulic dilatation of the bladder when its capacity is lessening.
- V. To combat existing cystitis by daily vesical irrigation.

VI. To disinfect the urinary tract, as well as the prepuce and glans penis.

VII. To prevent calculous formation.

VIII. To preserve or improve the physical condition of the patient by such hygienic or medicinal treatment as may be required.

It is often asked: "What kind of catheter is best and safest for general use in cases of retention of urine due to prostatic enlargement?" If this enlargement were invariably the same in form and size, one single kind of catheter would undoubtedly always answer the purpose of relieving the bladder. But, since the enlargement is so frequently multiform and progressive, the physician must be provided with several species and varieties of catheters, out of which he may select one of a form suitable to the particular variety of prostatic enlargement affecting his client. The pliable catheters, with lateral or terminal eye, made of silk webbing coated with varnish, or of India rubber, are the safest that can be used. There are ordinarily eight different forms: (1) The straight, which may be used with a stylet, in the case of false routes, according to the method of Hey; (2) the curved; (3) the elbowed; (4) the crutched; (5) the double elbowed; (6) the straight olive tipped; (7) the curved olive tipped; (8) the "velvet-eyed" India-rubber catheter. No instrument which cannot be rendered aseptic should be used, neither should any fatty substance be employed to anoint the catheters. Soap, deprived of glycerin and free alkali, is an efficient and unirritating lubricant when mixed with a decoction of quillaja and duly sterilized. The following is a modification of the formula for a saponic lubricant, published in the *New York Medical Journal*, July 22, 1893:

R White castile soap, powdered.....	fl. i.
Water.....	fl. iiij.
Mucilage of chondrus crispus.....	fl. iiij.
Formalin (40 per cent.).....	℥ x.
Thymol.....	gr. v.
Oil of thyme.....	℥ v.
Alcohol.....	℥ xv.

Mode of preparation: Heat the soap and water, and stir until a homogeneous slime is formed; then add the three ounces of mucilage (made of the strength of one ounce of chondrus crispus to the pint of water). When cool, pour in the formalin, then the thymol and oil of thyme mixed with the alcohol; stir, strain, and keep in a covered vessel until all air bubbles have vanished. The result is an opalescent, slimy substance, of the consistency of honey, which should be put up at once in two-ounce collapsible tubes and sterilized. The chondrus crispus is substituted for the quillaja of the original formula, because of the objectionable quantity of alcohol in the tincture, and because quillaja decoction imparts to the mixture a dirty pinkish tint, whereas the chondrus crispus mucilage is colorless. The *Cetraria Islandica* was tested repeatedly and found unsuitable. The lubricant, in its present form, is sufficiently viscid, adheres well to the surface of all instruments, does not lump, and is unirritating to mucous membranes. The same quantity of chloral hydrate, or half the quantity of chloroform, or thirty grains of boric acid, may be used instead of the formalin if desired, since it is intended solely as a preservative of the mucilage.

All web catheters should be kept at full length and never coiled; otherwise the varnish will surely crack.

Web catheters should be loosely wrapped in dry antiseptic gauze, and preserved in tightly-closed metal cases until wanted for use.

Before using a web catheter it should be slightly warmed by friction in clean hands, and by a momentary immersion in a warm one-per-centum carbolic-acid solution to prevent cracking of the varnish, particularly during cold weather.

After using a web catheter it should be well washed by forcing a stream of water through the instrument, which should then be dipped for a moment into a one-per-centum carbolic-acid solution. It should then be thoroughly dried, wrapped in antiseptic gauze, and enclosed in a metal case. Catheters may be carried in hollow walking-sticks, but never in the pockets of patients.

All web catheters are liable to harden, lose their suppleness, and be unfit for use in the course of a few years, especially when they have not been in use. On the first appearance of the hardening process, the instruments should be cast aside.

Soft India-rubber catheters should be kept at full length, never coiled, and should be wrapped in moist antiseptic gauze, and preserved in tightly corked glass tubes, because exposure to the air leads to rapid oxidation, which causes the instruments to become hard and brittle.

Before using a rubber catheter, it should be well washed and momentarily dipped into a one-per-centum solution of carbolic acid.

Rubber catheters become brittle in about two years, and sooner if unused and exposed to the air. But when daily lubricated with fats they seldom last more than three or four weeks; then swell, lengthen, and become so soft as to be liable to be torn across during withdrawal. Several inches of such deteriorated rubber thus often remain in the bladder.

When it is possible to teach a patient the use of the catheter, perhaps the safest instrument that may be placed in his hands is the "velvet-eyed" India-rubber catheter, which he must cleanse thoroughly before and after its employment.

Metallic catheters, with very few exceptions, should not be employed in attempts to relieve the distended bladder, because of their likelihood to damage the urethral canal and plough their way into the substance of the prostate, sometimes even when introduced with ordinary care. Being absolutely rigid, they cannot readily follow the abnormal incurvations of the urethra common to multiform enlargement of the prostate. The so-called prostatic catheter is particularly dangerous, for it seldom reaches the bladder without detriment to the urethra, and too often finds lodgement in the recess of some false route, which, perhaps, it has made. When a false route renders impossible the passage of ordinary instruments, the contrivances known as Hey's and Mercier's modes of catheterism are generally successful. Hey's method consists in passing, as far as, but not into, the mouth of the false route, a silk-web catheter, No. 9 or No. 10 (English), armed with a curved stylet, which is withdrawn with one hand at the same moment that the catheter is pushed toward the bladder with the other hand, when the instrument overrides the false route and enters the bladder. Mercier's method consists in the use of two catheters, which together he has named the invaginated catheter. This instrument is composed of a female and a male part. The female part is a No. 10 (English), slightly curved, thin-walled, metallic catheter, eleven inches in length, having in its concavity, half an inch from the point, an oval eye five-eighths of an inch long and three-sixteenths of an inch broad. From the vesical extremity of this eye is an inclined plane, lost in the opposite wall of the catheter at about one-fourth of an inch from the vesical edge of the eye, serving to tilt up the point of the male part, which is a No. 6 (English), silk-web, one-eyed catheter eighteen inches long, and fitting loosely in the lumen of the female part. In using the invaginated catheter the male part should first be slid into the female part down to the eye thereof. The instrument thus armed is passed into the urethra as far as the obstacle, engaging its point in and with it blocking up the false route. The male

part, which is then projected, soon reaches the bladder. It sometimes happens that no urine flows after the successful introduction of the male part. This is owing to closure of the eye by a clot of blood, which can be washed away with a little water injected into the catheter. The female part may then be withdrawn, and the male part left in as long as desirable. This is the reason for the great length of the male part.

Some of the other effects of neglected prostatic obstruction to urination, besides the damming up of a few ounces of urine and myxo-cystitis, are chronic retention of urine, the management of which has already been detailed (Transactions of the Association, 1890); increase of the vesical and prostatic muscle tissue, contracture with diminished vesical capacity (Transactions, 1885), interstitial cystitis, abscess in the thickened vesical walls, calculus formation, saccululation of the bladder (Transactions, 1886), ureteritis with dilatation, pyelitis, pyonephrosis, pericystitis, paracystitis involving the seminal vesicles and spermatic canals, and consequent abolition of the genetic function. Unclean and roughened catheters, used several times daily by careless patients, have often been the exciting cause of several of these disastrous consequences.

The frequent evacuative catheterism necessitated by prostatic obstruction causes a subacute urethritis, which demands daily irrigation of the urethra, whose mucous membrane sometimes becomes so œdematous as to render catheterism difficult and even dangerous. In such cases the careful introduction of flexible web bougies or of steel sounds, of increasing size to No. 15 (English), every second or third day for two or three weeks, relieves the sodden mucous membrane, restores the suppleness of the canal, and facilitates the evacuative catheterism. Another ill-effect of this indispensably frequent catheterism is acute orchitis, due generally to the use of unclean and fissured instruments. This occurs, in some patients, as often as every three or four months, first on one side, then on the other, seldom on both sides at the same time. After several attacks the orchitis becomes chronic, and sometimes small purulent foci are formed in the substance of the testes. These abscesses generally open spontaneously and are rarely incised, the patients objecting until they are taught by experience that early incision is wise and proper. Finally, the spermatic canals are occluded, and the genetic function is at an end.

Chronic inflammation of the seminal vesicles and spermatic canals appears to be frequently associated with chronic inflammation and progressive enlargement of the prostate. In seventy-five per centum of the chronically enlarged prostates of elderly men dissected by the writer, there were marks of phlegmasiac action between the base of the bladder and the rectum, such as induration of the ambient connective tissue, particularly that which bounds the seminal vesicles; and these vesicles were, in general, hardened and shrivelled, and in some cases their fluid was purulent. The absence of spermatozooids and the presence of many enlarged symplexia were conspicuous in the mucus of the vesicles. The spermatic canals were abnormally hard and sometimes occluded. In a few cases there were cystlike dilatations in the vesicles, due to the occlusion of their excretory ducts.

Question IV. When is Operative Interference Indicated, and What Operations may be Safely Performed for Prostatic Enlargement?—The determination of the indication of operative interference for the relief of obstruction to urination due to prostatic enlargement requires serious consideration, a judgment founded on extended clinical study of the phases and complications of the diseases of this organ, and correct notions of its patho-histology.

Operative interference is indicated when the blad-

der is permanently contracted and its capacity inordinately and irremediably lessened, when catheterism is extremely difficult or is followed by rigors and fever, when there are prostatic false routes, or in some cases when autocatheterism is not possible. Early operative interference is justifiable, as prophylactic of the lesions consequent upon stagnation of urine.

Operative interference is contraindicated when the upper urinary organs are damaged beyond remedy.

Operative interference may be palliative or radical.

Palliative Operative Interference is resorted to in the case of malignant or of tubercular disease of the prostate, in the case of permanent contracture with diminished vesical capacity, in the case of beginning involvement of the upper urinary organs, and sometimes in the case of prostatic false routes. The palliative operations are: (1) Suprapubic cystotomy; (2) the establishment of a suprapubic fistula; (3) divulsion of a false route; (4) puncture of the bladder.

1. *Supra-pubic cystotomy*, with maintenance of a free opening for drainage and daily irrigation, may be regarded as a palliative measure of great value in the case of malignant or of tubercular disease of the prostate, of permanent contracture with diminished vesical capacity, and in the case of beginning involvement of the upper urinary organs, particularly when catheterism has become insupportable. In these circumstances, the last few months of the sufferer's existence are rendered tolerable by the easy exit of the urine through the ample artificial orifice.

2. *The establishment of a permanent supra-pubic fistula*, as a palliative measure, in cases of great protrusion of the lower isthmus, in which catheterism has been extremely difficult, has proved useful in many instances, and has been successfully effected by Van Buren, Thompson, McGuire, and many other surgeons.

3. *Divulsion of a false route*, impeding catheterism attempted for the relief of a bladder distended with urine, has given results that warrant its adoption as a safe palliative agent. This mode of palliation, employed frequently by the writer, is as follows: When the point of the female part of the invaginated catheter is once lodged in a prostatic false route and the male part has entered the bladder, the two parts together are pushed onward until there is no longer any resistance; the urine flowing through the female part on withdrawal of the male part indicates that the divulsion is complete. This operation should be done with the greatest care or else abandoned, particularly if much force be required, for then no divulsion would be effected, and the male part would be likely to be severed by the distal edge of the eye of the female part, and perhaps remain in the bladder. As a general rule, divulsion occurs on very moderate pressure. The deep rent extends beyond the obstacle, and is similar in effect to incision of the vesical neck. Although spontaneous urination continued on an average of only two years after this procedure, and the patients were then obliged to return to autocatheterism, the false routes were cured by the operation, catheterism was thereby rendered easy, and the temporary relief was comforting.

4. *Capillary puncture of the bladder*, in the hypogastric region, with pneumatic aspiration of retained urine, is rarely necessary. In cases of emergency it may be done once for the mitigation of suffering, and should not be repeated unless better means are not soon obtainable. Many observations of the ill-effects of repeated punctures have led the writer to abandon the practice of puncturing the bladder in any way and for any purpose, and to regard suprapubic cystotomy as a safer measure in cases of retention of urine from prostatic obstruction when other modes of operation are not clearly indicated.

Radical Operative Interference is resorted to in the

case of urethro-vesical bars, of outgrowths of the posterior third of the lower prostatic isthmus, and of increase of the lobes. The radical operations are: (1) Incision of urethro-vesical bars; (2) excision of urethro-vesical bars, or of the central part of the posterior third of the lower isthmus; (3) excision of pedunculated urethro-vesical growths; (4) avulsion, excision, or enucleation of the posterior third of the lower isthmus and of portions of the lobes; (5) enucleation of the whole prostate.

1. *Incision of urethro-vesical bars*, originally suggested by Guthrie, was performed by Mercier, then by Civiale, Leroy, Costello, and other physicians. The operation is now known as internal prostatotomy. Mercier devised ingenious instruments to be introduced by way of the urethra, and to divide the bar or valvule, as he called it. One of these instruments is designed to clamp tightly and to divide the compressed bar when the operator slides to and fro a long metallic stem with a cutting blade concealed in the jaws of the instrument. This last improvement in the operation is intended as a bloodless method. Mercier has sometimes found it necessary to repeat the incision several times in the course of a year or two years. The after-treatment consists in daily vesical irrigation and in dilatation and depression of the urethro-vesical orifice every third day for two weeks, then every week for two or three weeks, or until cicatrization is perfect. Complete division of the bar has given good results in great numbers of cases.

2. *Excision of urethro-vesical bars or of the central part of the posterior third of the lower isthmus* was first performed by Mercier, with an instrument introduced through the urethra by which a segment of the bar or of the lower isthmus was punched out. The operation is now designated internal prostatectomy. Several modifications of this prostatectome have been made, but they all retain the original principle of action. The writer has combined internal and external prostatectomy with advantage, and recommends performing the internal operation first, then immediately following it by opening the urethra *in perineo* for drainage. Excision should be reserved for certain cases of thick urethro-vesical bars, and of comparatively slight increase of the posterior third of the lower isthmus, with little if any increase of the lobes. Hemorrhage has seldom been excessive in this operation. The after-treatment is the same as in prostatotomy. (See the writer's article on "Some Points in the Surgery of the Hypertrophied Prostate," in the Transactions of the American Surgical Association, vol. iii., 1885.)

3. *Excision of a pedunculated urethro-vesical growth* was performed by Amussat during suprapubic lithotomy, and this operation has since, from time to time, been resorted to by others. Some of the (perineal) lithotomists of the past two centuries, among whom may be named Covillard and Desault, have occasionally, by accident, seized with the forceps and torn away urethro-vesical pedunculated growths mistaken for calculi, or extracted them together with calculi. The same accidents have repeatedly occurred in the hands of modern lithotomists, who have, in other cases, incised and enucleated the growth after extracting the stone. The results were generally good, and the patients were able to empty the bladder spontaneously (Fergusson, Cadge, Williams, Bickersteth, and others).

4. *Avulsion, excision, and enucleation of the intravesical protrusion of the enlarged lower isthmus, and occasionally of portions of the lobes*, have been effected through suprapubic cystotomy, sometimes supplemented by perineal incision of the urethra. On November 11, 1887, Mr. A. F. McGill read, before the Clinical Society of London, a paper bearing the title of "Suprapubic Prostatectomy," in which he gave a full account of three successful cases. The operation

consisted partly in avulsion and partly in excision of the intravesical growth. The subsequent drainage was entirely suprapubic, as the perinaeum was untouched. Some of the advocates of the suprapubic method have since added the urethral incision *in perineo*, the better to control hemorrhage and also for drainage. While the details of the operation are often varied, the fundamental idea of removing parts of the prostate from above is uniformly carried out by the several operators, who in certain cases substitute enucleation for avulsion and excision. Drs. Atkinson, Belfield, Briddon, Browne, Bryson, Cabot, Dittel, Fuller, Keyes, McKinnon, Moullin, Raffa, Robson, Rohmer, Watson, Wyeth, and others have reported cases of suprapubic prostatectomy with divers modifications and very satisfactory results that have led to the undertaking of the seemingly bolder, though in reality safer, bimanual enucleation of the whole prostate, as performed by Dr. James H. Nicoll, of Glasgow, and Dr. Samuel Alexander, of New York. Exactly how far back may date the idea of removing the entire prostate, the writer does not know. The only records he has found thus far relating to this operation are the following: It appears that total extirpation of the prostate was proposed by Kuechler (*Deutsche Klinik*, No. 50, 1866), and later was performed by Billroth, and still later by Demarquay, who, in 1873, reported, in the *Gazette Médicale de Paris*, two cases in which the prostate and part of the rectum were removed. In the *Arch. für klin. Chir.*, Berlin, vol. xxviii., 1882-83, p. 578, is a paper entitled "Tumor Prostatae; Totale Extirpation der Prostata," by H. Leisrunk. The patient, sixty-four years of age, was suffering from the effects of a large prostate. The diagnosis was malignant disease, and it was decided to extirpate the prostate in totality. The operation was performed on December 24, 1881, and the patient died of exhaustion on the thirteenth day thereafter. Extirpation of the prostate or of any part thereof for malignant disease is surely unjustifiable, and the only proper operative procedure in such circumstances is a palliative epieystotomy solely for drainage.

5. *Enucleation of the whole prostate* through the perinaeum is apparently the latest legitimate endeavor of modern surgery to eradicate the evil of obstructed urination. It seems to be the outcome of a more precise knowledge of the organ in health and disease, and of the analysis and comparison of the several operative methods already named. Experiments on the dead subject have shown that the normal prostate is with great difficulty if at all enucleable, that the diseased *hard* prostate is not at all enucleable, and that the diseased *soft* prostate is enucleated with comparative facility. Moreover, the dissection of enlarged prostates of elderly men has demonstrated that while they are often dense and hard peripherally—owing to secondary phlegmasia action—they are soft and spongy interiorly—from great ectasia of the acini—and enucleable with the finger. Therefore, enucleation is applicable only to the *soft* prostate, which happens to be the most frequent of the morbid states of this organ in elderly men. The cases of perineal enucleation of the prostate so far reported are too few for generalization, but the indications for its performance are clear. This operation, founded on a sound anatomico-surgical basis, is a valuable addition to the resources of the surgeon, and is worthy of extended trial, particularly in the early period of senile enlargement of the organ, before any serious implication of the bladder. It is hoped that it will not be performed indiscriminately, for, in the case of involvement of the upper urinary organs, the mortality will surely be discouraging.

The chief advantages claimed for this, over other methods of operating, are:

I. The combination of suprapubic and intrapubic section for exploration, as well as for bimanual enucleation.

II. The rapidity with which the operation is performed, the patient being under anaesthesia not more than half an hour.

III. The slight and controllable hæmorrhage during and after enucleation.

IV. The little injury done to the urethra and bladder.

V. The suprapubic irrigation and thorough perineal drainage.

Dr. Nicoll's method of operating is substantially as follows: The bladder is opened above the pubes, and its edges are stitched to the cutaneous wound. A median perineal incision is made to and through the prostatic capsule, without opening the urethra or neck of the bladder. The prostate is then pressed down and steadied from above, so as to be within reach of the right forefinger, with which it is shelled out through the perinæum, all drainage being effected through the suprapubic opening. Dr. Nicoll has published four cases successfully treated in this manner (*Lancet*, April 14, 1894).

Dr. Alexander's mode of operating is as follows: After due preparation, disinfection, and anaesthesia, the patient being supine on the operating table, the bladder is opened longitudinally above the pubes, to a sufficient extent to admit two fingers for exploration and the determination of the size of intravesical prostatic growths. This done, "the suprapubic opening is covered with gauze, the patient placed in the lithotomy posture, and a staff is passed through the urethra and held by an assistant. The membranous urethra is then opened by a median [longitudinal] perineal section, the floor of the urethra being thoroughly cut from just behind the bulb back to the apex of the prostate. The staff is then withdrawn and the gauze removed from the suprapubic wound. Two fingers of the left hand are then passed through the suprapubic wound, and by these the prostate is pressed downward into the perinæum. With the forefinger of the right hand, the surgeon begins the enucleation, which is performed entirely through the perineal opening. The outer sheath of the prostate is broken into by the finger just beneath the mucous membrane of the prostatic urethra, and the entire prostate is shelled out from within its sheath by digital dissection. The mucous membrane of the bladder and prostatic urethra, with the underlying muscular tunic, is stripped up, but is not opened. The right and left lobes are first removed, after which, if there be a middle projecting tumor, this can be pressed downward into the perineal wound and enucleated in the same manner. During the enucleation the prostate is to be drawn down into the perineum by forceps. After the removal of all the prostatic growths, the wound is flushed with 1 to 5,000 bichloride solution, a perineal tube is inserted into the bladder, and a rubber drainage tube of moderate size is placed in the bladder above the pubes. The after-treatment consists in daily washings of the bladder, fluid being injected into the suprapubic tube. All urine flows out of the perineal tube. The upper tube is removed on the sixth day, and the lower tube three days later, after which the bladder is washed by catheter through the perinæum for a few days. A full-sized sound is passed at the end of the second week, and then every five days until the perineal wound closes. The wounds have usually healed in the course of five weeks" (*New York Medical Journal*, February 8, 1896).

Of eight enucleations performed by Dr. Alexander, two patients died from suppression of urine due to pyelonephritis, and six recovered and were able to urinate spontaneously. One of these six patients, examined by the writer six months after the operation, had

only three drachms of clear residual urine in the bladder. In this case but one lobe and the lower isthmus had been removed. In all of the cases hæmorrhage during the operation was inconsiderable, and the perineal drainage was complete. In one case there was incontinence of urine for several weeks after union of the wounds, but this finally ceased, and at last accounts the patient was able to retain his urine and to empty his bladder at normal intervals without artificial means.

When, in 1878, the writer introduced to the American medical profession Dr. Mercier's operations for the relief of prostatic obstruction, very few surgeons were willing to perform them or afterward to test the modifications proposed and successfully practised. At that time and long thereafter, these operations were condemned by leading continental and English surgeons, except by the late Mr. W. F. Teevan. Now, eighteen years after the date of the writer's first operation, prostatotomy and prostatectomy are performed with such excessive frequency, not to say recklessness, that they are in danger of falling into utter discredit, if not of being altogether abandoned. It is, therefore, hoped that persistent efforts will be made to preserve them from these besetting dangers by those who know so well the real value and special indication of each of these procedures, and employ it with due discernment.

Time and space forbid even the enumeration of the medicinal and chirurgical contrivances that, during the past three decades, have been proposed, tried, and found wanting in efficacy, or positively mischievous, for the "cure" of prostatic enlargement. Each failure has been quickly succeeded by a "new cure," which, however, has proved as pernicious or as preposterous as its predecessor, but, fortunately, quite as ephemeral. The fact that enlargement of the prostate is not a single morbid or morhic entity, is more than suggestive of there being no easy or exclusive way to the proper management of this ailment. Therefore, no treatment can be rational or successful which is not based upon accurate diagnosis, and which is not adapted to the particular condition of the diseased organ and to its effects upon the organism. In stating his appraisal of the several modern therapeutic procedures pertaining to prostatic enlargement, the writer has not deemed it necessary to specify those that he regards as useless or harmful.

Infantile Diarrhœa.—Stomach washing should be employed in cases in which vomiting is obstinate, and irrigation of the lower bowel will often be found very useful in acute cases. In the acutest form of diarrhœa and vomiting, known as "cholera infantum" and characterized by great general irritability, by innumerable and copious watery motions soon becoming neutral or alkaline, and by rapidly ensuing collapse and wasting, with sunken fontanelle, stupor, coma, or convulsions, we must at first give nothing but frequent small doses of brandy and plenty of cold water or barley water to assuage thirst, and should endeavor at once to arrest the vomiting and diarrhœa by repeated subcutaneous injections of morphine, beginning, in the case of children under a year old, with not more than one-one-hundredth grain. If vomiting still continue, brandy or ether must be injected subcutaneously. Hot mustard baths are to be ordered in the stages of collapse. When in the early irritable stages the temperature runs high, a warm bath gradually cooled down to about 85° F. should be given and repeated with subsequent accesses of fever.—DR. H. BRYAN DONKIN, *The Diseases of Childhood*, p. 54.

NOTES ON THE TREATMENT OF FÆCAL FISTULÆ.¹

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THE three cases to which it is the chief purpose of this paper to call attention seem to be of sufficient general interest to warrant their presentation for consideration and discussion. All of them were successfully treated by surgical procedures—one by enterectomy and anastomosis, by the method of Maunsell; and the others by enterorrhaphy. There are few conditions to which patients are liable that cause them greater mental and, at times, bodily distress, than do the occurrence and persistence of a fæcal fistula. While it produces directly serious disturbance to bodily nutrition only when it is situated at some distance above the ileo-cæcal valve, it indirectly causes bodily deterioration, as wherever located it causes much cutaneous irritation and entire loss of control by the patient of the intestinal contents, rendering those so afflicted most offensive, in spite of all that can be done for them by means of pads and trusses, and limiting their usefulness during the duration of the defect.

The most frequent cause of the occurrence of fæcal fistula may be stated to be the delay in resorting to operative measures for their relief to which patients suffering from typhlenteritis and strangulated hernia, whether it be of the internal or external variety, are too often subjected while their ailment is carefully diagnosed. Among the other more common causes are the employment of drainage following abdominal operations, especially by means of tubes; imperfect technique in operations upon or about the intestines; as a result of an ulcerative process within the gut; or from gunshot or stab wounds. A recent writer on the subject under consideration stated that, in his opinion, "the best treatment for this condition consists in its prevention, when possible, by a resort to early operation in those cases in which the occurrence of a fæcal fistula is a possible result." In this view the writer of this paper heartily concurs.

But in a case in which this dread condition has followed in the train of some intestinal disorder, whatever the cause, what course should the physician advise his patient to follow, to the end that he may be relieved from his distressing disability with as little risk to life and the least possible inconvenience? As is well known, many of these fistulæ gradually contract and close spontaneously; and, therefore, it is well, if the fistula is of small size, with only a slight fæcal discharge, and can be located near or below the ileo-cæcal valve, to postpone operative measures for a reasonable time, in the hope that it will gradually contract and eventually close spontaneously. In those more serious cases in which the opening, on account of its size, location, and the fact that it is accompanied by an intestinal flexure or a growth causing obstruction to the passage of the bowel contents, fails to diminish in size after a few weeks, operative measures should unhesitatingly be advised.

On May 16, 1896, the writer received an invitation, extended to him by reason of a vote of the medical board of the Hartford (Connecticut) Hospital, as well as a personal request from the visiting surgeon, Dr. H. G. Howe, then doing duty, to visit that institution for the purpose of operating upon two patients, each of whom was suffering from a fæcal fistula, with a view to demonstrating the method of intestinal anastomosis by invagination and suture devised by Maunsell, which the writer has advocated for several years past as preferable to and more surgical than that orig-

inated by Murphy, of Chicago, in the event of simple suture of the bowel opening not sufficing to remedy the defect. Accordingly, on May 17th, the writer visited the hospital, and, with the kind and valuable assistance of Dr. Howe and Dr. Ingalls, the operations were performed. For the histories of the two cases the writer is indebted to the house surgeon, Dr. Naylor.

CASE I.—L. M.—, male, aged twenty-two years, a farmer, was admitted to the Hartford Hospital, on August 3, 1894. He said that about six weeks previous to admission he had had an attack of what was diagnosed as bilious colic, and for nine days nothing had escaped from the bowels. Under medical treatment the bowels finally moved, greatly to the patient's relief. Four weeks after the seizure, an abscess opened spontaneously in the patient's groin, near the lower end of Poupert's ligament. Four days later, another opening occurred in the right iliac region. Both openings remained patent, and discharged pus and fæcal matter freely.

On August 7th the patient was operated upon. The whole layer of the abdomen above the muscle was covered with pus and fæcal matter. On opening the abdomen an abscess cavity was discovered, in which the appendix was found in a gangrenous condition. This was removed, and the abscess cavity drained. Fæces, however, continued to be discharged through the wound.

On August 25th, another attempt was made to close the opening which was found in the gut. The peritoneal surfaces were approximated by means of Lembert's sutures, over which the omentum was grafted.

On September 1st it was noted that the stitches had not held, and that in consequence the fistula had reopened and was discharging fæcal matter.

On November 25th the patient left the hospital, with the bowel opening still patent.

He was readmitted on May 3, 1896, with the local condition unchanged. He was given light diet, and on May 17th, after the usual preparation, he was anesthetized, and examination revealed the fact that a fæcal fistula of large size existed, the external opening being located at a point in the old cicatrix opposite the anterior superior spine of the ileum, about two and one-half inches to its inner side. The peritoneal coat of the intestine surrounding the opening in the gut had united to the parietal peritoneum, and the mucous coat of the intestine had united to the cutaneous tissue and was everted, forming an artificial anus. The parts, including the interior of the bowel adjoining the fistulous opening, were washed with hydrozone. The foam resulting from the decomposition of the liquid and the liberation of the contained oxygen was allowed to remain for some minutes before it was removed; after which an incision, about four inches in length, was made, having the opening in the gut for its centre. The old scar tissue was excised as far as possible, and the remaining fistulous tract vigorously scraped with a sharp spoon. When the peritoneum was reached, the gut was freed from it by dissection. The edges of the opening in the gut were then caught and held by clamps, while the adhesions which bound down the flexed knuckle were dissected away and broken up. The loop of gut containing the opening was then brought outside of the abdominal cavity, which was shut off by means of gauze and sponges. It was found to be located in the lower portion of the ileum. It was laterally situated, involving a large portion of the intestinal calibre, and was so irregular in shape that it was thought wise to excise the damaged and thickened portion of the bowel, which was about four inches in length.

This was accomplished after the application of McLaren's clamps to the gut at some distance from the points of incision, and the anastomosis of the divided

¹ Read at the thirteenth annual meeting of the New York State Medical Association, October 13, 1896.

ends was effected by means of the technique already alluded to, devised by the late Professor Maunsell, and described by the writer in an article entitled "The Technics of Maunsell's Method of Intestinal Anastomosis," which appeared in the *New York Medical Journal* of December 14, 1895. Before the anastomosed bowel was returned into the peritoneal cavity, the points of suture were well washed with a fifty-per-cent. solution of hydrozone in sterilized water. Some of the full-strength hydrozone was again poured over the tissues in the former site of the fistulous tract, for the double purpose of arresting the oozing, which was free, from the remaining cicatricial tissue, as well as to render the parts aseptic. After the return of the bowel into the peritoneal cavity and the placing of a single row of silkworm-gut sutures, which included all the layers in the abdominal wall, the cavity was flushed with saline solution, some of which was allowed to remain. The sutures were then tied, thus closing the wound without drainage. The cutaneous surface about the wound was washed with hydrozone and then freely dusted over with acetanilid powder, and the usual dressings were applied.

The convalescence was uneventful. The patient's bowels moved four times on the fourth day, and daily thereafter. On the same day his pulse rate and bodily temperature became normal, and have remained so. The wound in the abdominal wall united primarily, except for about one inch of the skin, in the middle. On the twelfth day following the operation the patient was allowed to leave his bed, and was given ordinary diet. At this time it was noted that the patient slept well, that his pulse was strong, that he was free from pain, and that his general condition was good.

CASE II.—W. R.—, male, aged five years, was admitted into the Hartford Hospital during May, 1895, suffering from typhlenteritis. The abdominal cavity was opened and a large abscess was found, the cavity of which was washed out and drained without any attempt being made to find the appendix. Soon after the performance of the operation, faecal matter appeared in the discharge. During the year several unsuccessful efforts were made at intervals to close the fistula by suture, prior to May 17, 1896, when the following procedure was undertaken for the patient's relief:

The fistulous opening was located about one inch and a half from the anterior superior iliac spine, on a line drawn therefrom to the umbilicus. After the usual preparations the surrounding skin was washed with hydrozone, and this was also injected into the sinus. An incision was then made on either side of the old cicatrix, and it was removed. The peritoneum was separated from the opening in the gut, the edges of which were held together by clamps. The intestinal opening, which was one inch and a half in diameter, proved to be situated in the cæcum near the ileo-cæcal valve. The head of the colon and adjoining gut were freed by dissection till that portion containing the opening could be brought outside of the abdomen. The general cavity of the peritoneum having been shut off by gauze, the gut was again washed with a fifty-per-cent. solution of hydrozone. The edges of the fistulous opening were approximated by a purse-string suture of silk. The peritoneal coat of the gut was then approximated by means of Lembert's sutures, and, finally, after using more of the fifty-per-cent. solution of hydrozone, a portion of omentum was placed over the gut at this point and caught down on either side by sutures, and the bowel was returned into the peritoneal cavity. The old opening in the abdominal wall was scraped and washed with hydrozone, and the edges of the abdominal wound were united by silkworm-gut sutures, which included all the layers. As there had been such long-continued discharge of faecal matter and pus, it was thought best to leave one of the

stitches untied, and for drainage a narrow strip of gauze was passed down to the bottom of the cavity.

The convalescence was uneventful, except for the formation of a small abscess at the point where the gauze drain was inserted. This was cleaned out with hydrozone and healed kindly, and on May 30th, the thirteenth day after operation, it was noted that the patient was free from pain, that he had a good pulse and appetite, and that his general condition was all that could be desired.

CASE III.—On May 17, 1896, the writer was invited by Dr. Nathan Mayer and Dr. P. H. Ingalls, of Hartford, to see in consultation C. H.—, male, aged fifty-two years, whose history was as follows:

On March 17, 1896, he had been seized with an attack of what proved to be typhlenteritis, and on March 25th a large abscess was opened and its contents were evacuated. After the cavity had been irrigated, it was packed with gauze. No attempt was made to find the appendix. About five weeks after the operation faecal matter began to escape from the remaining wound and a faecal fistula developed, through which more or less of the contents of the intestinal canal passed. On examination, an artificial anus was found, situated about one inch and a half from the anterior superior iliac spine, on a line from this point to the umbilicus, and about one inch in diameter. The mucous lining of the bowel was adherent to the cutaneous tissue, and was everted and protruded. As it was possible by the use of pads largely to control the passage of faecal matter through the opening, and the patient's condition was not considered favorable, immediate operation was not advised; but the opinion was expressed that on account of the size of the opening and the attachment of the mucous membrane to the cutaneous tissue and its eversion, it was improbable that the opening would close spontaneously. A few weeks later, the patient's general condition having improved, on account of the annoyance caused him by the lack of control over the bowel contents and the irritation of the skin by the passage over it of faecal matter, it was deemed best to attempt the closure of the opening.

On June 17th, assisted by Dr. Ingalls, Dr. Mayer, Dr. Shepard, and Dr. Stearn, of Hartford, and Dr. Parker Syms, of this city, at the patient's home, the following operation was performed: After the preparation of the patient in the usual manner and the administration of the anæsthetic, the skin surrounding the opening was washed with hydrozone, some being also injected into the interior of the bowel. Then a small sponge attached to a piece of silk was passed into the bowel, plugging the opening. An incision was made on either side of the old cicatrix, having the bowel opening for its centre. Thus the old scar tissue was excised. The parietal peritoneum was next freed from its attachment to the gut, and existing adhesions were broken up and the gut was withdrawn from the peritoneal cavity, which was shut off by gauze. The opening proved to be situated in the side of the cæcum, above and about one inch and a half from the point of attachment of the appendix, of which two and one-half inches remained. This was removed after the opening in the gut had been closed, first by a purse-string suture, and then by several rows of Lembert's sutures. After this, the bowel surface was washed with a fifty-per-cent. solution of hydrozone, and as an additional precaution the omentum was drawn over and sutured to the bowel. The abdominal walls were approximated by silkworm-gut sutures, which passed through all the abdominal layers; but, as there had been some loss of tissue during the continued suppuration, the fascia was approximated by interrupted sutures of catgut. Drainage was not employed.

Convalescence was uneventful, aside from the formation of a stitch abscess, and the patient has remained in good health up to the present time.

The cause of the fistulous openings in Cases I. and II. was undoubtedly the failure in the first, and delay in the second, to resort to surgical measures for their relief. In both of these cases the trouble apparently originated in an attack of typhlenteritis, to which was added, in the first case, probable strangulation of the lower portion of the ileum by a band, and which perforated after it had become shut off from the general cavity by adhesive peritonitis. In the second case, the abscess apparently ruptured into the cæcum before the external opening was made. In the third case, the cause of the opening was either the pressure on the gut of the material used to drain the abscess cavity, or it was the result of an inflammatory process within the cæcum, as the perforation did not manifest itself until five weeks after the opening of the abscess. Another point of interest in Cases I. and II. is the fact that several previous unsuccessful efforts to close the openings in the bowel had been made. The reason why these efforts had proved ineffectual, in the writer's opinion, is that the operative measures undertaken for their relief were not sufficiently radical in character, the efforts being directed to closing the bowel opening only, and no attempt being made to restore the faecal passage by breaking up the existing adhesions which had caused more or less intestinal angulation, and consequently too much pressure was brought to bear on the sutures, and they quickly cut out, allowing the fistulæ to reopen.

The method of closing faecal fistulæ without opening the peritoneal cavity and relieving the obstruction from adhesions seems to be approved by J. Gregg Smith, in a paper which appeared in the *Bristol Medico-Chirurgical Review*, March, 1895. Undoubtedly, it is well when possible to close the opening in the bowel before breaking up the peritoneal adhesions, but as soon as this has been accomplished an effort should, in all cases in which operation is deemed a necessity, be made to remove the existing obstruction to the faecal current by destroying the adhesions which hold the bowel in a malposition. In fact, few cases which would not heal spontaneously will be benefited by simple closure of the bowel opening, if the obstruction is allowed to continue.

Ever since September, 1893, when the writer proved the value of hydrogen dioxide as an effective antiseptic which in proper solution did not unduly irritate the peritoneum, when followed up by a six-tenth-percent. saline solution, he has had little reason to fear the danger of causing septic peritonitis from the accidental escape of pus or faecal matter while operating. He employs all possible measures to prevent the occurrence of this complication, but when it occurs it is invariably successfully met by the use of hydrogen dioxide, as heretofore described. In those cases in which the gut around and about the opening is much thickened and friable, by reason of the long-standing inflammatory process, it is the writer's belief that it is best to resect the diseased portion of the bowel, and join the ends of the bowel by the suture method of Maunsell. With a proper understanding on the surgeon's part of the technique and the objects to be attained by operation—*i.e.*, the restoration of the integrity of the intestinal canal, as well as the closure of the bowel opening—the operation undertaken for the relief of patients suffering from faecal fistula should be devoid of unusual danger, and failure to succeed in rescuing these patients from their unfortunate and distressing plight should prove the exception rather than, as at present, the rule.

THE ADMINISTRATION OF THYROID IN EPILEPSY, WITH REPORT OF FOUR TRIAL CASES.

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ASSISTANT PHYSICIAN, CRAIG COLONY, SONYEA, N. Y.

SINCE the administration of thyroid in various nerve lesions, aside from myxœdema, has been attended with favorable results, a trial of its efficacy in epilepsy was made. To be sure, its administration was not rational, but it was given, as it has been in many other nerve lesions, purely from empiricism. The cases selected were those in which many congenital defects were noticeable, and in which epilepsy had been a prominent feature of the patient's life since early infancy. An effort was also made to select those cases in which defective development mentally as well as physically was manifest.

CASE I.—C. D.—, male, aged twenty-one, no occupation. His epilepsy began at the age of six. No prenatal causes were found, and all bad heredity was denied. The cause of his epilepsy was not given. His attacks were of the grand-mal type, preceded by no aura and followed by considerable stupor and mental depression. The attacks occurred generally at night. On his admission the physical examination showed marked cardiac hypertrophy. The pulse registered 80, of fair quality and quantity. There were retraction and consolidation at the apex of the right lung. The right shoulder had suffered displacement downward, and joint atrophy had taken place as a result. Yet it is a question as to whether this condition of joint atrophy was caused by trauma or whether it was a result of congenital defect, such as is described by various authors as often attending epilepsy in idiocy and imbecility. All active muscular movements of the patient were very slow, awkward, and uncertain. Intellection was very difficult and imperfect. At the time of the patient's admission to the colony it was necessary to assist him to dress and undress. For some years previous to his admission to the colony, the patient had been addicted to inhaling the smoke of large numbers of cigarettes daily, and consequently suffered from a condition of atrophic rhinitis. This case was placed upon thyroids, the same as the following cases—five grains of the desiccated thyroid, t.i.d. After the first three days of the administration of the thyroid, the patient showed the toxic effects of the drug, which were manifested by a profuse perspiration, increase in rapidity and irregularity of pulse beat, and a diffuse congestion of the skin of the face and hands, giving a typical "boiled-lobster" appearance. The patient was a little more active in his physical movements, and his mental processes were a little brighter, but not more so than might arise from the stimulating effect of the thyroid. Fifteen grains per day were administered for twenty-one days, at which time treatment was discontinued. Some permanent improvement in the physical and mental condition has been noticed in this case. Whereas before commencing the treatment he was not able to care for himself, he is now able to do so, and, in addition, engages in field labor with the farmers for two or three hours each day. Notwithstanding the treatment did not materially lessen his attacks, yet it was followed by physical and mental changes warranting its use in such a case. Besides, the writer is not prepared to admit that a diminution in the frequency of attacks is the only favorable indication of improvement in an epileptic, especially in such a one as is described here.

CASE II.—O. H.—, male, aged sixteen, no occupation. His epilepsy began at the age of five months. A cousin had been afflicted with epilepsy and a sister suffered from exophthalmic goitre. Phthisis had been quite prevalent in the family. The cause of the pa-

tient's attacks was not stated, but they were evidently due to congenital defect plus a bad heredity. His seizures were of the grand-mal type, preceded by no aura and followed by a prolonged sleep stage. The attacks occurred both by night and by day. Considerable hypertrophy of the heart was found, but circulation was normal. On his admission the pulse registered 84, and was normal in force and rhythm. The speech was monotonous and expressionless. The patient presented left thyroid enlargement, but no noticeable exophthalmos. He had a narrow, high-arched palate; thick, rough lips; and massive, underhanging jaw. The patient's active muscular movements were sluggish, awkward, and uncertain; and his mental processes were slow, indefinite, and purposeless. He required some assistance to dress and undress. This patient did not manifest so many toxic effects of the thyroid treatment as did the patient in Case I. After the first day of the administration of the thyroid, the patient began to dress himself and engaged in daily out-door work, which he has continued to perform up to the time this report is made. Although the physical health of the patient has improved during the thyroid treatment, but little mental change is manifest. His epilepsy remains unchanged.

CASE III.—M. J.—, female, aged seventeen. She was able to perform some light housework. Her epilepsy made its appearance in very early infancy. The cause was probably a congenital defect plus any slight excitant. Heredity unknown; prenatal influences unknown. Her attacks were of the grand-mal type, and occurred monthly, both by day and by night, preceded by no aura and followed by prolonged mental stupor. The patient was a low-grade imbecile, very talkative, industrious, and cheerful. The heart action was irregular in force and rhythm, and the pulse rate was 90 per minute. Patient presented a great number of the stigmata of degeneration—somatic and physical. The administration of thyroid in this case was attended by nearly the same toxic effects as were noticed in Case I. During the latter part of her treatment her seizures became very much less frequent, and she was able to perform mental and physical acts with greater celerity.

CASE IV.—E. McC.—, female, aged seventeen. On admission she was able to perform light household duties. Her attacks began in early infancy; cause, probably a congenital one. Her attacks were reported to be grand mal in character and to occur every two months. They were preceded by no aura and followed by but little mental depression. Patient was a high-grade imbecile. Physical examination showed that the heart was normal and pulse rate was 96. A convulsive tic of the orbicularis palpebrarum of the right side was discovered. The treatment in this case was followed by an increased motor restlessness and mental activity. The latter named condition was in marked contrast to her former apathy and indisposition. She became very mischievous and unmanageable. On July 26, 1896, three weeks after treatment was established, the patient had her first seizure since her admission to the colony (February 14, 1896). The convulsive seizure began with the typical epileptic cry, followed by tonic and later by clonic muscular spasm. The attack lasted for five minutes, and in three hours was followed by another, and in four hours by a third. The last two were, to all appearances, of the same general character as the first. It would seem as though these seizures were caused, in a measure at least, by the administration of the thyroid; or the administration of the thyroid and the occurrence of the seizures just at this time was a remarkable coincidence.

CASE V.—C. W.—. In this case the thyroid was administered principally for the purpose of reducing obesity, and it resulted in the patient losing nineteen pounds in one month. It is true that this subject was

also placed upon restricted diet and made to perform considerable physical labor, which undoubtedly increased the reducing power of the treatment. An important fact which seems to the writer to show quite conclusively that the reducing power of thyroid is mainly due to its toxic properties, is that the four selected subjects quickly regained their lost weight, although under the same diet and performing the same amount and kind of physical labor. In Case V, the patient gained twelve pounds in weight in two weeks after the discontinuance of thyroid, diet and exercise remaining the same as during the administration.

It would appear that the administration of thyroid in these cases was not attended with very good results. While all seemed to be benefited for the time being in some ways, I doubt whether there will be any permanent improvement. Although remarkable reducing power in obesity seems to be due to the toxic effects of thyroid, yet in some cases in which it is given for the sole purpose of reducing weight it is not attended by such marked physical disturbances as in those cases in which but little weight is lost. All of the trial subjects lost from three to ten pounds in weight during the treatment. This the writer attributes mainly to the drug's toxic properties and the excess of tissue changes produced by such upon the organism. On the whole, its small effect upon epileptic seizures in these trial cases would not seem to justify its continued use in epilepsy, and its further administration has not been attempted.

Progress of Medical Science.

Chloride of Calcium, in dose of eighteen grains dissolved in half a glass of water, to which a teaspoonful of tincture of bitter orange peel and two dessert-spoonfuls of chloroform water are added, taken always after meals, is advised by Dr. Wright in the treatment of pruritus and urticaria. The dose in obstinate cases can be increased gradually to twice the quantity mentioned.—*Rev. Internat. de Méd. et de Chir.*, September 25, 1896.

Is Inherited Syphilis Contagious?—Dr. Robert W. Parker, after twenty years' experience at the East London Children's Hospital, has arrived at the following conclusions: 1. The children of syphilitic parents very frequently show manifestations of a disease which is almost universally called "inherited syphilis." 2. In a large proportion of cases this inherited disease is not syphilis at all, in that the disease is non-contagious, and would be better named "inherited from syphilis." 3. This inherited disease is true syphilis only if it conform to the ordinary tests which pertain to contact syphilis and prove to be infectious and contagious. 4. The children of syphilitic parents occasionally inherit syphilis. 5. The mother suckling a child with such a disease may be infected by it. 6. A healthy wetnurse and other persons brought into contact with such a child are even more liable to be infected by it than the mother. 7. Lymph taken from such a child, even although apparently well at the time, will probably, or possibly, invaccinate syphilis. 8. In reply to the question, Can a healthy woman give birth to a syphilitic child? the answer must be No. 9. Many women give birth to children who suffer from what is called "inherited syphilis" without themselves appearing to be infected. The explanation is obvious: this "inherited syphilis" is not syphilis in the true sense, and the mother's so-called escape depends on this fact. 10. There is no recent clinical evidence which fully realizes Colles' teaching, viz., a mother suckling her own syphilitic

infant and escaping an infection to which a healthy wetnurse suckling the same infant and other members of her family, who have merely handled this infant, have succumbed, the latter facts being essential, if only to establish the contagiousness of the infant's disease in any and every given case asserted to be "inherited syphilis."—*Edinburgh Medical Journal*.

The Treatment of Pain in Renal Colic.—In this condition, in which the pain is often atrocious and perhaps associated with persistent anuria, with danger of uræmia, the following treatment is recommended. In the first place a poultice containing a large amount of laudanum is placed upon the lumbar region or upon the anterior abdominal walls. The heat not only acts as an antispasmodic and thereby modifies the spasmodic contractions of the ureters, but also in this way favors the escape of the stone. Full doses of the extract of opium or morphine should be given, and should the stomach be too irritable to retain it the extract of opium or laudanum may be given by rectal injection. The great difficulty in using hypodermic injections of morphine in these cases is that the patient gets into the habit of handling the syringe himself. As a rule it is wise not to use any more morphine than is absolutely necessary to make the pain bearable. In some instances the following suppository is useful:

℞ Extract of belladonna gr. $\frac{1}{2}$.
 Extract of opium gr. $\frac{1}{3}$.
 Cacao butter gr. xlv.

In other instances it has been found that the administration of antipyrin by the mouth or by hypodermic injections is useful, although hypodermic injections of this drug are exceedingly painful for the first few minutes. It is thought by some that the antipyrin also aids in the elimination of uric acid. If hypodermic injections are used, the following formula may be employed:

℞ Antipyrin gr. xl.
 Water ℥ iij.

A hypodermic syringe of this solution to be given at a dose.

In other instances chloral by rectal injection tends not only to produce nervous quiet, but also to permit sleep. The following formula may be used:

℞ Chloral gr. xxx.
 Wine of opium gtt. x.
 Decoction of marshmallow ℥ iv.

This injection should be warm. The advantage in adding the opiate is a double one, in that it relieves pain and tends to cause the retention of the injection until the chloral can be absorbed.

If the pain is very severe, chloroform or ether may be used until the development of an anæsthesia equivalent to that produced ordinarily during parturition, or, in other words, until enough is given to relieve the acme of the paroxysm. Sometimes a general hot bath is of value in relaxing the local spasm and producing general relaxation.—*Therapeutic Gazette*.

Subcutaneous Wiring of the Patella.—Dr. Barker (*British Medical Journal*, April 18, 1896) describes his method of operating for fracture of the patella. The ligature used is silver wire instead of silk. The operation is to be done at once on the entrance of the patient to the hospital, usually within twelve hours of the fracture. The method is not adapted to old cases, but only to recent ones. No splint is used, simply the dressings, and massage and slight passive motion are made immediately following the operation. He operates as follows: The field of operation is made aseptic and the lower fragment

steadied between the operator's left finger and thumb while a narrow-bladed knife is thrust exactly through the middle of the upper attachment of the patellar ligament, with its upward edge cutting on the bone. When the blade has entered the joint it is withdrawn, still cutting on the lower edge of the lower fragment, and enlarging the skin wound upward to the extent of two-thirds of an inch. Through this opening a long stout needle is thrust into the joint behind both fragments and made to pierce the tendon of the quadriceps close to the upper edge of the upper fragment, exactly in the middle line. A knife is then entered alongside of the needle and a cut made down to the bone. A stout silver wire, the size of a No. 1 English catheter, is then threaded in the needle and withdrawn. The needle is unthreaded and passed from the lower to the upper opening between the skin and upper surface of the fragments. It is then threaded with the wire and withdrawn. The two ends of the wire emerging from the lower opening are then wrapped around a couple of rods to secure a firm hold, and crossed, drawn tight, and twisted three times. Before twisting, the blood should be squeezed out of the joint. The whole operation should not take more than five minutes. By this method a firm limb is said to be obtained with good flexion and extension and apparently bony union. In cutting off the wires, ends half an inch long should be left, which are to be passed back into the opening and spread out in the soft parts. The broken ends of the bone should be well rubbed together before operating, so as to clear the separated parts of all clots and fibrous tissue.—*The University Medical Magazine*.

Penetrating Wounds of the Spinal Cord.—Dr. Enderlen has announced the following conclusions, based on experiments on animals: 1. The degeneration of the spinal cord after a wound is not localized to the point of the lesion, but extends to adjacent parts. 2. The extension of the degeneration is not always uniform; that is, there does not appear to be any rule governing the process; however, the more extensive the lesion, the greater the extent of degeneration. 3. In the course of time the number of swollen axis cylinders decreases, but they may be found for a comparatively long time (thirty-fifth day). 4. In consequence of the lesion there is an increase in the neuroglia. 5. The gray substance assumes its normal condition in a short time; above and below the wound there is seen an increase of the ganglion-cells; in the region of the wound these cells degenerate. 6. Independently of the point of lesion there are points of degeneration in the spinal cord, partly on the side of the puncture, and partly in the other half. 7. As regards the arrest of degeneration in the several fibres, it will be found that in many cases the posterior fibres are already free, while in other tracts there are still swollen axis cylinders and wide glia meshes. In a few cases the opposite may exist. As regards the swelling, the author noted its presence two hours after the wound. He could find no instance of regeneration after injury. The author also injected fresh blood above and below the dura, and also introduced small particles of kidney beneath the dura, and found degeneration as a result. This he did not think due to pressure, but to disturbance of the circulation, either active or passive.—*Deutsche Zeitschrift für Chirurgie*.

The Pathogeny of Diabetes.—Dr. Kaufmann says in the *Medical Week* that the functional activity of the organism determines not only the consumption of sugar, but its formation by the liver. The consumption of sugar is an inherent property of the vitality of the cells, like the consumption of oxygen, and any variations in the amount of sugar in the blood depend not upon this, but upon the supply, which is, however,

governed by the demand. In hibernating animals the sugar in the blood diminishes during the period of stupor, but rapidly increases after the awakening, which is quite contrary to what we should expect if the amount of sugar in the blood were dependent upon its consumption in the tissues. In the horse glycæmia increases under the influence of muscular exertion. The liver forms sugar and stores it, but if its storage limits are exceeded an excess may pass into the blood, and this occurs during the digestion of saccharine substances. The storage capacity of the liver is diminished by pathological changes which interfere with the vitality of the hepatic cells, *e.g.*, in cirrhosis. The internal pancreatic secretion moderates the glucose-formative power of the liver and at the same time expands its storage limits. Toxic and asphyxial glycosuria are due to over-stimulation of the glucose-formative function of the liver. In true pancreatic diabetes there is no valid reason for supposing that the mechanism is otherwise. The most recent researches (Voit, Leo) have reversed the older conclusion that diabetics absorbed less oxygen and exhaled less CO₂ than healthy persons. The observation of Lépine and his collaborators that diabetic blood has a diminished power of destroying sugar is at least exceptional, as the author found the consumption of sugar in healthy and diabetic animals to be the same, not in one experiment but in a series of comparative experiments. He does not deny that in some cases of diabetes at certain stages there may be a decrease in the consumption of sugar, but this is not constant and appears only under special circumstances. Diabetes mellitus, however caused, is invariably produced by an excessive production of glucose and not by arrested or defective destruction of sugar in the capillaries.

Camphorated Naphthol by injection in the treatment of lupus is particularly indicated in nodules of medium size without ulceration. Two parts of camphor to one of naphthol are employed. The skin is rendered aseptic with a sublimate wash (four per cent.). Half a drop of the injection fluid is deposited in the centre of three or four nodules at each sitting. An interval of from four to eight days is advised between the sittings. In mild cases a cure is effected in from two to four months, during which time the patient goes about his usual occupation. Cod-liver oil with creosote is administered at the same time.—*La Méd. Moderne*, September 23, 1896.

Potassium Nitrate in the Treatment of Burns.—Dr. Poggi, in a recent thesis on this subject, gives an account of a treatment that has given excellent results in all kinds of burns of whatever degree. It consists in the employment of potassium nitrate, which is administered in baths or in applications of compresses that have been wetted with a saturated solution of this salt, or in lotions that contain the nitrate. According to M. Poggi the nitrate acts especially as a refrigerant. As it becomes dissolved in the water it produces a notable lowering of the temperature of the liquid of from 5° to 9° F. If a burned hand or foot is plunged into a basin of water to which a few spoonfuls of the nitrate have been added, the pain ceases rapidly; if the water becomes slightly heated, the pain returns, but it is allayed as soon as a fresh quantity of the salt is added. This bath, which is prolonged from two to three hours, may bring about the definitive disappearance of the pain and even prevent the production of blisters. The application of the compresses also exercises the same influence. By this means the pain is allayed and cicatrization takes place without delay. Another remedy in the treatment of burns is calcined magnesia, which, says the writer, has been employed by M. Vergely, who obtained favorable results with it in burns of the first

and second degree. The affected parts are covered with a thick layer of a paste, which is prepared by mixing the calcined magnesia with a certain quantity of water. This paste is allowed to dry on the skin, and when it becomes detached and falls off it is replaced by a fresh application. Very soon after the paste is applied the pain ceases, and under the protective covering formed by the magnesia the wounds recover without leaving the cutaneous pigmentation which is so often observed to follow burns that have been allowed to remain exposed to the air.—*New York Medical Journal*.

Pyosepticæmic Puerperal Exanthem Simulating Hemorrhagic Variola.—Dr. Heitzmann has recently published, in the *Wiener medicin. Wochenschrift*, a case in which the eruption appeared a few days after confinement, first as a diffuse redness covering the whole body like a scarlatina, accompanied by abundant sweating and œdema of the lower extremities. Two days later there were rheumatoid pains in the shoulders and knees. There was high temperature and rapid pulse. On the eighth day appeared small, disseminated pustules, covering the trunk, some of which resembled those of small-pox. Between the pustules were hemorrhagic points and petechiæ, as well as sudamina and ecchymoses. Small dermic abscesses subsequently appeared, some of which had to be opened. The general appearance, especially of the trunk, was that of variola.

The Ultimate Results in Eighty-Six Cases of Fibromata of the Uterus Treated by the Apostoli Method.—Dr. G. Betton Massey reported to the American Electro-Therapeutic Association at its annual meeting in Boston, September 28, 1896, eighty-six consecutive cases of uterine fibroids treated by the Apostoli method. After considerable correspondence and inquiry, the ultimate results (or those existing from two to eight years after cessation of treatment) were ascertained in seventy-five cases, and were found to be as follows:

Anatomic and symptomatic cure:

(a) Destroyed piecemeal by electrolysis through cervix....	1
(b) Extruded through cervix in whole or part.....	4
(c) Disappeared under absorption.....	12

Symptomatic cure:

(a) With great reduction in size.....	16
(b) With slight reduction in size.....	21
(c) Without change in size.....	10

Total cases resulting in practical success..... 64

Symptomatic improvement only.....	4
Failure to effect any change.....	6
Made worse.....	1

Total cases resulting in failure to relieve..... 11

The sixty-four successful cases give a percentage of 85.33 per cent. of successes, and the eleven cases of slight improvement and no improvement and the one made worse give a percentage of 14.66 per cent. of failures. The one case that was made worse was a cystic intra-uterine growth, that was improperly treated by electricity before it was generally known that such cases should not be treated by the classical Apostoli method. Future statistics will naturally be clear of such errors of practice; hence it may be said that the practical ultimate results in a hundred cases properly treated by electricity will be at least eighty-five cases successfully and satisfactorily handled, and fifteen cases in which electricity will do no good nor yet any harm, leaving the tumors unchanged for other methods promising greater relief. Of the twelve tumors reported as having disappeared by absorption, this fact was verified by the reader of the paper in but seven instances, the remainder being reported by the patients themselves.

The Bubonic Plague.—The report of Dr. Aoyoma, who was sent by the Japanese government to study the clinical and pathological features of the disease in Hong-Kong, has recently appeared, and has been made the subject of an article by Dr. Simon Flexner, in the *Johns Hopkins Hospital Bulletin*, October, 1896. Dr. Aoyoma contracted the plague himself, but recovered, while the mortality among the Chinese was very great, as shown by the following statement:

	Number Affected.	Number Died
Europeans	11	2
Japanese	10	6
Manilenses	31	1
Urasinese	5	3
Indians	13	10
Portuguese	15	12
Malayanes	3	3
West Indians	1	1
Chinese	2,619	2,447

The symptoms of the disease during the last plague were not, as was stated by most authors, protean, but they were quite simple. The disease began for the most part without prodromata, with a chill, or even in the first instances with pain and swelling of the glands and with succeeding chill and fever. Prodromata when present were usually short and varied in duration from a few hours to two or three days, or perhaps somewhat longer. The symptoms in the prodromal stage are prostration, headache, nausea, vomiting, loss of appetite, vertigo, and only rarely pains in the lumbar region or in the back. In the cases of the affection of the more intelligent population, even before the outbreak of the fever, slight swelling and pain were noted in the glands; whereas in the more obtuse Chinese these slighter phenomena were not noticed. The greater number of cases occur in young males. The temperature rises quickly to 40° C., or higher. Delirium sets in early. The pulse is usually dicrotic, and from 90 to 120 per minute. The urine is dark and contains albumin. The glandular enlargement is characteristic, beginning in one group and involving others in succession. After the swelling the periglandular tissues become involved, and then the skin. There may be post-mortem rise of temperature to 43° C. or higher, and muscular contractions may occur after death, as in cholera. Death occurs from the second to the eighth day. In three cases proven by autopsy to be bubonic, no glandular involvement was to be made out during life. As regards the cause of the plague, it may be said that Kitasato discovered bacilli in the blood and in the lymphatic glands which differed somewhat in their morphological characters but which agreed in their cultural properties. According to Kitasato, the bacillus which appears in the blood resembles the organism of chicken cholera, possesses a capsule, the middle portion staining very faintly; while the bacillus obtained from the lymphatic glands is somewhat longer, has rounded ends, and stains more uniformly than the other. The bacillus obtained by Versin is stated to have rounded ends, to be easily stained with the aniline dyes, and to be decolorized with Gram's method. The ends again stain more uniformly than the middle part. It is suggested by Aoyoma that the forms described by Kitasato as occurring in the blood and retaining the Gram stain may have been pairs of cocci and not bacilli at all. He regards the association of the bacilli and cocci as of great importance, inasmuch as in the greater number of instances the affected glands suppurate. Hence it is considered that the suppuration is caused not by the plague bacilli which are always present, but through the action of pus-producing bacteria which entered along with the former or later than these; and Aoyoma has further found that in suppurating glands the plague bacilli are either much diminished in numbers or have entirely disappeared. The

pest bacilli were also, though not constantly, found in the interstitial substance of the kidneys and in the glomerular capillaries. They were also present in the inter- and intra-acinous tissues of the liver. The mesenteric glands sometimes contained the bacilli in small numbers.

Hygienic Rules for the Eyes.—When the eyes ache close them for five minutes. When they burn bathe them in water as hot as can be borne, with a dash of witch hazel in it. After weeping bathe them in rose water and lay a towel wet in rose water over them for five minutes. When they are bloodshot sleep more. When the whites are yellow and the pupils dull, consult your doctor about your diet.

Remedy for Stage Fright.—The *Lyon Médical*, September 6th, states that, according to *La Médecine Moderne* for August 22d, an American physician advises students to combat the nervous asthenia which paralyzes their faculties and causes them to lose the thread of their ideas, by taking ten drops of tincture of gelsemium three times a day. An English specialist prescribes wine of opium to be taken by actors and singers before going on the stage. From five to six drops, he says, will give to the most timid actress the self-possession of the most spirited old player.

Chloroform in Labor.—Dr. Earle (*Chicago Clinical Review*, No. 7, p. 389) advocates chloroform in labor for the following reasons: 1. Chloroform is safer in the parturient than in any other condition. 2. Its safety is greatly enhanced by proper administration. 3. It diminishes shock. 4. It destroys future dread, and therefore robs childbirth of one of its principal objections. 5. It does not affect the fœtus even in prolonged use. 6. Labor is not prolonged, and the puerperium is uninfluenced. 7. Uterine inertia is not more frequent. 8. Its use is invaluable in normal labor, and positively indicated in all operative procedures.

Uterine Cancer.—The great error so often made is in expecting to find these women emaciated, with marked cachexia, hemorrhage, pain, stinking discharges, etc., as evidences of the presence of malignant diseases. Pain comes on late and is often absent. Bleeding of a profuse character is rare, especially very early in the history of the disease. Foul watery discharges, so often alluded to, are sometimes absent. An irregular flow between the periods is the symptom most often noticed, and is an important one, especially if occurring in a woman past the climacteric, and following sexual intercourse. Many cases are much complicated, and the dangers from the operation much increased from adhesions, the result of delays and tinkering.—*International Journal of Surgery*.

Alcoholism in Europe and Its Relation to Insanity.—Dr. Darin states, in a paper recently published in his *Thèse de la Faculté de Paris*, No. 219, that alcoholism is increasing in Italy and Belgium, and especially in France, while it is decreasing in Norway, Switzerland, and Germany. The number of lunatics in France has also increased. This increase has been chiefly in the two types of insanity known as alcoholic mania and general paralysis. This relation between alcoholism and insanity is shown by the statistics of different portions of the country, insanity being most common where alcoholism is most pronounced. The hereditary effects of alcohol are also striking. According to Legrain, among 814 children of alcoholic parentage, 322 were degenerates and 174 had not sufficient vitality to live. Among the survivors are fourteen per cent. of hysterics and seventeen per cent. of epileptics. General paresis has increased in Paris in proportion to the frequency of alcoholism.

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THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM.

BEFORE the days of salicin and salicylic acid, no disease more than rheumatic fever or rheumatism of the joints baffled the attempts of the physician to cut short the attack or to keep the patient fairly comfortable while it ran its course.

As Dr. MacLagan says, in the preface to the second edition of his work, which has just appeared: "It was the despair of physicians. For weeks it went on—the agonizing pain, the sleepless nights, the drenching perspirations, the look of misery, the piteous appeals for relief, in response to which we had nothing to give but words of sympathy and encouragement, an occasional opiate, and 'six weeks in bed.'" Surely, a very decided change for the better has taken place since these ante-salicyl days, and still the matter is not so simple as one would believe. The thousand and one remedies of olden days, including blood-letting, of which Sydenham thought so well, cannot be considered as wholly superseded and satisfactorily replaced by the salicylate of sodium. We must remember that in many instances this valuable salt is contraindicated, as in chronic nephritis; and in many others cannot be tolerated by the stomach in sufficient dose to effect its beneficial purpose.

Even when taken in milk or in Vichy water it may persist in disagreeing with the patient. The dose required, for the first days at least, is, according to Morain, eight grams daily; and Germain Sée believes that its administration should be continued in gradually decreasing quantity for a fortnight, in order to secure a lasting effect. Upon the fibrous thickenings left about joints as sequelæ of acute rheumatism, the salicylic group of remedies seems to have little or no effect.

In a paper recently published by Dr. Lee, of Chicago, on "How to Cure Rheumatism," the supply of proper and sufficient nutrition is considered the first indication to be met. Next in order is the restoration and preservation of the normal volume of the blood, its high specific gravity being looked upon as an evidence of deficiency in the liquid element of the blood. This deficiency he would meet by administering from two to four litres of pure water daily. Water applied in various ways to the surface is also advocated. Hydrotherapy does not always receive the consideration

its usefulness warrants. In William Murrell's excellent manual of "Pharmacology and Therapeutics," just published, eight lines are devoted to the water cure. One of these lines says, "It is useful in rheumatism;" and another that "in persons not accustomed to it, it induces a craving for whiskey." Now, as alcohol is considered by many to be injurious in rheumatic affections, it would surely seem too bad if the water in its cure brought forth the habit of indulgence in strong drink, which, in turn, would lead to recurrences of the original evil.

It is probable that treatment will again undergo a modification, as the toxin theory, or the chemico-toxic, or the miasmatic theory of its causation becomes recognized. Many already believe that there is a germ infection to account for the genesis of the affection. Until some radical change in treatment becomes established upon a foundation of plausible theory, we can do no better, it would seem, than to stick to salicylate of sodium or oil of wintergreen as the main remedy for those who can take them without injury, to which may be added, especially for the latter class of patients, such alkalies as the salts of sodium, potassium, ammonium, and lithium furnish, and to which may be further added colchicum for certain cases.

Washing out the tissues by causing the patient to drink large quantities of pure spring water can but be beneficial within certain definite limits, and the scientific use of water externally applied surely has a field of usefulness which has as yet not been exhausted.

THE BUTCHERY OF THE SICK AND WOUNDED.

THE revolution in Cuba furnishes to the world an example of the logic of war, which we could wish might serve as a deterrent to the jingoes of all nations, but which, of course, will not. A war which is waged between two peoples for the attainment of a specific object will naturally not cease until one or the other side becomes too weak longer to contend. To be consistent, therefore, each side should strive, by whatever means in its power—bullets, dynamite, poison, famine—to destroy as many of the enemy as possible. If any of these chance to be sick or wounded, so much the better, for they are then an easier prey. It is on this principle that the war in Cuba is now being waged, by Spain at least, and, if we can trust the Spanish accounts, by the revolutionists as well. Concerning the cruelty of the Spaniards we have abundant testimony of the Cubans, of Americans, and of the Spaniards themselves; and although we have only Spanish accounts of the murder of the sick by the Cubans, it is not unlikely that they are in the main correct, although probably somewhat exaggerated.

The latest evidence of Spain's determination to crush the rebellion by waging war on the sick is furnished us by a correspondent in Havana, who sends a copy of the *Gaceta Oficial* of that city, containing a decree of the governor-general of the island concerning the sending of medicines from the capital to provincial towns. After formulating the conditions under

which pharmacists are permitted to sell drugs, General Weyler says that all who disobey these provisions will be regarded as aiders and abettors of the rebellion, and will be "tried by court martial," which is euphemy for "executed for the crime of rebellion."

Not long ago a physician and his wife were arrested and thrown into prison in Havana for the crime of having bandaged the wounds of some of the rebels. Soon after that a body of Spanish soldiers discovered a hospital near Ininones, and on the order of their commander put to death with the machete the resident surgeon and all the sick and wounded inmates, more than twenty in number, and then burned their bodies, with the house and outbuildings.

A newspaper in Madrid recently contained an account of the murder of a Spanish surgeon, who had been captured by a body of insurgents, after he had been forced to dress the wounds of some of the party; and official telegrams from Havana occasionally contain reports of attacks by the revolutionists upon hospitals. We doubt not that some of these reports are true, for the Cubans can hardly be expected to abstain from reprisals when they have seen their helpless comrades butchered. And, moreover, they are logical. Theorists have sought to establish humane rules for the carrying on of war, to formulate an ethical code for the guidance of men engaged in slaughtering each other; but their efforts are vain. War has been sung by poets and blessed by the Church, but it is hellish.

THE PROPOSED CONGRESS OF LEPROLOGY.

FROM replies received by Dr. Albert S. Ashmead, of this city, to letters addressed by him to many of the leading leprologists of the world, the proposed international congress of leprology would appear to be an assured fact. The only questions that remain to be decided are where the congress will assemble and when. It was suggested that it meet in Moscow in August of next year, during the session of the International Medical Congress; but objection has very properly been raised that the greater would absorb the lesser, and that the work of the leprologists would be buried beneath the overwhelming mass of papers and discussions at the general meeting. If it is worth while at all for students of leprosy to come together from all parts of the world to discuss measures for the suppression of this disease, the assembly ought certainly to enjoy the dignity of an independent congress.

The necessity of a special congress being conceded, it was thought best to meet just before the Moscow congress, so that those who wished to attend both could do so; and it was further proposed to meet in Bergen, the home of Dr. Hansen, in honor of the discoverer of the *lepra bacillus*. Dr. Hansen, however, recognizing the convenience of a more central point for the meeting, has expressed his wish that the congress be held in London; and that seems also to be the choice of most of those actively interested in the project. London would certainly appear to be the place best suited for a meeting of this kind, and we doubt not it will be finally selected by the promoters of the congress.

HOT-WATER BOTTLE BURNS.

LESS than two years ago attention was directed, in the editorial columns of the *MEDICAL RECORD*, to the possibility of most serious injury to patients, especially during recovery from anaesthesia, from the application to the body's surface of the ordinary rubber water bag, even when the water it contained is not excessively hot. Little had been written till then upon the subject, and little has been written since. It is bad enough for a man to have such an unfortunate accident in his practice, without being called upon to publish his mishap broadcast.

The question has, however, been widely discussed in medical gatherings, and since the publication of our warning at least three large hospitals in this city have established the rule that the nurse shall remove the bottle from the bed when the patient is put back into it from the operating-table.

This is an excellent rule, it seems to us, and one which might well be established in every hospital in the land. No harm can come to the patient from heating the bed, and the precaution would act as a constant reminder to the nurse and internes of the element of danger, and would induce watchfulness when in emergencies it becomes necessary to apply heat in this way to other than operative cases. The frequency with which extensive burns have occurred in the past was well illustrated in a recent discussion at the Lenox Medical Society, the members present having, with scarcely an exception, instances to relate of such accidents which had fallen under their observation, or of which they had direct knowledge. Feeling that our previous notice of the matter has not been unrewarded, we do not hesitate again to call attention to it, in the hope that it may save some one from an unpleasant and unprofitable experience, to say nothing of the patient.

News of the Week.

Hebrew Physicians at Moscow.—We have received the following from the executive committee of the Twelfth International Congress: "In reply to numerous inquiries in regard to the conditions under which Israelites may take part in the XII. International Medical Congress, the executive committee hastens to inform those interested that the minister of the interior, with the approval H. I. II. the Grand Duke Sergius Alexandrovitch, has judged it possible to authorize the arrival at Moscow, for the congress, of foreign Hebrew scientists on the same conditions of other foreigners. They will be obliged, therefore, the same as the latter, to have their passports viséd by the Russian consul where they reside. Orders have consequently been given by the minister of foreign affairs to the Russian consuls and ministers in foreign countries, to the effect that the passports of all persons going to the XII. International Congress of Moscow must be viséd without regard to the religious beliefs of these persons." We trust our Hebrew con-

frères will be duly grateful to His Imperial Highness Nicholas Alexandrovitch for this gracious permission to visit one city in his dominions.

The Marine Hospital Service.—There will be held in Washington, D. C., on February 3, 1897, a competitive examination of candidates for appointment to the position of assistant surgeon in the United States Marine Hospital service. Candidates are required to be not less than twenty-one years of age, and no appointment will be made of any candidate over thirty years of age. They must be graduates of a reputable medical college and furnish testimonials as to character. Successful candidates, having made the required grade, are appointed in order of merit, as vacancies arise during the succeeding year. A successful candidate, when recommended for appointment, is commissioned by the President of the United States as an assistant surgeon. After four years of service and a second examination he is entitled to promotion to the grade of passed assistant surgeon, and to the rank of surgeon after a third examination, according to priority, on the occurrence of vacancies in that grade. The salary of an assistant surgeon is \$1,600 per annum, together with furnished quarters, light, and fuel; that of a passed assistant surgeon, \$1,800 per annum; and that of a surgeon, \$2,500 per annum. In addition to these salaries, after five years' service an additional compensation of ten per cent. of the annual salary for each five years of service is allowed medical officers above the rank of assistant surgeon, the maximum rate, however, not to exceed forty per cent. When an officer is on duty at a station where there are no quarters furnished by the government, commutation of quarters is allowed at the rate of \$30 a month for an assistant surgeon, \$40 for a passed assistant surgeon, and \$50 for a surgeon. The successful candidates, after receiving appointments, are usually ordered to one of the larger stations for training in their duties. Full information may be obtained by addressing the surgeon-general of the Marine Hospital service, Washington, D. C.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about \$180, will be made on July 14, 1897, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1897. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1896 was not awarded.

The Late Dr. Edward S. Farrington.—At a meeting of the West End Medical Society, on October 3, 1896, the following minute was adopted:

"It is with deep regret that we learn, at this our first meeting of the year, of the death of our esteemed fellow-member, Dr. Edward S. Farrington, who died on September 7th, of typhoid fever. He was a man of fine character, scholarly attainments, and attractive personality, and was held in high esteem by all who knew him. We feel that by his death both the society and the individual members thereof have lost a valuable associate and a good and loyal friend.

"We hereby resolve that these, our expressions of regret and appreciation of our loss, be spread upon the minutes of this society, and that copies thereof be transmitted to his family and to the current medical journals.

"CYRUS J. STRONG, M.D.,

"HOWARD GILLESPIE MYERS, M.D.,

"CHARLES GOOD, M.D.,

"EDWARD L. WILLIAMSON, M.D.,

"Committee."

The Late Dr. William Remsen Taylor.—At a special meeting of the medical board of the Astoria Hospital, held October 6, 1896, action was taken as follows:

"The medical board desires to pay tribute to the memory of William Remsen Taylor, M.D., late president of this institution.

"Whereas, The medical board, in the death of Dr. Taylor, has lost its first executive officer and long-trying friend; therefore be it

"Resolved, That the board causes to be spread upon the minutes of its records these resolutions of appreciation and sorrow.

"Resolved, Further, that the sympathy of the board be extended to the members of his family; also that a copy of these resolutions be forwarded to them and be published.

"NEIL A. FITCH, M.D.,

"JAMES D. TRASK, M.D.,

"CLARENCE N. PLATT, M.D.,

"Committee."

Physician Sued for Pits.—A novel suit has been begun against Dr. Feeney, of Staten Island, by an undertaker, who claims \$5,000 damages for the marring of his facial beauty by small-pox. It is charged that the physician diagnosed as chicken-pox certain cases which the undertaker took charge of after death, and from which he contracted variola. It is reported that when his lawyer presented in evidence the undertaker's face the judge ordered it to be marked "Exhibit No. 1," to which the objection was raised that it had been too much marked already. This is an instance in which the undertaker did not prove the traditional best friend of the physician, who covers up the latter's mistakes. The unusual scene presented by a suit at law being brought by a member of one profession against that of another upon which it feeds, can be accounted for by the fact that the plaintiff combined the function of coroner with that of his other undertakings.

The Modesty of Englishmen offers an obstacle to science which is deplorable. Mr. Jonathan Hutchinson has been giving clinical lectures which were, of course, very popular, and were attended by many women practitioners as well as by those of the sterner sex. It is now announced, however, that only men will hereafter be permitted to attend the clinics, as the male patients express an unwillingness to disrobe and display their lesions in the presence of the ladies.

A Welcome.—Drs. Leith Napier and Ramsay Smith, who were picked up in London by the government of South Australia to take charge of the Adelaide Hospital, from which the regular staff had been driven by the action of the lay authorities, have arrived at their posts. At a special meeting of the Victorian Branch of the British Medical Association, called to discuss the new arrivals, the following resolution was adopted:

"That the Victorian Branch of the British Medical Association desires to place on record its strong disapproval of the disloyal action of those medical practitioners who recently accepted appointments at the Adelaide Hospital in defiance of the protests of the South Australian Branch."

The Water Supply of Philadelphia.—In an article in the *Dietetic and Hygienic Gazette*, on "Typhoid Fever in Philadelphia," Dr. Henry Leffmann shows by statistics and topographical data that the high typhoid death rate in that city is, for the most part, directly due to the use of polluted water, and there is every reason, he says, to believe that if the present water supply of the city were subjected to filtration an immediate fall in the typhoid rate would be shown, and under such circumstances the sanitary condition of the city would be in the front rank of the large cities of the world. During the year 1895 there were four hundred and sixty-nine deaths from typhoid fever in Philadelphia, and, estimating the cost of each one at \$100—a low figure—there was a total expense of \$469,000, "the interest on a sum quite sufficient to filter all the water." If to that is added the cost for the cases which terminated in recovery, there would be a large sum to help pay the first cost of construction of the filtering plant.

Antitoxin Treatment of Diphtheria in Austria.—Professor Paltauf has published statistics of 1,103 cases of diphtheria in which antitoxin was employed, with the result of 970 recoveries and 133 deaths, equivalent to a mortality of 12.5 per cent. He lays much stress upon the early application of the serum, for in the case of injections made on the second day of the disease the mortality amounted to 6.7 per cent., whereas in those made on the third day it amounted to 19 per cent., in those on the fourth to 23 per cent., in those on the fifth to 31 per cent., and in those on and after the sixth to 33.3 per cent. Professor Paltauf makes mention of the epidemic of diphtheria in Ischl, where in December, 1895, all those children died who had not received the antitoxin treatment; whereas in January, 1896, in the cases of 16 children attacked with the disease and treated with antitoxin the result was in every way successful.—*The Lancet*.

Dr. John B. Hamilton, editor of the *Journal of the American Medical Association*, has resigned from the Marine Hospital service, in order to devote himself to his editorial duties and the demands of private practice.

Professor Koch Studying Leprosy.—Dr. Robert Koch has been sent by the Prussian health department to Memel, in Eastern Prussia, in order to study leprosy and the means by which it is spread, and to devise measures by which further spread of the disease in that region may be prevented.

Dr. Irwin, Li Hung Chang's physician, is a genial and talented Irishman. Just as he left Netley eighteen years ago he heard of a good opening for a doctor at Tein-Tsin, so he turned him cheerily to the Flowery Land. In 1879 he was called in to attend a serious case in the imperial yamen. His patient recovered, he was appointed chief physician to the viceroy and the viceroy's family, and ever since his lot has been a happy and prosperous one.—*The Canada Lancet*.

The Doctor's Debts.—A Vienna physician was recently sued for the amount of a bill which he refused to pay. He claimed, and in this was sustained by the court, that the practice of medicine was a privileged profession and not a trade, and that a physician's property could not be seized for the payment of his debts. The case was carried from one court to another until it reached the court of appeals, and in all the decisions were to the same effect, and the creditor lost his money.

Consecration of St. Luke's Hospital.—The new buildings and chapel of St. Luke's Hospital, at One Hundred and Thirteenth Street and Morningside Heights, now nearing completion, were consecrated on October 17th by Bishops Potter of New York, Littlejohn of Long Island, and Huntington of Central New York, assisted by the archdeacon of the Episcopal diocese of New York and the clergy of the city. The board of managers of the hospital, the members of the medical staff, and a few of the patrons of the institution assisted in the ceremonies.

Sir George Murray Humphry, of Cambridge, England, died at his home on the evening of September 24th. He was born on July 18, 1820, and at the age of nineteen entered St. Bartholomew's Hospital, and immediately upon obtaining his qualification to practise, when but twenty-two years old, was appointed surgeon to Addenbrooke's Hospital, Cambridge. He was a frequent contributor to periodical literature, and published several works on anatomical subject. He was chairman of the general committee on collective investigation of the British Medical Association, and himself made and published the results of the investigation on old age. He was among the first to call attention to the fact, which has since come to be very generally recognized, that the aged bear the shock of injuries and surgical operations wonderfully well and that their power of resistance to disease is often as great as that of younger persons. He received the honor of knighthood in 1891.

Helium, one of the newly discovered constituents of the atmosphere, has been divided by Professor Ramsay into two portions, one of which is lighter than the other, although both give the same spectrum.

Dr. B. Meade Bolton, chief of the department of pathology and bacteriology of the Philadelphia board of health, has been tendered the chair of bacteriology in the University of Missouri, and will probably accept the offer.

Gifts to a Hospital.—A number of the summer residents of Long Branch, before returning to their homes recently, started a subscription list for the benefit of the Monmouth County Hospital, and collected a considerable sum for the institution.

A Home for Blind Women.—The Church Charity Foundation of the Long Island Episcopal diocese has made arrangements to open a home for blind women in Maspeth, on November 1st. The building is surrounded by five acres of land, which have been deeded to the diocese. It is stated that there are twelve hundred blind persons in Brooklyn and vicinity, and that only a small percentage of them is cared for in charitable institutions.

"Charaka-Samhita."—The fifteenth fasciculus of the translation, by Avinash Chandra Kaviratna, of this quaint old medical treatise, deals with the properties of various articles of diet and with the perversions of appetite. The physiology of alimentation is considered in a primitive fashion, and the consequences of gluttony are vividly portrayed. The final portions are concerned with epidemics and their origin in the vitiation of the air, soil, and water.

The Hope Hospital in Langholm, Scotland.—A correspondent of *The Lancet* writes that the cornerstone of this hospital was laid, on September 21st, by Miss Hope, of New York. The hospital is one of the results of a sum of £100,000 left by the late Mr. Thomas Hope, of New York, to Langholm, as his native place, the capital to be administered by trustees for the benefit of the inhabitants. The building is to be a very handsome one, and the plans are in every respect drawn on a most liberal scale. The cost is estimated at £17,000.

The Proper Pronunciation of Greek.—The October number of *Education* contains an interesting article with this title, by Dr. A. Rose, of New York. It is a paper which was read by him before an interested audience in the hall of the Academy of Medicine in June last. The same number contains the remarks delivered at the time of the lecture by Professor Orris, of Princeton, and Mr. Botassi, the Greek consul at New York. The arguments advanced against the Erasmian pronunciation are very strong, and should be read by all Greek professors who adhere obstinately to this artificial and indefensible system. Russia and France have, we understand, adopted the correct pronunciation; and if Germany, England, and America could be induced to follow suit, the dream of the adoption of Greek as the international tongue would seem to be nearer realization.

Philadelphia Hospital.—Dr. E. B. Sangree has resigned the position of pathologist to the Philadelphia Hospital, in consequence of the assumption of the duties of the chair of pathology and bacteriology in the Vanderbilt University at Nashville, Tenn.

Slumber Sound in Philadelphia.—The current belief that insomnia is unknown in Philadelphia will be strengthened by an incident related by the correspondent in that city of *The Lancet*. He writes that a hypnotist had been giving exhibitions in one of the theatres, and as a "special feature" he put a victim into a sleep that was to last seventy-two hours, placed him in a store window in a prominent thoroughfare, and offered \$100 to any one who could rouse the sleeper before the time named. One man, anxious to earn the money, failing to make any impression on the victim by tickling, prodding, etc., became desperate and struck him some heavy blows with his fists, without accomplishing his object, however, but injuring him severely. Just at this juncture the "professor" arrived. He was ordered to arouse the man, which he did, when it was found necessary to remove him to a hospital.

Philadelphia County Medical Society.—At a meeting of the Philadelphia County Medical Society, on October 14th, Dr. F. W. Talley read a paper entitled "The Proper Position of Cæliohysteropexy in Gynecology;" Dr. A. O. J. Kelly read a paper on "Essential Paroxysmal Tachycardia, with a Report of Four Cases;" Dr. C. W. Burr read a paper on "The Relation of Anæmia to Chorea," in which, as a result of observations made in thirty-six cases, he came to the conclusion that anæmia is not an exciting cause and not commonly a predisposing cause of chorea; but in many cases it is secondary to the chorea.

College of Physicians of Philadelphia.—At a meeting of the surgical section of the College of Physicians of Philadelphia, on October 15th, Dr. Sprenkle, by invitation of the executive committee, read a paper on "Prolonged Pregnancy," in which he pointed out the dangers to which this condition might give rise, and advised the induction of artificial labor if gestation be prolonged two weeks beyond the normal. Dr. C. B. Penrose read a communication, entitled "Hysterectomy by Combined Operation through Abdomen and Vagina," in which he advocated, in place of following the procedure commonly employed, that the abdominal section be made first and the vaginal manipulations be proceeded with afterward.

Vital Statistics of Philadelphia.—For the week ending October 10th, there occurred in the city of Philadelphia 357 deaths—44 less than during the preceding week. Of the whole number, 104 were in children under five years of age. The following causes were assigned for the largest number of deaths: Pulmonary tuberculosis, 39; heart disease, 24; carcinoma, 21; marasmus, 21; apoplexy, 17; nephritis, 15; pneumonia, 14; inflammation of the brain and its membranes, 14; diphtheria, 14. There were reported during the week 73 cases of diphtheria, 28 of typhoid fever, and 16 of scarlet fever.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Thirteenth Annual Meeting, Held in New York, October 13, 14, and 15, 1896.

DARWIN COLVIN, M.D., PRESIDENT.

THE PRESIDENT called the meeting to order at 10 A.M., October 13th, and expressed pleasure at being called to preside over so important a body.

Report of Committee of Arrangements.—DR. JOHN G. TRUAX made a verbal report, in lieu of the written one left at home, and heartily welcomed members of the association to New York and this annual meeting.

Report of the Council.—DR. E. D. FERGUSON read the report. The library now contained ninety-five hundred and thirty-eight volumes, having been increased by thirty-five volumes during the past year. The total sum in the treasury at the beginning of the year was \$5,330; total disbursements, \$1,992; total amount remaining, \$6,258. A resolution was adopted by the council, and later accepted by the association, in opposition to restriction of vivisection by Congress. In the matter relating to removal of physicians from the Harlem Hospital without cause, brought up by Dr. Manley, the chairman of the council to which it was referred reported that it was a local matter, and he thought the association should not interfere with local matters.

DR. MANLEY could not agree with the report that the discharge of physicians from the hospitals without cause was a local matter. In the present instance it was done at the urgency of the medical colleges, and the action of the faculties of those colleges was in violation of all ethical rules. Dr. Manley moved that the matter be referred back to the council, which should report by the last session.

DRS. J. G. TRUAX, FERGUSON, and others made a few remarks, and the matter was referred as called for in Dr. Manley's motion.

Dr. J. B. Hamilton.—On motion of DR. MANLEY, the following resolution was adopted:

"To the Surgeon-General of the Marine Hospital Service of the United States.

"Whereas, Dr. John B. Hamilton, of Chicago, Ill., surgeon to the Marine Hospital of that city, professor of surgery in Rush Medical College, and editor of the Journal of the American Medical Association, has been ordered to vacate his present position and report for duty at San Francisco; and

"Whereas, Dr. Hamilton, a native of Illinois and graduate of Rush Medical College, occupies the responsible position of editor of the leading medical organ and exponent of medical science in this country; for the great success of which of late years, its enlarged circulation and unparalleled prosperity, for widening the influence of and extending the benefits of the American Medical Association, all must admit, we are chiefly indebted to Dr. Hamilton;

"Whereas, The removal of Dr. Hamilton from Chicago and his withdrawal from the the editorship of the Journal of the American Medical Association would be a great loss to the entire profession (medical) of the United States; therefore be it

"Resolved, That the Medical Association of the State of New York, appreciating the rare qualities of Dr. Hamilton as a scholar, a teacher, and a fearless editor, and his labors in the past in the defence of non-sectarian medicine and his efforts to raise the standard of the medical profession in the United States of Amer-

ica, respectfully petition the President of the United States and the surgeon-general of the Marine Hospital service to reconsider or rescind the above-named order, and permit Dr. Hamilton to continue in Chicago at his post, believing that by so doing the interests of the Marine Hospital service will not be neglected and those of the medical profession best protected."

Functionless Organs. Are There Any? The Use and Disease of the Vermiform Appendix.—DR. NELSON L. NORTH, of Brooklyn, read the first scientific paper. "While thinking how best to present my thoughts in favor of what I supposed to be about the real truth, that the human organism, in its normal condition, was pretty nearly perfect in all its parts, and that all its parts were each peculiarly and specially adapted to accomplish its own portion in the economy of the completed whole, I opened the MEDICAL RECORD and read, under the head 'Rudimentary Organs,' by Cora H. Flagg, M.D., as follows: 'In all of the higher animals we find a large number of structures which are either absolutely useless or of such slight service as to bear little or no relation to the existing life or wants of the animal.' Evolution in the article quoted from has certainly an enthusiastic advocate, and the prize essay of the author is very pleasant Darwinian reading; only we are inclined to think, in running over man's 'rudimentary organs,' that man is, after all, 'a kind of nature's patchwork,' and a great way from a perfect or completed organism, and we are also inclined to exclaim with Shakespeare, though in the deepest irony:

"What a piece of work is man!"

To continue the parody:

"How ignoble in origin!
How infinite in rudiments!
In form and moving
How like his prototype!
In action like an animal!
In apprehension how like a (heathen) god!
The fag end of creation!
The continuation of the (lower) animals!"

"We have not to go far back in medical literature for statements to the effect that so important an organ in the digestive and blood-making process as the spleen is utterly functionless except as a possible reservoir for the blood during congestive conditions. Also with several other of the glandular organs heretofore supposed to be wholly functionless, it is coming to be well understood that, instead, they are hamatopoietic, and hence of singular importance in the assimilative process of tissue building."

Dr. North cited the thyroid and thymus glands as examples: "Even the tonsils, the glandular organs which have borne all sorts of abuse from cauterizations, incisions, and excisions, are beginning to be looked upon as 'guardians of the fauces,' arresting in their follicles marauding bacilli or overtaking them with germicidal secretions, or else bearing in their own bodies the force of the toxins which would otherwise get deeper and attack the citadel of life's forces. So it may be that the poor appendix vermiformis, so often referred to during the last few years as the death-inviting, functionless rudiment of a former existence, may be found to have been created or evolved for a purpose, and not intended to be sacrificed to the surgeon's knife without mercy whenever found in sight or within reach, whether guilty or not guilty of diseased action. It is fairly supposable that, whether man was created instantly by the fiat of God or by the slow process of evolution, the design was to make a perfect being; and it is not fair to suppose—conceding even that the origin dates from the very lowest and first conditions of life—that all through the extended process

of evolution there should be of necessity traces of the changes in the multitudinous rudiments of former conditions, useless for the life that now is and dangerous to that life, in that they so easily take on diseased action and become only 'pathological in their significance.' Rather let us suppose that an almighty God—or the conservative all-powerful force of nature—would have improved at each turn of the evolution processes; and so we should discover that every part of the human organism, however apparently insignificant, has a use, and should not be sacrificed without good and sufficient reason therefor. The numerous follicles or glandular structures of the appendix show evident secretive or secerment action, and it is quite possible that from these, as from glandular bodies of a like character in the lower portions of the ileum, secretions are thrown out which guard this ileo-cæcal valve, and perhaps hinder the passage of the colon bacteria and so tend to preserve the normal condition of the parts. Of course, in a diseased condition, as in appendicitis, all this is changed. Then, again, a careful study of the form, location, bearing, and action of the appendix would indicate its primal use or function as an automatic closer or 'drawstring' to the ileo-cæcal valve; its cavity being filled with gas, it naturally rides upward like the ball valve used by plumbers and so draws the mucous folds of that valve in coaptation—thereby preventing the foul gases of the colon from passing upward. While this valve would prevent regurgitation of gases from the colon, it would not prevent the passage of feces into the colon."

While looking up the subject of the appendix vermiformis, Dr. North had been startled by the number of cases of appendicitis reported and referred to. In seeking the explanation, he had visited the health office of Brooklyn and studied the relative number of deaths for the several years since 1880, from peritonitis, perityphlitis, typhlitis, appendicitis, intussusception, obstruction of the bowels, colic, perforation of intestine, ulceration of bowels, perforation of appendix, and constipation. The percentage of deaths from these combined causes had been, in 1880, 1; in 1883, $1\frac{1}{4}$; and for the successive years to 1895 it had been $1\frac{1}{3}$, $1\frac{1}{9}$, $1\frac{1}{4}$, $1\frac{1}{3}$, $1\frac{1}{2}$, $1\frac{1}{3}$. It was obvious that since there were more deaths from these causes there must be more cases in the aggregate, or else the treatment was faulty. It was not likely surgical technique would much further diminish the death rate from operative interference, and Dr. North thought the difficulty lay in practitioners giving up as soon as a patient complained of pain in the right side and calling in a surgeon, instead of resorting to early local antiphlogistic and internal remedies. Among the remedies which Dr. North had found valuable in the class of diseases named were opium (which was often curative in peritonitis), leeches, ice bag, or poultices, mild cathartics, and rectal injections.

Dr. JOHN CRONIN had seen many cases of what formerly had been called ileus, then typhlitis, perityphlitis, paratyphlitis, appendicitis, recover under local applications and medical treatment. Leeches, ice bag, and poultices were among the remedies—ice bag in the acute stage and poultices later.

Dr. W. M. BEMUS found, in addition to the opium treatment and the ice bag, benefit from rectal injections of cold water.

Dr. HENRY D. DIDAMA remarked that the thyroid gland was once considered useless, but now as a remedy it was taken by the fat man to reduce his weight, it was regarded as a cure of cretinism, etc. Even the suprarenal capsules were put to service—at least he understood such a report came from St. Louis, where most of our things come from. So the appendix vermiformis might be found to have some use—he hoped it would.

A surgeon in the State had told him that he had often been called by physicians to cases of supposed appendicitis, had operated, had often found the appendix all right, closed the wound, and—received his pay.

The President's Address.—DR. DARWIN COLVIN then read his annual address, on "Medical Expert Testimony." It will be published later in full. Some experience was given, showing that the present method of obtaining expert testimony was extremely faulty; in every case so-called experts could be secured for a fee to give entirely conflicting testimony. He favored such change as would make the expert as free from influence by the opposing parties as were the jurors or the judge.

Report of the Committee on Criminology.—DR. AUSTIN FLINT read the report. The committee had been appointed at the last meeting to confer with a committee appointed by the Prison Association of New York, to report on criminology. The two committees met with the executive committee of the Prison Association, December 10, 1895. The chief subject of discussion at this meeting was the question of the amendment to the constitution of the State, prohibiting productive prison labor. The injurious results of such an amendment, enforcing idleness on prisoners, were pointed out during the discussion and in a letter sent by the committee to members of the association. The committee recommended to the president of the State commission of prisons the adoption of the Bertillon system of identification of prisoners. The system was not only useful in the identification of prisoners, but was also of the greatest scientific value, in connection with the study of criminology and anthropology and related questions. The report was signed by the members of the committee, Drs. Flint, Gouley, and W. A. White, on motion was accepted, and the committee was continued.

Prostatic Enlargement.—DR. J. W. S. GOULEY opened the discussion on this subject with a paper in which he propounded the four following questions: 1. What is the nature of prostatic enlargement? 2. How is prostatic enlargement recognized? 3. What are the effects, and how may they be counteracted? 4. When is operative interference indicated, and what operations may be safely performed for prostatic enlargement? (See p. 577.)

Prostatectomy.—DR. SAMUEL ALEXANDER'S paper on this subject will be published in a future issue.

Dr. W. G. BROWNSON, of Connecticut, spoke to one point, catheterization in old men with enlargement of the prostate. By carrying this out systematically and irrigating the bladder when necessary, he had made many old soldiers comfortable and prevented the development of vesical and renal symptoms. The solutions were carbolic acid and glycerin (carbolic acid, two per cent.), boric acid.

The Effects of Prostatic Enlargement and How They may be Counteracted.—DR. DOUGLAS AYERS

read a paper on this subject. He said that, although the prostate had been spoken of as a gland, it might be called a muscle, since so small a portion of it was glandular. The first effect of enlargement was change in the capacity and course of the urethra, followed by obstruction to the flow of urine. Complete retention of urine might occur early, but usually it was one of the latest symptoms. Persons approaching the age at which prostatic hypertrophy was likely to develop ought to be warned by the physician, who should see that the bowels moved daily, that the body was protected by suitable clothing, that the patient partook of suitable food or that which was plain, nutritious, easily digested, not highly seasoned, and took moderate exercise. The amount of residual urine should be early learned and the catheter called into timely requisition. No. 9 or No. 10 of the American scale soft-

rubber catheter would answer in the majority of cases. When the urine became turbid or offensive resort to vesical irrigation should be had. As to medicines, such as the physician's experience had taught him would give the best results should be used. While acknowledging our lack of power to prevent the cause of prostatic hypertrophy, we should employ such means as would lessen the effects and make more comfortable the decline of life.

Method of Retaining the Drainage Tube.—DR. E. D. FERGUSON had found the best method of retaining a drainage tube inserted into wounds or cavities to consist in stitching it to the integument.

DR. H. O. MARCY expressed his pleasure at hearing the very complete and excellent papers read by Dr. Gouley and Dr. Alexander. He recommended to the consideration of the readers an excellent paper on the subject written at his suggestion by his friend, Dr. White, of Boston, in 1887. Dr. Marcy had found vision much aided in one case of prostatectomy performed by him by placing the patient in Trendelenburg's posture. He thought we would come to do away with suprapubic drainage in this operation and rely entirely upon perineal drainage. Alexander's operation was destined to have a wide field of usefulness.

DR. GOULEY, in some closing remarks, said residual urine in enlargement of the prostate was not due to want of expulsive power on the part of the bladder, but to closure of the urethra, which took place long before there was loss of expulsive power. One ounce of residual urine was sufficient to do mischief, and it was not wise to wait until there was more before beginning the use of the catheter. Catheterization, when properly performed, did no harm whatever. In enucleating the prostate he strongly commended the use of the finger instead of sharp instruments in order to diminish hemorrhage. If the proper drainage tube were employed it would not come out, and there would be no necessity for stitching it to the skin. Trendelenburg's posture was the worst of all in prostatectomy, for it was desirable that gravity should act away from the body.

The Treatment of Fecal Fistula, with Report of Cases.—DR. F. H. WIGGIN, of New York, read a paper on this subject (see page 586).

Irritable Stump.—DR. JOSEPH D. BRYANT, of New York, in this paper gave statistics of the late war bearing on the nature of the stump following amputations, the opinions of instrument makers on the subject of irritable stump, and then described a method of amputation in the lower third of the leg which he had employed in a number of cases. The military statistics showed a large percentage of cases with either an unhealed or an irritable stump some months after amputation. He had been unable to secure statistics from surgery in civil life. A visit to a number of artificial limb makers in the city had not resulted in securing all the information which he had desired, but it was learned that irritable stump was recognized by each of them, one manufacturer stating that about ten per cent. of all cases were of that nature. Some were of the opinion that the owners of the stumps were as much at fault as the surgeon. The length of the flap was recognized as important in efforts to secure a useful stump.

Dr. Bryant then gave the history of the first case, that of a military man, which had led him to employ the mode of amputating and described the flap which he had found gave the most serviceable stump, especially in the lower extremity, where he had most frequently applied the method. All told, he had operated in this manner in fourteen cases, and in eleven the stump had been in every way satisfactory. In his conclusions he said: 1. The flap of all pressure-bearing stumps should be equal in length to rather more than

one-fourth of the circumference of the part where amputated. 2. Irregularly formed flaps should be constructed on the same basis, one portion of the flap making up for the deficiency in length of the other. 3. Periosteal covering of the divided end of bone should be made if possible, and when possible the periosteum should be raised apposed to the overlying soft parts. 4. This method of procedure secured the most serviceable stump in amputation of the lower third of the leg.

DR. H. O. MARCY, of Boston, said that many years ago, when he was a medical student, he asked Dr. Bowditch what would be the effect of covering the end of the amputated bone with the lifted periosteum, and the reply was that it would probably produce a lump of bone and cause trouble. Dr. Marcy said further that he was in the habit of suturing the several tissues to their kind and of sealing the wound with iodoform collodion, not employing drainage, and he thought stumps so treated gave less trouble.

DR. DIDAMA thought the point made by the author, not to separate the periosteum from the superincumbent tissues, was an important one.

Hindrances to the Successful Treatment of Diseases of Infancy and Childhood.—DR. J. LEWIS SMITH read the paper. The first hindrance was the disinclination of mothers to nurse their own children. The next was the difficulty of getting a healthy and reliable wetnurse. Before the New York foundling asylum was established about all the babies under city care died. A watch had to be kept at the foundling asylum to-day to prevent mothers leaving their infants at the door and going off without making their identity known. Medical colleges did not give sufficient instruction to undergraduates in the diseases of children, and this want had been only partly met by the post-graduate schools. The habit of attributing all ills to painful dentition, for which, formerly at least, physicians lanced the gums, was a serious fault. Rheumatism was often called growing pains, consequently proper treatment was not adopted and the number of cases of heart disease was greater than it should be. The questions of alimentation, spreading disease at school, and some others had recently been discussed in pædiatric literature, and were therefore passed by.

The Practical Uses of Roentgen's Discovery as Applied to Surgery; with Illustrations.—DR. REGINALD SAYRE, of New York, gave a brief review of the discovery and principles of the x-ray and then projected on the screen a number of photographs so taken of orthopædic cases. It was evident from the demonstration that the x-ray was of value in the location of fractures; in determining whether there had been proper reduction, which could be done without removing the dressings; in locating sequestra and perhaps abscess of bone, in determining whether disease had invaded the joint, and whether there was bony or fibrous ankylosis. It was of less use than might have been supposed in clubfoot of children, for the cartilage was so extensive as to cast a light shadow throughout most of the space. But this fact showed the foolishness of removing tissue by the knife in such cases, since mechanical appliances would readily bring the parts into place. Among the illustrations were some of bandylegs, clubfoot, dislocation at the hip, bony and fibrous ankylosis, fracture, etc.

The Treatment of Otorrhœa and Its Importance.—By DR. EDWARD B. DENCH, of New York. The term otorrhœa was used collectively to avoid technicality. In a given case the physician should inquire how long the discharge had been present; had it been preceded or accompanied by pain; was there a history of previous disease of the ear; had the discharge been continuous or intermittent; had there been any sudden diminution of the quantity of the discharge. If so, had

it been accompanied or preceded by pain. He should observe the character of the discharge—whether serous, sero-mucous, or purulent, whether large or small in amount. A chronic discharge lasting a month, purulent in character, must come from the middle ear, and naturally the membrana tympani must present some opening. A recent purulent discharge might be from the external ear, as in furuncle. Sero-mucous discharge came from the middle ear. Pressure in front of the tragus or traction on the auricle would cause pain if the external ear were involved, and in adults this was a sign of considerable importance; but in children the bones of the ear were not yet formed and the traction would cause pain, as also in inflammation of the middle ear. In many cases patients had a series of attacks, usually following colds, and between the attacks there was no discharge. Here there was either a simple catarrhal inflammation of the middle ear with slight serous discharge, or there had been a purulent discharge with destruction of most of the membrana tympani, the lining membrane being left exposed over a large area, from which serum flowed during congestion. When the membrana tympani was intact pain preceded the discharge, but when it was perforated there was absence of pain. As to furuncles, they were rare in infants, more frequent in adults. Most of the paper was devoted to inflammation of the middle ear.

In simple earache with serous exudate, when the tension became great enough it ruptured the membrane, some fluid escaped, pain was relieved, the process healed spontaneously unless infection took place, and the membrane closed. When suppuration existed it always implied destruction of tissue, and in the middle ear both the soft structures and the bony walls might be involved. The discharge would cease as soon as the necrotic tissue had been separated, but often drainage was not perfect. The first object of treatment was to keep the canal free of discharge, the second was to secure an aseptic condition of the meatus. While much had been said of drainage by iodoform gauze, his own experience had been so unsatisfactory that he no longer employed it. He favored the older method of syringing as often as was necessary to keep the ear free from secretion. Under no circumstances would he stop the ear with cotton, nor should powders be used, such as borax. As an antiseptic douche he preferred bichloride, 1 to 3,000 or 1 to 5,000. Dr. Dench then described two methods of removing necrosed bone when this was present. He preferred curettage through the canal.

The Relation of Affections of the Upper Air Passages to Diseases of the Ears.—DR. FRANK S. MILBURY, of Brooklyn, pointed out in the first part of this paper what he believed to be the frequent connection between some abnormal condition of the anterior nares and postnasal affections which were commonly recognized as the cause of much middle-ear disease. In his opinion in every case of adenoids the Eustachian tubes were involved. The adenoids should be removed and thereby humanity saved much suffering in connection with the ear as well as with the nasopharynx.

The Technique of Intubation in Children; Some Remarks on the Time for Operation and on the After-Treatment.—DR. THOMAS J. HILLIS, of New York, read a paper with the above title. Success depended a great deal upon experience, attention to little points, and on proper nursing of the patient by the parents or friends.

Temperature as an Element in Prognosis.—DR. JOHN SHRADY, of New York, read a very practical paper on this subject, which will appear later.

The Medical Treatment of Inebriety.—DR. T. D. CROTHERS, of Hartford, Conn., read this paper. In-

ebriety, he said, was a more complex disease than insanity. Its progressive degeneration often dated back to ancestors, to defects of growth, to retarded development, or to early physical and psychical injuries. Later the poison of alcohol, by its anæsthetic and paralyzing action, developed more complex states of degeneration, the form and direction of which were very largely dependent on conditions of living and on surroundings. The psychical symptoms showed progressive disease of the higher brain centres, with degrees of palsy and lowered vitality. The medical treatment must be based on some clear idea of what constituted the nature of inebriety and the conditions present in the case to be treated. This required a careful clinical study of the symptoms, tracing them back to causes, and all the varied conditions formative in the progress of the case. Heredity was the most frequent predisposing cause. A second class of cases was due to physical and mental strains or to drains and injuries. The second part of the clinical study was the effect of alcohol. What injury had it caused? How far had it intensified all previous degenerations and formed new pathological conditions and sources of dissolution? What organs had been most affected, and, most important of all, how far was the use of alcohol a symptom or an active cause? Having ascertained these facts, the medical treatment was the same as in other diseases—the removal of the exciting and predisposing causes and building up the body.

The first question was the sudden or rapid removal of alcohol. If the patient was alarmed and intensely in earnest to abstain, he would consent to have the spirits removed at once. If he was uncertain and had delusions as to the power of alcohol to sustain life, the withdrawal would depend on circumstances. The removal of all spirits at the beginning of the treatment was always followed by the best results. The reaction which followed could usually be neutralized by nitrate of strychnine, one-twentieth of a grain every four hours, combined with some acid preparation. Sodium bromide in fifty or one-hundred grain doses every three or four hours would break up the insomnia and cause sleep the first two nights.

The withdrawal of spirits should always be followed by a calomel or saline purge, and a prolonged hot-air or hot-water bath, followed by vigorous massage. Hot milk, hot beef tea, and in some cases hot coffee were very effectual. If the patient persisted in a gradual withdrawal of the spirits, strychnine, one-twentieth of a grain, should be given every two hours, and the purge and hot bath should be given every day while the spirits were continued. The form of spirits should be changed from the stronger liquors to wines and beers. Some of the medicated wines were useful at this time, or spirits served up in hot milk. The two conditions to be treated were poisoning and starvation. Food and tonics were indicated for the second condition, calomel purges and baths for the first.

Dementia, melancholia, paresis, tuberculosis, rheumatism, and neuritis were forms of disease which frequently appeared after the withdrawal of alcohol, and whether they had existed concealed by the anæsthetic action of alcohol, or had started up from the favoring conditions of degeneration caused by spirits, was not known. The therapeutic requirements must reach out to meet all these unsuspected diseases, which might appear at any time.

While the ostensible object of medication was to stop the drink craze, this was as far from being curative as the suppression of pain by a dose of opium. Conditions which caused the disordered nerve force to concentrate in cravings for the anæsthesia of spirits had to be neutralized and prevented before a cure could be expected. The use of narcotics and drugs to check the desire for spirits at the beginning was tem-

porary and always uncertain. Opium, chloral, and cocaine given freely at this time often simply changed the drink craze into a craving for these drugs, which were used in the place of spirits ever after.

Premonitory symptoms of a drink storm could, according to the case, be met with calomel and saline cathartics, prolonged baths, rest or exercise, cinchona and iron tonics free from spirits, or some of the coca compounds. Tinctures of any form were dangerous. The masked character of inebriety made it dangerous to use narcotics beyond a certain narrow limit. Persons who had been subjected to active drug treatment to suppress the desire for spirits were feebler and more debilitated than others. Those who had taken the so-called specifics were marked examples, and, whether they used spirits again or not, they were always enfeebled and pronounced neurotics.

The present empirical stage of treatment should rouse a greater interest and bring the medical treatment of inebriety into every-day practice. Then the family physician, and not the clergyman or quack, should be called in to advise. A new realm of medical practice was at our doors, only awaiting medical study above all theory and exclusively from the scientific side.

The Surgical Relief of Obstruction of the Common Biliary Duct by Calculi.—DR. H. O. MARCY, of Boston, in this paper related the circumstances which led up to his operating in 1884 for the first time for calculous obstruction of the common duct. Prior to that time operation on the common duct had been regarded as impractical. Having attended about three cases before that date which had resulted in death, he made up his mind to operate should another case come under his observation, and this occurred in 1884. However, he was unable in that instance to dislodge the stone in the common duct, and predicted that the patient would some time have another and fatal attack of complete obstruction, although the symptoms were relieved on this occasion; and so it proved. His first entirely successful case was in 1889—a calculus weighing fifty-nine grains was removed, and the woman was living and well to-day. The operation was now regarded as not only admissible but as mandatory.

A New Microtome.—DR. SIDNEY YANKAUER, of New York, described a new microtome, which could be sold for between \$5 and \$10, whereas those on the market cost as much as \$50. He also showed a plaster-of-Paris bandage cutter, and explained on mechanical principles the inefficiency of the knife and scissors.

The Physiological Deductions Regarding the Usefulness of So-Called Animal Extracts.—DR. H. A. HAUBOLD, of New York, in a brief paper considered the possible physiological action of the animal extracts, prefacing his remarks with the statement that their use was not new, for Pliny asserted that the Greeks and Romans ate the testicle of the donkey as a remedy for impotence. The conclusion arrived at by the author was that the animal extracts acted as medicines and not as foods; they, including nucleins and protonucleins, did not furnish the blood with elements from which the tissues could be more readily built up than from elements in ordinary diet. They certainly were not deposited in the system, where they obtained root and grew, unless they were taken through the digestive tract and blood. If not so taken, their action was as that of a foreign material, of which the system tried to rid itself.

One Point in the Treatment of Endometritis.—DR. W. H. ROBB passed hastily over the anatomy of the uterus and then arrived at the object of his paper, which was to direct attention to the value of nitrate of silver in the treatment of endometritis. This was not new, but the remedy had fallen largely into disuse.

He did not wish to be understood as advocating it in all cases or as the sole remedy. Each case must be treated according to its merits. Weak solutions were sufficient in the early stage and in mild cases, while the solid caustic was reserved for chronic granular conditions.

DR. BROOKS said that to his mind there was no fallacy greater than the cure of endometritis with nitrate of silver, particularly with the stronger applications. There might be a temporary result which looked like cure or improvement, but the after-result was likely to be worse than the original condition, as had been pointed out by an eminent gynecologist under whom he had studied.

DR. J. H. CALEF, of Connecticut, had made it a custom to examine the secretions bacteriologically in endometritis, and had found that the congested and thickened lining membrane, with its secretions, made a good culture bed for various germs. A great many of the germs were killed by even a weak solution of nitrate of silver, say 1 to 1,000 or 3 to 1,000.

DR. W. M. BENUS had found the galvanic current valuable in dissolving the mucus adhering to the endometrium in the catarrhal condition, thus enabling him to remove it. Peroxide of hydrogen also aided.

DR. JOHN CRONYN approved of the use of nitrate of silver in some cases, and had not understood that the author made use of it in all. Curetting was a fearfully abused operation.

A Class of Fatal Cases, Presumably Due to Intestinal Ptomaines.—DR. E. D. FERGUSON, of Troy, read the paper. It will appear in a future issue of the MEDICAL RECORD.

Address on Surgery.—DR. CHARLES PHELPS, of New York. "It is proper that we should celebrate with form of words the splendid achievements of our immediate predecessors and of our contemporaries; it is pardonable if our exaltation has been sometimes voiced in too magniloquent and resounding phrase, and not always tempered by a generous remembrance of the struggles and successes of a remoter time. The present supposed renaissance of medical art is but a somewhat sudden increase in the energy of an irregular but ceaseless development. It is unimportant to the present consideration of medical or surgical art to disentangle its history from early fable and mythological romance, to determine to what extent it existed in an epoch of barbarism or in a subsequent era of mediæval superstition, or even to define the period in which it may be deemed to have acquired a scientific basis. From the seventeenth century, at least, the inclusion of medicine in the field of positive, if not exact, sciences is beyond question, and its continued advancement a matter of record. The successive discoveries of the circulation of the blood, of the efficacy of vaccination, and of the possible annihilation of pain by anaesthesia are imposing landmarks along the path which has been travelled. And all through this time the gradual evolution of a rational system of treatment of disease and a progressive improvement of methods of surgical interference are sufficient evidence that the advance has been fairly uninterrupted. In American colleges and universities, even of the higher grades, the extent of classical and rhetorical study demanded has been more and more circumscribed, until undergraduates are now practically permitted to pursue such exclusive lines of work as in their unguided opinion pertain directly to their future occupation. The surrounding condition of mental action, and perhaps the contemporaneous mental constitution, incite to scientific investigation rather than to endeavor in the higher planes of literature. It follows that the arts most sedulously wrought and scientifically developed have been mechanical, industrial, or in some sort utilitarian, rather than æsthetic. The gentler arts of oratory and

poesy and of letters have not only failed of advancement, but have suffered decadence. It is not only natural, but inevitable, in an age characteristically occupied with an improvement of physical conditions, that the art most directly concerned with the integrity and prolongation of life, without which all other material advantage is naught, should command great attention, make great progress, and receive great honor."

The progress of surgery in times of war was then mentioned. The work of bacteriologists since Pasteur's discovery twenty-five years ago had been devoted largely to establishing the dependence of various diseases upon the action of specific germs. "It is evident," the author said, "that the present disposition to direct medical and surgical investigation straight to its ultimate object, the cure of disease, while it has grown out of the mental attitude characteristic of the time, has been greatly strengthened by the fact that the conditions have been made favorable by work previously accomplished. Clinicians and pathologists have so strongly established premises that the time has been ripe for conclusions. The present system of aseptic surgery has resolved itself into an attempt to reach an ideal condition of cleanliness by the employment of specific agencies. The discovery of facts which have reduced sanitation and public hygiene to an almost exact science, and of the laws which govern the inception and development of infectious diseases, have in themselves alone effected a greater saving of human life than have all other recent advances in medicine combined; but an estimate of the progress of therapeutics would be inadequate which failed to recognize the services which have been rendered in other ways, and which are to be accounted only by comparison." In this connection, the author mentioned such measures as the use of Murphy's button, Maunsell's method of circular enterorrhaphy, laboratory and special work.

"The extension of medical knowledge and the perfection of medical art may not now demand the forces of originality or the use of the highest forms of intellectual power, but the vast progress made is not less worthy because the field is open. The conditions of progress are still unchanged. The knowledge gained in the past has not yet been entirely utilized for the purposes of the present, and methods of investigation and of procedure for practical realization of its results which still obtain promise to be sufficient for the immediate future. It is possible that entirely new departures may be taken for incursion into the realms of disease, but the branching of the ways is not yet in view."

About half of the paper related to business methods and ethics of the present age. "The ethical side of the profession is less admirable," the author said, "and less satisfactory as a subject for observation. It is not only the methods and purposes of scientific investigation which reflects the characteristics of the age, but no less the manners and morals of the professional men. The age is pre-eminently commercial, and all phases of life assume a corresponding tinge, especially in America, where manners and modes of thought have remained in an exceedingly impressionable condition. The indispensable condition to business success is to 'hustle,' and it has been largely adopted as a rule of action in the pursuit of medical practice.

"The medical art, when inspired by sympathy and guided by a full sense of its serious responsibilities in the relief of suffering and in the preservation of human life, yields precedence in the sacredness of its mission only to the ministrations of the Church, and is worthy of the chivalric regard of the best of men; but practised as a simple business occupation, and degenerated to a vulgar scramble for the gain it brings,

it is but a carrion trade, and they who practise it are no longer ministers of mercy, but prowlers in the shadow of the tomb, who find their profit in disease and death and fatten on decay."

Two Interesting Cases of Surgery of the Kidney.

—DR. JOSEPH E. JANVRIN, of New York, read the histories of the cases. He said one brought up the question of the proper treatment of pyelitis and abscess of the kidney when the organ was diseased throughout. The first case was one of multiple abscess of the left kidney complicated by Bright's disease with septic symptoms, in which he removed that kidney, but the patient died from sepsis and uræmic poisoning six days after the operation. The case was in a woman who was paralyzed from myelitis and had cystitis. The only question which could arise as to the treatment was whether he ought to have simply drained the kidney after cutting down upon it, or remove it, and to his mind its removal was absolutely demanded. The second case was one of fibro-lipoma which had developed from the capsule of the left kidney, the kidney itself not being damaged. The patient made a good recovery after removal of the tumor, the kidney being left.

The Palliative Treatment of Cancer of the Cervix and Bladder in Women.

—DR. NATHAN G. BOZEMAN, of New York, in this paper confined his remarks to the treatment of cancer of the cervix and bladder in the stage of the disease when an operation could not be considered and any treatment resorted to could only be for the alleviation of suffering. These women complained most of hemorrhage and foul discharge from the vagina. Digital examination frequently caused excessive bleeding. It could be controlled by putting the patient in the knee-chest position and packing with gauze containing an antiseptic powder. This was to be renewed three times a week, and the douche was to be employed for cleanliness. The most difficult cases to manage were those in which the bladder was involved. The first manifestations were severe cystitis, excessive vesical tenesmus, and frequent urination, but when perforation took place the urine found a free outlet, the bladder was given physiological rest, and the painful symptoms disappeared. For these cases Dr. Bozeman had had an apparatus constructed for continuous drainage and irrigation of the bladder. With the catheter introduced through the fistula he connected a rubber tube through which there was a constant (or intermittent) but slow flow of water from a gallon bottle, the tube always being full of water.

Summing up, he said there were three points to be observed: 1. Keep the seat of disease in an aseptic condition. 2. Counteract narrowing of the vagina in front of the disease. 3. When the bladder was perforated, use an efficient method of irrigation and drainage. He used distilled water, and to this one could add, if he wished, some disinfectant.

DR. JANVRIN discussed this paper.

Bromides as a Cure in Diphtheria.

—DR. ROBERT ABERDEIN gave personal experience with bromides in the treatment of diphtheria, he having begun their use in that disease in 1888. Speaking of one case, he said he prescribed two drachms of bromide of ammonium in four ounces of water, directed that the mouth be washed out with warm water, and then with a teaspoonful of the bromide solution, after which a teaspoonful should be swallowed. This was repeated every two hours, and a piece of salt pork was put on the throat from ear to ear. Out of thirty-six cases treated with the bromide he had lost only two, and in the two cases he did not attribute death to diphtheria, as it occurred suddenly and in syncope after the throat had cleared up. He regarded the remedy as almost a specific, and had not found it necessary to resort to antitoxin, although he was not prejudiced against this agent.

Recent Investigations Concerning Eclampsia.—

DR. WILLIAM T. LUSK made some verbal remarks upon this subject. His recollection was that he had read a paper composed by a gentleman in the city stating that by watching the urine and the symptoms it was possible to anticipate every case of eclampsia, and possible with this preparation to prevent any woman having a convulsive attack. It was stated that if the urea fell below a certain percentage, premature labor should at once be induced and convulsions would thus be avoided. Dr. Lusk had seen a patient who had had convulsions in a previous pregnancy. In the present pregnancy she went along four months; then a little albumin appeared in the urine, and in view of past experience it was thought advisable by her physician to bring on premature labor. Digital dilatation was employed, then rapid dilatation according to what he believed was now termed surgical methods in obstetrics. The fetus and placental membranes were removed and the uterus was packed with gauze. Then Dr. Lusk was called to see her because she had most profuse hemorrhage. She survived, but for twenty-four hours it did not seem possible that she could live. This was a case in which there was a little albumin in the urine, but not a single symptom, and Dr. Lusk thought it would have been wise had the physician clung to the old method and left the pregnancy undisturbed.

He had seen a case in which there was a trace of albumin in the urine and was told the urea was two and a half per cent. In the old physiology this amount and upward was a normal average of urea, and the pregnant woman was passing a large quantity of water. But he understood that this patient must have abortion produced, otherwise she would with this percentage of urea finally suffer intoxication, and the wary man always anticipated these things and brought on abortion. But Dr. Lusk did not quite concur; the pregnancy went on, a baby was born at term, and the woman did not have a symptom of any kind.

After relating another somewhat similar case, Dr. Lusk said there were certain things to be borne in mind. First, there were a great many cases of albuminuria which did not have eclampsia. There were a great many cases of eclampsia which did not have anything in the urine. Urea could be injected in quantities without producing convulsions. There were a great many poisons the result of tissue changes, and they were produced in greater quantities in pregnant women, and a small quantity retained in the system might produce serious results. These poisons seemed largely to defy chemical analysis.

Dr. Lusk still preferred the use of Barnes' bags in inducing labor. He had not tried *veratrum viride* in the treatment of convulsions, but thought he would, especially as it received a great deal of consideration at the recent gynecological congress at Geneva, the Italian and also the French physicians having taken it up with much enthusiasm.

DR. SQUIER discussed the action of *veratrum viride*, saying that it, like blood-letting, reduced the arterial tension, and a recent article attributed to high tension alone, even aside from the presence of poisons in the blood, tendency to cause convulsions. He said there was a marked difference between *veratrum viride* and *veratrum alba*, the latter being the drug used in Europe, while the former was found and used in America. The use of *veratrum viride* in eclampsia started with Dr. French, in Brooklyn, and the greatest trouble which had come from its popularity was its administration in too great doses. Five to ten minims of the officinal extract was large enough a dose, to be repeated in ten or fifteen minutes, if necessary, and in less amount at subsequent doses.

DR. FRENCH said there were three brothers of them

at the time *veratrum viride* was first used, and they employed a tincture which they made from the fresh root dug late in the fall or early in the spring, when the root contained a minimum of water. He employed this agent and blood-letting, and should continue to do so as long as he never lost a patient. But he was never called to a case without fearing that he might lose it.

The Duty of the Public to the Physician.—DR. WILLIAM M. BEMUS gave in this paper a review of the facts of the common law bearing on the responsibility of the physician and a part of the statute laws relating to the subject. His attention had been directed in this line by a suit brought against him for a Colles fracture by a charity patient urged to do so by a lawyer who first thought she could sue the city but found suit barred by the expiration of the statutory time. After the plaintiff had produced her witnesses, the judge deemed it unnecessary to hear the defence and directed the jury to find for the defendant. But the patient had no money to pay the costs.

DR. DIDAMA called attention to the fact that at present the plaintiff was required to furnish bonds to pay costs in case the verdict was against him. DR. FERGUSON, DR. HARRINGTON, and other gentlemen made some remarks.

A Plea for the General Use of Measures to Prevent Ophthalmia Neonatorum.—DR. A. A. HUBBELL, of Buffalo, in this paper reviewed statistics on blindness in various countries, showing that a large percentage of the cases originated in purulent ophthalmia of the newly born; mentioned the efficacy of its prevention by different methods, especially Credé's, when employed in maternities and in private practice; referred to laws compelling the use of the Credé method under certain circumstances in this country, and urged its universal use, or the use of some method found by experience to be efficient. In Paris certain doctors had employed insufflation of iodoform powder into the eye of the newly born with, they claimed, better results than with the Credé or nitrate-of-silver method. The latter consisted in dropping one drop of a two-per-cent. solution of nitrate of silver into each eye of the baby just after birth.

Supplementary Notes upon Tendon Grafting and Muscle Transplantation for Deformities Following Infantile Paralysis.—DR. S. E. MILLIKEN, of New York, read the paper, which will appear in a future issue of the MEDICAL RECORD.

Auscultatory Percussion.—DR. LOUIS L. SEAMAN, of New York, read a paper supplementary to one which he had read before the Academy of Medicine some years ago, describing an instrument for auscultatory percussion, more especially for use over the chest, but also over the abdomen. It consisted of a hammer, which made the stroke by action of a spring. It was placed within the cylinder, to which an Edison phonograph sound magnifier was attached. The latter could be used alone, and was being much employed in Europe independently of percussion.

Neuralgia of the Peripheral Nerves, with Special Reference to That Dependent on Trauma or Degenerative Changes.—DR. THOMAS H. MANLEY, of New York. "At the very threshold of this study it becomes necessary that some sort of comprehensive definition be given of neuralgia, in order to demonstrate that such a pathological entity exists at all. From the standpoint of pathology it may be open to considerable doubt, as the groundwork of our views on this malady, which manifests itself through the nervous system, rests rather on clinical phenomena than on anatomical changes of the molecular or corpuscular elements in the cerebro-spinal axis. It therefore follows that as the histopathology of that condition recognized under the name of 'neuralgia' is still involved in great ob-

scurity, anything like a scientific classification of its various pathologic divisions dependent on cellular changes is quite impossible. This difficulty was appreciated when the present contribution was undertaken. My aim has been rather to record clinical observations and curious phenomena than to branch off at length into the domain of speculation or hypothesis.

"Nerve trauma: It has always been an interesting question to me what share of disorganization a nerve sustains in severe trauma, in injuries especially of the major articulations or the members, in entasis, sprain, dislocation, or fracture; what the degenerative power of a damaged nerve is; and what the remote effects on it are which may at an ultimate date follow.

"Nerve degeneration through vascular changes, dependent on tension or compression of the nerve trunks: A large nerve trunk is not a highly vascularized structure; and hence atrophic changes follow rather as a consecutive condition dependent on the vascular elements in the ganglionic centres or the peripheral terminals. But are the nerves alone the media of the transmission of vitalizing influences, of sensation and motion, and of all other vital phenomena connecting the centres of life—the brain and heart—with the extremities and the organs? Or do not the ventricular or meningeal fluids of the brain, with the moving blood current, participate actively in the function of animal magnetism, in the efferent transmission of impulse or sensation? During the past fifteen months in my own researches and experiments on the hæmic elements in the living animal I witnessed such evident influence of the corpuscular elements as to leave no doubt in my mind that a vital nerve must be animated by living blood.

"Anatomy of the nerve trunks: A complete nerve, functionally considered, consists of a root and ganglion—the central source; a shaft, or conductor; and the terminal filaments, or ramifications. All the cerebro-spinal nerves, as they pass out through passages of the cranio-rachidian cavity, occupy openings in the base of the skull and the jointed borders of the vertebral apophyses. All the larger primitive medullated nerve trunks are very rich in a reticulated fibrous stroma. The resistance of these nerve trunks is something quite extraordinary; which goes to show that the generally accepted notion, that nerve tissue is brittle and fragile, is a fallacy.

"Neurectasia, or nerve-stretching, is a very ancient device for the relief of severe neuralgia; but Tillaux and Trombetta have employed it to determine the relative resisting power of the larger nerve trunks. Trombetta's experiments were all made on the living subject. Tabulating his experiments on this topic, he found that it required an average of eighty-four kilograms—two hundred and thirty pounds—to rupture the sciatic nerve. The tough, resisting characters of the nerves are what tend to impart to them their marvellous physical tolerance and enables them to survive the longest after the violent injury of a limb, the nerve being the last to perish. The experienced surgeon, familiar with this fact, well knows that, however hopeful other signs may be, when total abeyance of all neural phenomena is present, the crushed or mangled limb is irretrievably doomed and must be sacrificed.

"Neuralgia of the periphery dependent on senile degenerative changes or structural alteration concomitant with advancing age: The physiological anatomy of the body, from its earliest development to the end of life, embraces evolution and involution, the raising up and pulling down of developmental structures. The infant is born hairless and toothless, probably sightless and deaf, able to digest liquids only, and is guided in movement quite entirely by instinct. During the period of growth, the shape, the relations, the resistance, and the volume of various structures and or-

gans undergo the most radical changes. After maturity the onward course of structural changes varies widely in different individuals, depending on heredity, environment, habit, climate, and occupation. From the twenty-fifth to the forty-fifth year no very marked gross changes are noted in the body; however, degenerative and senile changes are subservient to no unchanging laws, and hence years are not always a criterion of age. The first of the tissues to show signs of atrophic waste are the areolar, the adipose tissue, and muscle; then the bones shorten and harden, the capillary openings between the diploic system and the pericranial plexus of veins are entirely obliterated, the cavernous passages in the bones and all the foramina through which the nerves emerge become contracted and greatly narrowed. This is notably the case in the bones of the head and spine. It is now interesting to inquire what share this reduction, condensation, and distortion may have as a factor in degenerative changes, by a continuous and ever-increasing pressure on the nerve roots. Is it a prominent etiological factor in many of those severe neuralgic seizures? It will hardly do to invoke neuritis as a cause, inasmuch as a primary inflammation of nerve substance is denied by many prominent pathologists. There can scarcely be a doubt but this senile shrinkage, in embarrassing the vascular current and compressing the nerve elements, leads to other ultimate degenerative changes and well-marked functional disorders; in fact, it requires no stretch of the imagination to comprehend the relations of cause and effect in the degenerative changes here enumerated. After middle life, reversion of outline with a progressive diminution in length of the spine is obvious, when it is commonly said that the individual has "grown smaller." At this period the human machinery begins to show signs of wear, and the whole nerve structure suffers.

"In the above brief notes my purpose has been to revive an interest in the study of the peripheral neuralgias. The subject is attended with great difficulties, because the physiology of the complex nerve functions is yet in many important particulars unsettled. In the types of neuralgia here considered, the degenerative or senile theory enunciated may account for at least one important etiological factor, emanating from mutations attending the process of involution. It affords a material basis for inductive reasoning, which may open the way for a more rational therapy."

Temperature an Element in Prognosis.—DR. JOHN SHRADY read a paper entitled "Temperature as an Element in Prognosis," in which he discussed somewhat at length the various phases of heat phenomena, particularly in relation to the attribute of force. He drew attention to the interchangeability of the terms applicable to electricity, motion, and last, not least, chemical affinity. He regarded man as a walking laboratory—which, indeed, was by no means an original view—since his functions would be inoperative without elementary changes, the outward registry of which was justly entrusted to the thermometer. It could not be gainsaid that every phenomenon, both organic and inorganic, was governed by fixed laws, the operation of which was often misconceived, although the analogies of heat, light, and electricity aided somewhat by the present vogue of their study. The only trouble, as pointed out by Paget, was that we became embarrassed by numerous exceptions, through failure of making the law sufficiently comprehensive. Much yet was to be learned in the language of temperature, and such language could be gained only in the comparative school in connection with other branches of science. For this reason, all on account of the unchallenged appeals to the eye, he could do nothing else but accept the thermometer as the greatest of the instruments of precision. What is called science is

the court of last resort, and it will adjudicate between the claims of the organic and inorganic, on the basis of a compromise between force and resistance. In all these cases of disputed sovereignty, heat more than rhetorically represents the fury of the battle. At all events, thus far observers and experimenters have won glory as strategists of the campaign, without founding a new empire. The same immutable laws prevail, notwithstanding their unsatisfactory interpretation and application. Yet, because investigation has been without very material result, should it therefore be abandoned? The phenomena of heat, therefore, should be studied on the basis of the laws which govern material force. He quoted from trustworthy authorities many high temperatures in acute diseases, and corroborated in the main the view that in themselves they were not especially fraught with danger or in general portentous of evil. The involvement of special nerve centres, or, as Musser has been pleased to style it, the thermo-toxic apparatus, does not bring much hope or consolation, nor give much time for any but reminiscent measurement. The temperature peaks, sharp and precipitous, explode at a very high apex with a dismal chasm at the end of the range. In many and by far the most numerous cases, the gauge marked intensity only. It was the brisk, crackling fire, and not the low, smouldering one, on point of extinguishment through abstraction or loss of material, which gives the glow of comfort. In these last cases of the subnormal, care should be taken to observe both the central and the peripheral temperatures, for even a chill may be misleading, as many have been surprised by the per-rectum test with readings of 107° or 108° F., recovery not therefore on that account to be un hoped for. It is the subnormal temperatures which are really alarming, those, in fact, obtained after the precautionary shakedown of the thermometer, at least, say, to 95° F.; the normal thin red line will not answer. The extreme ranges, zigzag and with short curves, constitute the stenographic writing upon the walls. Of course, the respiration and circulation are not to be unstudied, nor conditions, environments, and the teachings of bacteriology; but as careful engineers it behooves all to watch well the heat-gauge, or, at least, the stop signal of the track walker, for the thermometer does not well brook contempt. It has its revenge in uncanny dooms. Above all, let not the prophet entirely despise the honors which may be his due.

Officers Elected.—*President*, Dr. Charles Phelps, of New York; *Vice-Presidents and Members of the Council by Districts*: 1, Dr. R. N. Cooley and Dr. John P. Shearer; 2, Dr. E. M. Lyon and Dr. T. H. Hannon; 3, Dr. Robert Aberdein and Dr. L. J. Brooks; 4, Dr. A. A. Hubbell and Dr. W. M. Bemus; 5, Dr. C. E. Denison.

Correction.—By a mechanical transposition a portion of the proceedings of the section on surgery of the College of Physicians of Philadelphia in the *MEDICAL RECORD* of October 17th, p. 560, was included in the report of the meeting of the Schuylkill County (Pa.) Medical Society.

Rise in Temperature after Labor.—Dr. Machure (*The Canadian Practitioner*, August, 1896) says: "For twenty-four or thirty-six hours after labor the temperature may be elevated as the result of fatigue, but if the subsequent temperature should be above 99° F., its cause should always be promptly investigated. It may be due to (1) constipation, (2) mammary disturbances, (3) intercurrent non-obstetric disease, or (4) sepsis."

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 6, 1896.

B. SACHS, M.D., PRESIDENT.

A Contribution to the Study of Motor Aphasia.—

DR. B. ONUF read a paper with this title. He said that during the last few years the writings of various authors had shown the necessity of harmonizing the conclusions of the two principal methods of studying language. He was of the opinion that the strictly anatomical and psychological theories must be blended with one another. The following case of cortical motor aphasia was then reported:

Mrs. S. D.—, twenty-three years of age, had an attack of acute articular rheumatism three years ago, during which she probably acquired an endocarditis with valvular lesions of the heart. On June 7th, after a miscarriage, she had an attack of embolism, followed by hemiplegia of the right side and involving the right arm, and particularly the hand and fingers. She said that the understanding of spoken language was unimpaired, but this statement should be taken with some allowance. He had first seen her on April 3d. At that time there was slight disturbance of motor speech—*i.e.*, slight difficulty in finding the words, and an occasional misuse of words, or an improper construction of sentences. She had difficulty in giving the name of common objects presented to her. Aside from these disturbances there was marked defect of the faculty of reading and writing, individual letters of the alphabet being frequently mistaken. She found it, as a rule, easier to read the word *in toto* than to spell it. The word "one," for example, was pronounced correctly, but spelt "won." In the writing, which was done with the left hand, the patient used printed characters, both in copying and writing from dictation. The auditory impressions received from loud reading undoubtedly helped her understanding, and enabled her to read words which she could not otherwise. There were absolutely no visual disturbances—no hemianopsia and no narrowing of the visual fields. Apparently there were no gross lesions of memory.

The author then referred to the researches of Bianchi on the removal of the frontal lobes of monkeys. He concluded that the frontal lobes were, so to speak, the centre for intelligence and constituted the organ in which the various sensory and motor images became co-ordinated and fused. The destruction of this portion of the brain results in the destruction of the anatomical basis upon which judgment and the reasoning faculties reside. Until recently, Broca's centre had always been considered, he said, as motor, and its anatomical position would not contradict such a view; but, on the other hand, the function of this centre is so much more complex than that of the parts composing the motor district proper that one hesitates to place it under this head. Broca's centre, the reader said, is a centre of the higher order, presiding over the functions of the larynx, tongue, and lower part of the face, and probably also has at the same time the function of fusing sensory and motor elements, and must be considered as a part of the frontal lobe in the sense of Bianchi's definition. This view found further support in his own observations. He reported a case of a man whose speech had been suddenly affected, so that he spoke very thickly and could hardly be understood. There was no real aphasia, for he knew what he was going to say, and always succeeded in saying it, but the words were very much blurred. Five days later he died with symptoms of congestion of the lungs. On post-mortem examination, a blood clot was found at the level of the lower part of the ascending frontal and ascending parietal

convolutions of the left hemisphere. Almost all the cortical substance of these convolutions had been destroyed, but the third frontal convolution had been left intact.

With the exception of the old theory of Wernicke, of the existence of a special speech tract connecting the speech centre directly with the nuclei of the medulla, a pure type of subcortical aphasia could not be conceived. Wernicke had himself abandoned this theory. He compared the process of acquiring speech to a reflex process, but the part which visual, tactile, or muscular sensations might play in the acquisition of speech were not at all considered by this author. Careful analysis, however, showed that the tactile and muscular elements had a much more direct influence than the visual. The acquisition of such sounds as could be learned by watching the motion of the lips was the easiest of all. The auditory element informs the speaker as to whether the utterance is what was intended, while the tactile elements help to make such utterances possible and more and more correct. It must be assumed that Broca's centre takes part also in this process. Each innervation of Broca's centre is conveyed to the centre of the auditory word images, but each innervation of the auditory centre is not necessarily carried to Broca's centre. The child is taught to associate a certain letter with an effort necessary to enunciate the proper sound. A direct association between the auditory and visual image is not absolutely necessary for the mental act of reading; it is very probable, on the other hand, that a direct association forms between the visual and the psycho-motor image, which latter innervates the auditory image. When we read, we have a distinct impression that the psycho-motor images are first aroused. The faculty of reading depends upon the intactness of Broca's area equally with the intactness of the centre of auditory word images; hence, a lesion of Broca's centre must cause not only motor aphasia but alexia. On the contrary, subcortical motor aphasia leaves internal language and the faculty of mental reading intact. The motor conceptions can be acquired without any association with the speech organism. The writing of a word implies the ability to spell it. Only for the writing of single letters at dictation the possibility remains that the auditory image affects directly the graphic concept. Cortical motor aphasia implies not only alexia but also agraphia. Bastian distinguishes three states of lessened excitability of the centre, viz.: (1) That in which it does not respond to volitional excitation, but can be excited by association from one centre to another; (2) that in which the centre responds only to direct sensory stimuli; and (3) that in which even these direct sensory stimuli fail to excite the centre to activity. If there were a contiguous and continuous zone of language, as some have thought, then any lesion within this centre ought to cause actual aphasia. The fact that a lesion within the centre of language causes no aphasic disturbances speaks against the continuity of this zone.

In the case reported in the paper it was easy to understand, Dr. Onuff said, the occurrence of motor aphasia with alexia and agraphia, if we supposed that Broca's centre was involved. This view found further support in the fact that many cases of motor aphasia with alexia had been reported in which the aphasia had been almost entirely recovered from, while the alexia had remained. He could not answer, however, the question, why in this and many other cases the aphasia was recovered from sooner than the alexia. The observations in this case would go to show that most of the words are read as a whole, and not by spelling. It was certainly not possible in the English language, because of the variety of ways in which certain groups of letters are pronounced in different groups. In

learning Russian he had himself begun to read before he had been entirely familiar with the letters of the alphabet. Although to a certain degree he had to read the language "spellingwise," he still recognized many words by familiar combinations of letters and by the sense. He believed that the reason his patient used printed characters solely was that there was a loss of motorgraphic memories. The visual memories for printed signs are usually much better established than those for script, for the reason that reading is chiefly done from printed characters. That muscular sensations play a very important part is shown by the fact that we can write with the eyes shut. If we are warranted in speaking of a motor speech centre, we must be justified in speaking of a physiological apparatus in which muscular graphic memories are stored. Loss of these memories does not imply absolute impossibility to write, as visual memories may supply the deficiency. It is not supposed that the lesion may destroy the motorgraphic memories only and leave intact the other motor faculties connected with the hand and finger muscles. A patient with a lesion of Broca's centre can understand what is said to him, but he has lost the power of inwardly repeating what has been said. The motor speech centre forms such an important factor in the evolution of the higher mental processes that its lesion cannot remain without damaging influence on the mental activity.

Discussion.—DR. JOSEPH COLLINS said that he agreed for the most part with the views expressed by the reader of the paper. Certainly the paper served still further to confirm the views expressed by Bianchi. Personally, it seemed to him that all that a study of aphasia could do was to help the pedologist. We could do a great deal for psychology by working in the field of aphasic disturbances. He could not agree with Dr. Onuff that a person having pure motor aphasia had complete inability to read. It did not seem to him that it was necessary in order to read to translate what we read into articulated words, and he thought he had one or two cases under observation at present which would abundantly substantiate this statement. One patient was completely aphasic, yet he could write prolifically, and was able to read understandingly both his own writings and those of others. He certainly both read and understood these writings; hence, the speaker said, he could not believe that with pure and complete motor aphasia there is necessarily alexia. He did not think there was any objection to subdividing the motor speech centre into an articulo-motor centre and placing adjacent to it the centres for phonation, labial movements, and buccal movements.

THE PRESIDENT said that his individual experience with aphasia had been a rather curious one. At first, he had been impressed with the writings of Jackson and Bastian. Then had come the German school with all sorts of mechanical theories, and now we all felt the need for returning to a mixture of the psychological and the mechanical theories. On the whole, he was in entire agreement with the views expressed by the reader of the paper. Recently he had observed the progress of a case in which aphasia was the sole symptom of a cortical tumor. The manner in which it progressed would seem to justify fully the subdivision of the motor speech centre, and also to show that speech is not the function of any one centre or any series of centres, but that it is really the result of a very close union of these centres by distinct association tracts. If this were not so, a relatively small lesion could not explain the variety of symptoms observed in a single case. The case referred to was that of a lady who had been carefully observed by her brother, who was a physician. The first thing noticed was an apparently slight apathy, but this was really

due to a difficulty in speech. When first seen by Dr. Sachs, about three months after this, it was found that she had lost the faculty of using nouns, so that she could not give the names of those persons best known to her. After a while the difficulty of speech became more distinct; there was great difficulty in finding words. Toward the end only was there a distinct deficiency in the understanding of language. From the very first her brother had noticed a distinct difficulty in reading, and a still greater difficulty in writing. He had never seen a patient able to speak so much and yet be unable to name or even to copy single letters. She could, however, write a whole name fairly well. Such a case seemed to show the necessity for a further subdivision of the motor area. The paper of the evening was of value as a corroboration of Bianchi's views. It showed that we were gradually turning to larger divisions rather than to the small localization areas which we employed as a result of the teachings of Ferrier.

DR. OXFORD, in closing the discussion, said that he distinguished two forms of aphasia—cortical and subcortical motor aphasia. The latter was also called pure motor aphasia. In cortical motor aphasia it was assumed that the cortex where psycho-motor images of speech are deposited is affected. Subcortical aphasia is one in which there is an impossibility of loud speech, but internal language remains intact; hence such persons can read and write perfectly. He believed the cases referred to by Dr. Collins were examples of subcortical motor aphasia.

The Commitment of Patients and the New Insanity Law.—DR. G. W. JACOBY read a paper on this subject. He said that under the name of "the insanity law" there went into effect a new law in July of this year. In his opinion the framers of the law had totally failed to unite the postulates of jurisprudence with those of medicine—indeed it would seem that they had intentionally ignored, as far as possible, the medical side of the subject. The medical certificate no longer serves for the temporary detention of the patient for five days. The responsibility for the commitment has been removed from the shoulders of the physicians to those of the judge, and a matter which is essentially medical has been transformed into one chiefly legal. This law also provides that at least one day before the physician presents his application to the judge the patient is to be informed of the proceedings. This personal service can be omitted under certain circumstances, according to the discretion of the judge. After all the necessary legal preliminaries have been taken, the superintendent of the institution to which the patient is committed may refuse to accept the patient on the ground that he does not consider the person insane, or that the papers are not made out properly. There is also a provision for an appeal from the decision of the judge and a trial by jury. The old law was much better, particularly on account of its provision for temporary detention. The provision which takes away every method of procedure except appeal, when the application is refused, is a particularly objectionable feature. Personally, he would not be satisfied with an insanity law which would not allow of the temporary commitment of the person on the strength of medical certificates by two qualified physicians, one of whom should have special psychiatric qualifications.

DR. CARLOS F. MACDONALD said that he wished at the outset to disclaim any responsibility for the framing of the new law. It had its origin with a member of the statutory committee of revision. He was the only physician in this State who had opposed the bill before the legislature. During the past seven years, as commissioner in lunacy, he had examined thousands of cases of alleged illegal commitment, and he had

yet to learn of a single case of a sane person being committed through corrupt collusion or through intent, although he had occasionally known of instances of mistaken diagnosis, such as might occur in connection with any disease. He thought that as a rule judges would waive the notice of personal service upon the patient or friend, and it seemed to him a distinct advantage to make the commitment a judicial order rather than a judicial approval, as in this way it relieved the medical profession of much responsibility and the danger of suits for damages. In his judgment, the weakest point was the absence of any provision for temporary detention. A determined effort should be made this winter by the medical profession to amend the law in that respect. Curiously enough, laymen consider themselves fully as qualified as physicians to diagnose insanity, and this new law is an outgrowth of that feeling.

DR. C. L. DANA said that his views were entirely in harmony with those of the reader of the paper, and the society should make it clear that it appreciated the absurdities and many faults of the new law. It had caused an infinite amount of trouble to the city physicians, and the ordinary process of commitment had in consequence become tedious and expensive—so much so that physicians had found it advisable to commit insane persons, as far as possible, to institutions outside of this State.

DR. F. PETERSON said that the new law was objectionable in that the paper must be fully made out and approved by the judge before the patient could be sent to an asylum, and because of the possibility of other difficulties arising in practice, such as had been mentioned. In his own experience, however, the judge had in every instance dispensed with the personal service.

DR. GRAEME M. HAMMOND said that he agreed with the views presented in the paper, and now that the evils had been pointed out it was our duty to consider the best remedy. He hoped the society would take an active interest—for instance, by appointing a committee charged with the duty of urging proper amendments.

DR. L. C. GRAY said that he thought the law was not only absurd but an outrage. It was ridiculous that physicians should submit to lawyers about a matter involving the question of a disease of the brain.

DR. COLLINS said that according to the new law the physicians certified to the insanity of the person, and the judge committed him. This was no infringement upon the rights of the medical profession. He did not think that the gloomy view and the objections presented in the paper were well founded. It was true there were some objectionable features, but they did not appear to him to be of vital importance. The new law offered unusual opportunities for a trial of the home treatment of the insane, so strenuously advocated by some.

DR. L. F. BISHOP said that the new law had given him less trouble than the old law.

DR. HIRSCH said that this law had no counterpart in any other country, for not only the disposal of the lunatic, but the decision as to his insanity was made by the judge, the physicians only giving their testimony. This testimony was given on special blanks which made it far from scientific. It was remarkable that a judge must tell us whether a patient is fit to live with his family, or must be deprived of his liberty because of his being insane and a menace to society. Persons having small-pox or cholera were often forcibly removed from their homes, but in these instances the decision was made by a physician, as it should be, and not by a judge. He thought that the personal service provision was objectionable, and sometimes produced a bad mental impression on the patient.

DR. M. ALLEN STARR said that according to the new law the judge acted entirely upon the testimony given by the two physicians—the physicians' rights were more fully protected than by the old law. He urged that the society should not take an extreme view, but should simply ask that one or two features, which were generally admitted to be particularly objectionable, should be amended.

THE PRESIDENT said that the worst feature was the lack of provision for temporarily detaining acute cases. One result of the new law would probably be the establishment of many private institutions for the care of the insane, which would not be under the control of the State. He had found that it took about four hours to have a certificate signed in this city.

DR. JACOBY, in closing the discussion, said that he did not look upon the new insanity law as an unmitigated nuisance. The judges now take the certificates of the physician simply as testimony additional to that of the petitioner. If an appeal should be taken from the decision of the judge, it was not clear that adequate provision would be made for the patient.

DR. HAMMOND then offered the following resolution, which was unanimously adopted:

Resolved, That the president appoint a committee of five to report to the society such measures as it may deem expedient for securing the amendment of the present lunacy law governing the commitment of the insane."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OPENING OF WINTER SESSION—INTRODUCTORY LECTURES—DEATHS OF SIR G. HUMPHRY AND DEAN COPEMAN—A DANGER FOR SANITARY BOARDS—JUBILEE OF ANÆSTHESIA—MALE PATIENTS AND FEMALE PHYSICIANS.

LONDON, October 2, 1896.

THE winter session of our medical schools opened yesterday. In some the time-honored addresses were omitted, as has been the case for several years; in the others the old custom was observed. The addresses were certainly worth listening to by practitioners as well as students, far more so, in fact, than the after-dinner speeches that in some instances have supplanted them. The dinner which was to have been held by the alumni of University College was omitted, in consequence of the death of Sir J. Erichsen. But there was an address by Prof. S. Martin, who expressed satisfaction at the rate of progress of scientific medicine, and that we have passed from the darkness of the sorcerer and herbalist into a clearer knowledge of the processes of disease, and, therefore, the means of counteracting them. The great change that has taken place has been from the speculative to the real, he said, and added that in not a few cases treatment is an experiment—intended, it is true, to benefit the patient, but still an experiment, since all the conditions present in the body are not known, and we watch the result to ascertain new facts. Much treatment is empirical, but not to be despised, since it often gives a clew to the experimental investigation of the morbid process. The lecturer then spoke of bacteriology, which, he said, has taught us the cause of tuberculosis; and he saw no reason why, as knowledge advanced, we should not destroy the sources of infection and deliver mankind from the scourge of centuries. So, too, there is hope that in time cholera also may cease to be a scourge to the race.

At St. George's Hospital, Mr. A. Frost regretted

that a number of men commenced medical study who were really unfit for the profession, and he thought the standard of preliminary education should be raised. Then, as to surgery, some men had no manual dexterity, whereas they should in many cases be ambidextrous. Much clumsiness is due to the ridiculous custom of teaching children to do everything with the right hand—a relic of pagan superstition. The lecturer then passed to the subject of vaccination. Students, he said, should remember that Edward Jenner was a pupil of St. George's. His discovery had saved millions of lives, had stood the test of a century, and its value was admitted by all who were capable of weighing evidence. But its opponents had added the proof of a gigantic experiment upon human lives, with a result so appalling that it should not be forgotten; and, curiously, this experiment was conducted in Jenner's own county, Gloucester—an illustration of the proverb, "A prophet hath no honor in his own country." The royal commission had reported, and although they could not agree whether they should compel people to protect their children from small-pox, or should ask them not to increase the prevalence of small-pox unless conscientious scruples led them to do so, or whether they should have as absolute control of their children's lives as over their chattels, all sections of the commission agreed that vaccination is a preventive. The road indicated by Jenner had been followed by Pasteur, Lister, Koch, and others, and it now remained for students to discover whither it led.

Mr. Morton Smale was the lecturer at St. Mary's Hospital, and a marked feature of his address was an exposure of so-called "patent medicines," on which the British public squanders two and one-half millions of pounds a year. He thought the governmental stamp misled many ignorant persons to believe in these nostrums, and therefore should be abolished, while drugs should be supplied only by qualified pharmaceutical chemists, and no combination of drugs should be sold or dispensed even by such pharmacists except on the prescription of a qualified practitioner.

At the Middlesex Hospital Dr. Essex Wynter first reviewed the course of study, and asked his hearers to think over the important period of their lives in which their studies were to be carried on—a period which covered the transition from dependence on others' guidance to freedom and the assumption of more than ordinary responsibility, including the chief period of physical, intellectual, and moral growth, and of great influence on their future social standing. They must develop their senses, acquire manipulative skill, cultivate capacity for deliberation and prompt action in most disturbing circumstances, and, above all, the habit of patience, kindness, and tact, remembering that

"We are not ourselves
When nature, being oppressed, commands the mind
To suffer with the body."

One after another our friends are passing over to the majority. Just after I had dispatched my last letter, telling you of Erichsen's death, I received the news that surgery had lost another veteran, viz., Sir George M. Humphry, the Cambridge professor who did so much to raise the medical school of Cambridge that he was sometimes spoken of as having created it. He represented the university in the General Medical Council from 1869 to 1889. George Murray Humphry was the son of a barrister and was born in 1820. He was one of the elected fellows of the Royal College of Surgeons in 1844, and practised at Norwich before he went to Cambridge to become surgeon to the hospital and professor in the university, of which he took the M.B. in 1852, and M.D. in 1859. Among the numerous honors he received may be named the honorary membership of various societies, British and foreign,

the degrees of LL.D. and D.Sc., the presidency of the anatomical and pathological societies, and the much prized F.R.S. He was knighted in 1889. Perhaps his most esteemed work was that "On the Human Foot and the Human Hand," but his "Treatise on the Human Skeleton" runs it a close second. Besides "Lectures on Surgery" and numerous contributions to societies and journals, he was the author of "Observations in Myology," "Observations on the Limbs of Vertebrate Animals," and an essay on "The Coagulation of the Blood in the Venous System during Life." Besides these and other works, you will remember his Hunterian oration of 1879, "On Old Age and Changes Incidental to It," which created no small interest in a subject which the distinguished orator was known to have carefully studied.

Another notable death is that of the Rev. A. C. Copeman, honorable canon of Norwich, where, like Sir George Humphry, he practised in his earlier career as a surgeon. He was a member of the College of Surgeons in 1845, and M.B. of the London University in 1848. He became a clergyman and was promoted to various offices in the Church, and continued at Norwich until his death last Sunday. Though he left the profession he retained much interest in it, and on the hospital committee, as well as chairman of the board of guardians and in other positions, gave much attention to the welfare of the sick and the poor. He was in his seventy-fourth year, and the oldest of the beneficed clergy in Norwich except one.

A sum of £2,875 has been awarded by a jury as damages to the representatives of a gentleman who was alleged to have died through the escape of sewer gas into his house, from a flue in the chimney stack erected under the superintendence of the surveyor. This method of ventilating the sewers must necessarily be risky, and as the local sanitary authority has to pay these heavy damages, to say nothing as to costs, other boards will doubtless adopt better methods and forbid their officers to permit this dangerous one.

The Society of Anæsthetists have initiated a movement for the celebration of the jubilee of anæsthesia, and, of course, invite the co-operation of the profession at large.

In consequence of the objections of patients to undressing before women, Mr. Hutchinson has been obliged to exclude female physicians from the demonstrations at his museum. Of course, the attendance of patients is voluntary, and their objections must be respected or their cases could not be exhibited.

DISEASES OF THE AGED—A SPECIALTY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Now that childhood has been fenced off as a possible specialty and is being prospected by careful observers as to its probable yield to one who works it faithfully, it is time that we should turn to the other extreme of life, and consider whether it, too, may not be worthy of intensive cultivation.

The physiological processes of old age and its pathological changes are certainly deserving of more thorough study than they have yet received. The senile heart has been the theme of some very able essays and even volumes. The digestion of the aged would be an interesting subject for observation and analysis. The brain changes of age—their nature, their causes, their possible prevention—would, when understood, form a very valuable contribution to that store of knowledge upon which the wise therapist bases his remedial efforts.

The food, clothing, exercise, sleep, and occupation of old age must be thoroughly comprehended, not in a faddish way, but as a part of the education of every

physician, if our race is to advance in longevity as in culture and comfort.

If this is true, it is not difficult to believe that in future the practitioner who wishes to bring his patient who has already passed seventy safely and happily to the eightieth, ninetieth, and even one hundredth milestone of his earthly journey, may be glad to turn for counsel and consultation to one who has made the care of the aged a special study.

Why do old people die? How do the changes occur, and in what organs or functions are the subtle processes located which cause so many aged persons to detach themselves painlessly, quietly, without evident disease, sometimes apparently by a simple exercise of the will, from the parent tree of humanity? An author tells us that it is failure of nutrition which gradually extinguishes the life flame of such persons. If so, how necessary is it that the nutrition of the latter half of life should be minutely studied! And how dangerous an experiment it must be, unless for grave reasons, to tinker with the diet and digestive habits of the aged! Then the promotion of nutrition must be the ultimate goal of every therapeutic effort. All progress in this direction is gain; all disorder of nutrition, by however excellent a drug, is perhaps irrecoverable loss.

So, as the patient gradually passes farther and farther on the way whose distant stretches so few of us may hope to tread, the wise physician should, for ordinary ailments, steadily lessen the doses of the more powerful remedies, drop the dangerous drugs and those which are trying to the stomach, and place his reliance more on rest in bed, with simple and abundant food. Even aperients are sparingly administered, the bowels being coaxed rather than compelled to their duty.

Yet even the most experienced general practitioner, as he stands in an attitude of respect before that aged frame which has weathered the storms of nearly a century, must at times, dreading lest his well-meant efforts should add to its perils, long for the counsel of a professional brother who, to his own long acquaintance with his patient's peculiar needs, might contribute a deeper scientific knowledge of the processes of age, its pathology, and its therapeutics.

A study of the thought processes of extreme age would be no insignificant portion of the training of such a specialist. Why is it that the mental faculties of some persons deteriorate with the onset of advanced age, while those of others, apparently no more healthy, are preserved clear and alert, though of course not so hardy as in middle life? Is this preservation dependent upon bodily nutrition? or is it the reward, as some would have it, of the habitual ingestion of healthful, pure mental food throughout life? Does the brain cell thus fed on the best of social intercourse and literary pabulum win the reward of intellectual longevity? What would the specialist on old age have to say upon this point?

Apart from the gradual brain deterioration which affects so many among the aged, there are numerous disturbances of its mentality which call for study. Is there not a melancholy which is the result of age changes? If so, what is its cause? Has it to do with digestive errors? Or is it the result of a failure of excretion, as by the kidneys? Sometimes it seems due to insufficient sleep, and occurs in otherwise healthy individuals.

Shall old age have its specialists and its special journals? Or can it be merged with pædiatrics into a specialty which embraces both extremes of life? A startling suggestion, yet one which is not destitute of reason. Both extremes of life involve frailty of organization, and demand wise supervision of diet, clothing, and exercise. Both call for lessening of drug medication. In both the main reliance must be placed on

the power of the body to right itself, time being a cheap commodity. Both need for their medical guidance the same type of physician. He must be thoroughly equipped with professional lore, yet must add to this extraordinary patience and gentleness, and a love for philosophical reflection which shall ensure deep insight and great breadth of view.

There are many men of this type and capability, failures in the fierce elbowings of ordinary practice of medicine or surgery, who might find a congenial and profitable field in these departments of "inner medicine," both of which contain rich mines of research, awaiting development by a master worker.

A. K. BOND, M.D.

BALTIMORE, Mo.

TUBERCULOSIS AND BACTERIAPHOBIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some five or six years ago, when Dr. Koch first brought out his tuberculin claim, I wrote you a brief note which was published in the *MEDICAL RECORD*, stating that "tuberculosis is a disease of malnutrition, the result of a defective organization, either hereditary or acquired; and hence is incurable when once fully established in the pulmonary organs."

In that brief article I also warned the profession against what appeared to be the coming craze named as the latter part of the title to this article. Since that time, in spite of the bacteriaphobia which seems to have seized upon the great and learned medical men of the whole earth, I am more than ever confirmed in the truth of that statement. That this form of disease is the result of malnutrition, its own common English name clearly indicates. It is a consumption, a wasting away. Why do its victims waste away? There is but one answer to this question; they waste away because they are badly nourished. Nutrition is defective. Does this grow out of the condition of the lungs? Are the lungs the primary organs of nutrition? Do the lungs make blood? The truth is that pulmonary tuberculosis is not the primary, but the secondary condition. So also are all the local manifestations of the disease. The primary condition is found in the blood-making organs. The organization fails to make a full supply of pure and perfect blood for its own absolute needs, and the result is a dyscrasia: bad blood, defective blood, autotoxæmia. Such blood contaminates the whole organism and specially the lungs, and more especially the upper lobes of the lungs, because the whole blood stream courses through these organs and the toxins entangled in the lung cells are retained there and become the foci of pulmonary irritation, inflammation, and ulceration; "more especially in the upper lobes," first, because there the circulation is weaker and more easily obstructed.

The real seat of the disease is in the chylipoietic viscera and is organic; that is, it has its origin in defective digesting and assimilating organs. They fail to convert the food into healthy blood in sufficient quantity to maintain a normal physiological condition. This is the root of the disease, and what is called the tuberculous bacilli are the outgrowth of it after it becomes seated in the lungs, where the atmosphere has access to the deposit and comes in contact with it. These are from without and not from within.

The first symptoms of the disease are connected with the abdominal organs and are manifested in the form of indigestion, constipation, congestion, eructation, borborygmus, etc., followed by headache, a slight intermitting fever, and finally by cough, etc. Sometimes the first suspicion of the disease is aroused by a pulmonary hemorrhage bursting forth from heavily congested lungs, the result of the dyscrasia which has

been gradually creeping upon the patient so insidiously that it is not suspected. There had been no thought of tubercle, but only of a general malaise attributed to want of exercise, or indigestion, or some of the other premonitory symptoms. During this premonitory period, this malaise stage, a careful inspection will manifest a periodicity of action in the system, with temperature normal or subnormal at some period between midnight and midday and above normal at some part of the period between midday and midnight. This periodicity generally continues and increases to the end; unless indeed the disease is subdued or greatly mitigated. Fistula in ano and appendicitis are both indications of an organic predisposition to tuberculosis; so also is typhoid fever, but when it is successfully passed through, it seems, for a time at least, and perhaps forever in some cases, to immunize the organization against any further tendency to tuberculous deposition. The root of this fever we all know to be enteric. The same may, in some measure, also be true of appendicitis, fistula, and tuberculous joint.

If the above intimated theory of this dreadful enemy of the human race be true, or chiefly so, the practical uselessness of all prevailing modes of treatment will be manifest, and specially those founded upon the bacteriological theory. Tuberculin injections have been demonstrated a failure; so also has the creosote treatment, and indeed all methods may be said to have come to naught. Now let us do better. How? Abandon all bacteriaphobia and come down to a rational method of treatment. Let all high-flier theories like bacteriology, specific medication, and all such foolishness go, and come down to rationalism, which is the only scientific and successful form of medication known to man. Rational medication is the outcome of man's highest faculties. It results from the ability in all cases to trace the symptoms manifested back to their origin, the cause of the disease, and the present systemic condition resulting from that cause. To this end the successful physician must not only understand the significance of all manifested symptoms, but be able by his learning to trace them back to their origin in the organization. If the patient has a fever he must be able to reach the cause of that fever and remove it, if possible, or, if not possible, then to conduct or aid the natural forces of the organism in their struggle to restore the lost physiological condition. I have sometimes said that physicians know everything that can be known, except how to cure disease. The reason for such a remark grows out of the fact that their remedies are not well directed to this end. They are too often impelled by the thought that something must be done, and something too that must produce clearly manifested results, whether these results are toward the normal or the abnormal. Homœopathy should have taught us long ago to beware of too clearly manifested results, unless we are absolutely sure that they are in the physiological and not the pathological direction. I knew of a case that occurred in your great city of New York, where a very prominent gentleman, like most city gentlemen a high liver and of very full habit, though only forty-four years of age and of strong constitution after dining out in the evening, was taken in the middle of the night with a bad fit of indigestion and a "big doctor" was called in to relieve him. The patient's heart was dreadfully oppressed from plethora and general stagnation of the circulation, accompanied by abdominal pain. The doctor injected hypodermically one-half grain of morphia, which soon relieved the patient, who fell asleep and never awoke any more to the things of this world! This was a case of irrational medication, and well illustrates by contrast what I mean by rational medicine.

All cases of irrational medication are not so clear

as this one was, but the antiseptic treatment of tuberculosis is almost or quite as much so, because the remedies are irrationally applied. They are applied to an effect of the disease and not to its cause. The cause is malnutrition, and is usually the result of a defective organization, either inherited or acquired by bad habits of living. All our efforts should be directed to restoring the lost functions of the blood-making organs. This is the direction in which now all our efforts at cure should be directed. Everything that we now know to be beneficial in these cases is in this direction—best climatic conditions, exercise out of doors, tent life in suitable climates, proper food suitably prepared, and every other means that operates to promote healthy blood-making in the organization.

J. S. PRETTYMAN, M.D.

MILFORD, DEL., September 8, 1896

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 17, 1896:

	Cases.	Deaths.
Tuberculosis.....	117	85
Typhoid fever.....	33	15
Scarlet fever.....	53	1
Cerebro-spinal meningitis.....	0	3
Measles.....	38	2
Diphtheria.....	157	17
Smallpox.....	0	0

The Society of Medical Phonographers of England now has over two hundred and fifty members.

Intestinal Fermentation.—In a study of the various foods as to their putrefactive tendencies, Gilbert and Dominici are quoted in the *Texas Medical News* as experimenting with milk upon a healthy man. Two and five-tenths litres of milk were given daily for five days. Before beginning with the milk diet the faeces showed sixty-seven thousand bacteria per milligram. On the second day of the milk diet the faeces showed fourteen thousand bacteria; on the fifth day, twenty-five hundred. By the use of sterilized milk the number was still further reduced. From this the inference is drawn that milk is the ideal diet in typhoid fever and other enteric diseases, it being less fermentative than meat and other albuminous materials.

Dangers of "Scorching."—A patient whose case illustrates the subjective dangers of "scorching" was recently under the treatment of Dr. Hansell in the hospital. A young man, who had imperfectly convalesced from a severe attack of typhoid fever, exercised violently on his bicycle for two or three successive days in direct opposition to the advice of his physician. After his last run, he noticed a defect in his visual field. It was found that he had sustained a circumscribed local detachment of the retina from hemorrhage into the choroid. A somewhat similar case was recently reported by an English ophthalmic surgeon. In his patient the hemorrhage was due to the rupture of a retinal vessel. Another accident, occurring in the person of the writer, is thus far unique in the literature of bicycling. After a hard and hilly ride over stones and ruts the contents of the bladder were found to be, in large measure, blood. In the next micturition but little difference was noted and in twelve hours the urine had regained its normal color.

Examination of urine subsequently passed showed the presence of large numbers of blood cells and some bladder epithelium. The hemorrhage was therefore probably from a small vein in the bladder wall. Accidents of this and like nature should be widely reported, in order that bicyclers, who constitute so large a proportion of the young and middle-aged, may regulate their exercise according to their physical powers and endurance, and they should accept these instances of threatened blindness as warnings against immoderation.—*Philadelphia Polyclinic.*

The Weaning of Infants.—Dr. Louis Fischer (*Pediatrics*, July 15, 1896) says that when a child reaches the age of six months it is well to think of weaning. Gradual weaning is usually very successful. Begin by feeding from six to eight ounces once during twenty-four hours. Each succeeding month withdraw one breast feeding and substitute an artificial feeding, so that by the ninth month the infant is weaned. Complete weaning should take place about the tenth month, unless it is midsummer or there exists some other special condition. For artificial feeding, Dr. Fischer recommends three ounces of cow's milk, and if the bowels are regular, three ounces of barley gruel, and about ten-fifteenths of a grain of ordinary table salt and half a lump of cane sugar. He says that if the increase in weight is not five or six ounces weekly, a careful chemical and microscopical examination of the breast milk should be made.

Subcutaneous Alimentation.—In a communication to the *Münchener med. Woch.*, August 4th, Fritz Voit reports some experiments with subcutaneous alimentation. Leube had before injected melted butter in the dog, made lean by restricted diet, and at exploratory laparotomy found that it had been laid up in the form of fat. This fat in states of the system with insufficient heat was completely used by the economy, thus sparing the albuminoids. Leube had no success, however, with sugar in large amounts, but Voit, observing that animals and man did not react alike, injected grape sugar in the latter with success. Of a ten-per-cent. solution used with due antiseptic precautions, he found that he could inject subcutaneously (in the thigh) ten, one hundred, or one thousand cubic centimetres without inconvenience. As much as sixty grams of grape sugar could be injected without a trace of it being found in the urine subsequently. Lévrose and galactose could be used as well as dextrose, but lactose and cane sugar reappeared almost entirely in the urine. Sugar could not be used for alimentary purposes by direct injection into the veins of animals, as it was excreted at once with the urine.

Physiological Albuminuria.—Dr. Zeehuisek (*Centralblatt für innere Medizin*, January 11, 1896) has examined the urine of one hundred and forty-four supposedly healthy individuals. His examinations were made from the standpoint of the clinician and only that substance was regarded as albumin that was coagulable through heat. He concludes as follows: (1) Many cases of albuminuria in young people (five per cent. in the one hundred and forty-four) are caused by affections of the renal parenchyma. (2) In another series of cases the albuminuria in the young is of extra-renal origin, i.e., accidental (red blood corpuscles, leucocytes, spermatozoa, etc.). (3) Functional albuminuria was not observed in the one hundred and forty-four cases examined. (4) In the persons examined, no trace of a "physiological albuminuria" was discovered. (In 71.5 per cent. of the one hundred and forty-four cases the most delicate reagents failed to disclose the faintest trace of albumin.)

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Original Articles.

MYXEDEMA: A CASE TREATED BY THYROID EXTRACT.

By JOHN WOODMAN, M.D.,
NEW YORK CITY.

It seems advisable, on account of its advanced character, to report the following case, so wonderfully and quickly relieved by small doses of thyroid extract, aided by the ingestion of large quantities of water:

Mrs. F—, aged thirty-eight, married. She has six children, the last of which was born in 1893. Family history good. She had always been well. She menstruated at fourteen years; the flow was always profuse. She was constipated all her life. Her present illness began nearly eight years ago. She first noticed that the left side of her face and the left eyelid were swelling slowly. Soon the swelling extended to the other side of her face, and then slowly involved the entire body, it being most marked about the upper eyelids, scalp, and supraclavicular spaces. The eyes could scarcely be opened. With the swelling a gradual weakness developed and a general malaise. The face became very broad and the nose markedly flattened. The lips were swollen, pale (at times bluish), and the lower one especially tended to be everted. The tongue was much swollen and protruded, making it difficult for her to shut the mouth; it was also very dry, so that swallowing was difficult and accompanied by a gurgling sound. The arms, wrists, and hands were swollen, so that the hands could not be tightly closed. The abdomen became very large. The feet were swollen, especially at the inner and the outer arches and on the dorsal surfaces. She wore No. 3 shoes eight years ago, and in January, 1895, she wore No. 7. The feet also became very tender. There was no pitting of the edema on pressure until in December, 1894. The tumefaction was not evenly distributed, but seemed to be in rolls between the muscles. It was spongy and elastic to the touch. Her head fell forward, probably on account of weakness in the posterior cervical muscles. Her weight increased from one hundred and twenty pounds to two hundred and forty pounds. She had not sweated since she began to notice the swelling. The skin was hard and dry. In 1892 she had an attack which was diagnosed as jaundice. The conjunctivæ and skin were very yellow. This discoloration lasted about three weeks, when the conjunctivæ became normal. The skin never returned to its normal color, but turned a darker yellow, then brown, and finally almost black. There was pigmentation all over the body, especially on the exposed parts and on the neck and chest. The skin became harder and more indurated after that attack, and seemed adherent to the underlying structures. There were deep wrinkles all over the face, especially on the forehead and about the mouth. A fine scaly desquamation was present over the entire body.

The hair fell out entirely from the axillæ and pubes, but not very much fell from the scalp, though the hair there became very coarse, dry, and brittle. The nails on the hands did not change, but on the feet they were thickened, brittle, and deeply striated. Different joints would swell and become painful, and then the swelling would disappear, leaving stiffness.

The gums were swollen, spongy, and sore, and nearly all the teeth fell out. There was marked lachrymation. There was dribbling of saliva at night, but the mouth was dry during the day. The breath was foul and the tongue often coated. The appetite was poor; she wanted to eat only certain articles of diet. She had more or less nausea all the time, and she often vomited. She was constipated nearly all the time.

She had a cough all the time, but it was much worse during the winter, with expectoration of whitish sputa. She could not breathe through the nose, so the mouth was open all the time. She snored at night. There was also great dyspnoea at night. She could not lie on the left side, and often had to sit up to breathe. She had marked dyspnoea at all times on exertion, and on account of the dyspnoea and extreme swelling of the tongue and lips she could speak only in monosylla-



FIG. 1.—Mrs. F., January 4, 1895.

bles, and the speech was hesitating and muffled. There was palpitation of the heart, at first at night and then marked on the least exertion. Often she had syncopal attacks. The heart upon examination was found enlarged to the left and downward, with a systolic murmur at the apex, which was transmitted to the axilla but was not heard in the back.

She noticed, soon after the appearance of the swelling, that she did not pass as much urine as formerly. Sometimes she had severe pain after micturition, and at other times she would pass urine unconsciously. The urine was repeatedly examined and was always found to be acid; the average specific gravity was 1.020; albumin varied from a mere trace to as high as twelve per cent., and was always present. There were no sugar and no tube casts.

She never had headache, but would have vague neuralgic pains in the lumbar region, radiating to the lower extremities and around the scapula. She had cramps in her leg frequently. Her disposition completely changed. She was apathetic, and no longer felt any interest in life around her or in her family. She



FIG. 2.—Mrs. F., February 1, 1895.

felt as if she could not cry, but wanted to be alone all the time. She was content to be alone and to sleep all day in a chair; she often had bad dreams, and would get frightened in her sleep. Within the first year of her illness she began to have hallucinations. She would see rows of people's faces, and would think she was being followed as she walked about her house. She never thought she would be harmed, but felt as though some one was always near her. She would not leave the house alone, for fear of getting lost. She had some inco-ordination of her feet, and it would seem to her as if she was walking on slippery ice. Memory failed, and she could not recall events of two weeks before. The eyes became very weak, and finally she could scarcely see. Marked deafness developed on the left side. There were marked mental slowness and dulness of comprehension. She was always cold. She felt more comfortable in summer than in winter, but even in the hottest weather she felt uncomfortably cold.

Three children were born during the eight years, and during the pregnancies all the symptoms were much exaggerated. The children were born healthy and were breast fed. The first, born about a year after her pronounced symptoms appeared, is now strong and well. The second died of erysipelas at four months. The third is now two years old, and seems bright and intelligent; but six months ago it had a convulsion, after which a hemiplegia developed, which has continued to the present time. A ventral hernia developed during one of the pregnancies.

During the eight years she was treated, at different times, for Bright's disease and for dyspnoea and palpitation, with apparently good results each time, but with no permanent improvement. The treatment by thyroid extract was begun on January 4, 1895, and five

grains daily were given at first. Later the dose was increased to ten grains daily, but it produced so much dyspnoea and palpitation and such a rise in temperature that it was reduced to the original amount and was continued at five grains daily until she regained her normal condition. While taking the thyroid extract she drank large quantities of water. Within the first week of treatment the symptoms began to ameliorate, and there was a steady improvement up to the time of her recovery. The oedema began to disappear almost immediately, the fulness in the eyelids, face, scalp, and upper extremities disappearing first, the oedema in the lower extremities being the last to disappear. The tongue, lips, and gums became normal, and she could soon speak perfectly well without dyspnoea. She could walk up and down stairs, and sleep on either side without discomfort. Her appetite improved, and she no longer had palpitation.

February 12, 1895, she began to perspire, and the skin after that time began to resume its normal character. Desquamation took place in large scales. Flakes could be stripped off, leaving normally smooth skin beneath; and the pigmentation was removed with the superficial layer of epidermis which desquamated.

The skin was no longer thickened and adherent, but soft and smooth. The hair in the axillae and on the pubes began to grow, and the hair on the scalp became much softer.

The symptoms of diminished urine and incontinence disappeared, and albumin was not found in the urine after the middle of February. The apathy disappeared, and she became bright and cheerful. She had no hallucinations of any kind and slept well at night, but had not the great tendency to sleep that she had formerly. Her memory became perfectly clear, and her eyes and ears regained their former acuteness. March 1, 1895, she had lost thirty-one pounds, and about May 1st her weight had been reduced from two hundred and forty pounds to one hundred and eighty.

The thyroid extract has evidently supplied the sub-



FIG. 3.—Mrs. F., March 1, 1895.

stance from lack of which so many serious symptoms developed, and she has continued to take the extract in five-grain doses every other day since her recovery to normal condition. She will undoubtedly have to

continue supplying the lost substance by means of the thyroid-extract preparations, for, since the great swelling about the neck has disappeared, it can be plainly seen that the thyroid gland is completely atrophied.

She continues well to the present date.

I am indebted to Dr. M. Allen Starr for seeing the case in consultation, and to Dr. Elizabeth D. Dixon for assistance in arranging the history for publication.

223 EAST TWENTY-FIFTH STREET, October 1, 1896.

THE BICYCLE FOR SCOLIOSIS.

By OTTO G. T. KILIANI, M.D.,

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SINCE the etiology of scoliosis and the static laws governing the same have been studied more closely, both the prophylaxis and the treatment of lateral curvature of the spine have progressed considerably in this country as well as abroad. The former is still

If our therapeutic efforts should enable us to correct these three cardinal points, or, still better, to over-correct the position by transforming the scoliotic curvature into the opposite curve, when the static laws would exert their influence upon the vertebrae in the reverse sense, and if, finally, we could keep the vertebral column in this corrected or over-corrected position for any length of time, we would be able to cure a scoliosis just as well as the severest cases of club-foot, as Hoffa sets forth so ably in his "Lehrbuch der orthopädischen Chirurgie." But as yet we are far from having achieved anything of the kind.

First of all, we have to strengthen the general constitution of scoliotic children, and especially their weak muscles.

Then we have to reduce the contraction of the column by mobilizing the spine.

I do not intend to enumerate all the different methods by which we strive to achieve this end, but presume that they are known and selected for the case in question according to the predilection and personal experience of the physician or orthopædist in charge.



FIG. 1.—Artificial curvature of normal spine, caused by handlebar lowered on right side.



FIG. 2.—D. F., scoliosis, age 13, standing.



FIG. 3.—D. F., sitting on an ordinary bicycle.

somewhat neglected here, as all the public schools and a great many of the private schools fail to furnish benches answering the requirements for preventing the development of scoliosis in children. The incorrect position of the pupils is partly the direct result of the method of writing, and we sincerely hope that the inclined handwriting will shortly disappear entirely from our schools.

In well-developed habitual scoliosis of the usual kind, with dorsal convexity to the right and lumbar convexity to the left, we find in the so-called second stage the following symptoms:

1. The vertebral column is shortened.
2. The whole spine is displaced to the right.
3. Besides the angular deformity of the ribs, the spine is twisted, so to speak, around its longitudinal axis, so that the right side of the thorax stands considerably farther back than the left.

If my impression is correct, a good many of the physicians treating scoliosis have given up to a great extent the apparatus in the form of plaster-of-Paris corsets and braces, intended for correcting the abnormal curvature of the spine and keeping the same in this corrected position.

My personal opinion is, that all modern treatment for scoliosis should culminate in the endeavor to correct the curvature as much as possible, and then, instead of trying simply to keep it in this position, to exercise the muscles in this corrected position, so that they will be able to hold the spine in it, if the altered anatomical conditions will permit.

Before describing my new device to achieve this purpose, it seems hardly necessary to state that I consider it only one link in the long chain of therapeutic efforts, and nothing would be more wrong than to rely solely upon the one in question.

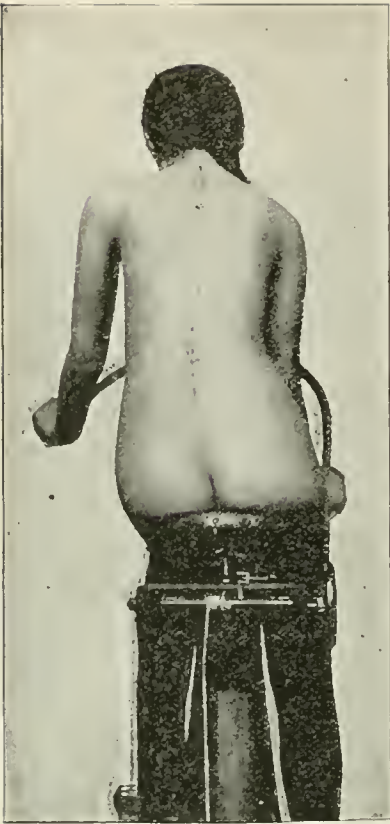


FIG. 4.—D. F., treading on modified bicycle, with left pedal high.

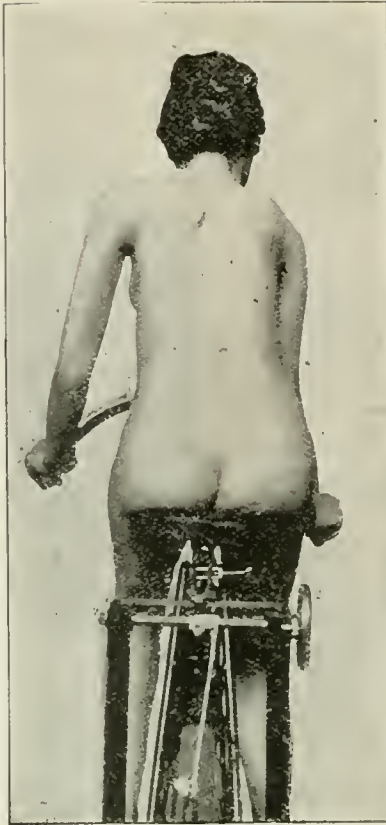


FIG. 5.—D. F., treading on modified bicycle, horizontal pedals, left foot forward.



FIG. 6.—D. F., treading on modified bicycle, right pedal high. Spine practically straight.



FIG. 7.—D. F., in same position, on bicycle with ordinary handlebar.



FIG. 8.—D. F., treading on modified bicycle, with horizontal pedal, right foot forward.



FIG. 9.—D. F., combination of inclined seat with modified handlebar.

Bicycle exercise constitutes such a perfect combination of active and passive motion, by means of an exactly constructed machine that it suggested itself to me to make use of it in the treatment of scoliosis. The oft-repeated accusation that the bicycle tends to develop forward curvature of the spine (kyphosis)

was, of course, of no weight, and, if so, it would rather have induced me to make use of this quality.

I shall now endeavor to describe the photographs published with this paper, and thus lay the question before the profession for its judgment.

No. 1 shows a sculptor's professional female model,

whom we may consider of perfect figure, even lacking the otherwise normal slight scoliosis brought about by the use of the right arm in manual work. She is seated on an ordinary ladies' bicycle held fast in a home-training machine, which enables the rider to practise at home, while the machine stands still. The saddle is raised a little more than is customary with women riders, to bring the weight of the body partly on the handlebar. The latter is arranged in a way to be described later, which allows either half to be raised or lowered to any degree desired.

In our pictures the right handlebar is lowered to some extent, as is clearly shown by the position of the

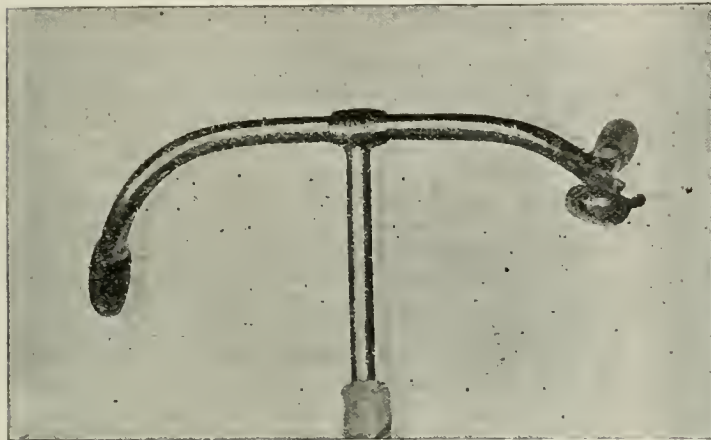


FIG. 10.—Modified Handlebar.

two hands. The line of the spinous processes is painted on the skin with a dermatographic blue pencil.

It is immediately apparent that the woman shows a left convex dorsal and a right convex lumbar scoliosis of noticeable degree. Any one who will repeat the experiment can convince himself of the conditions to be named: first, the line of processus spinosi shows clearly the bending or lateral curvature of the spine. This line is in cases of true scoliosis very often misleading, as is well known, and should not be relied upon too much. Secondly, the thorax is decidedly twisted, so to speak, around its longitudinal axis in an ascending spiral from left to right; the right shoulder is lowered, the median edge of the left scapula stands out; the curve of the ribs of the right side is flattened; in short, we have the position we try to produce in a case of common habitual scoliosis (with dorsal convexity to the right).

If it is possible to influence the normal body in the manner described by the use of a handlebar lowered on one side, it will be interesting to see how a case of scoliosis will be altered.

Fig. 2 shows a little patient of mine, thirteen years of age, in standing position, with a scoliosis which needs no comment.

Fig. 3 shows the same patient seated on an ordinary ladies' bicycle, with arms hanging straight down. Here the scoliosis is still more marked than in standing, as the weight of the body comes into play. The right dorsal curvature is just as plain as the left lumbar curvature. Now we put on the handlebar, lowered on the right side, and go through the different motions and positions in the revolution of the wheel.

In Fig. 4 we begin with the left thigh in flexion, the left pedal high. We have to consider the spine fixed at about the first lumbar vertebra; the dorsal and cervical parts of the spine are pulled down and bent to the right, with the natural result that the spine is straightened out.

Fig. 5.—The left leg begins to go down till the pedals form a horizontal line, with the left foot for-

ward. The spine is nearly straight, the scapulae showing clearly the influence of the position on the thorax.

Fig. 6.—The left leg goes still farther down and brings the right thigh correspondingly in flexion.

The patient's spine is almost straight, the angular deformity of the ribs is straightened out considerably, and the position is as nearly as possible the ideal one.

For comparison, we show in Fig. 7 the same patient on a bicycle with the usual handlebar, in the same position, namely, the right pedal up.

Finally, Fig. 8 shows her with the right foot coming down to the line of horizontal pedals. This constitutes one revolution of the pedals, and treading begins anew.

It seems evident that muscular action in this corrected position, achieved by such simple means, ought to be beneficial. For any one conversant with the treatment of scoliosis it is needless to say that I cannot speak yet of any results produced by this treatment, although I have at present four patients, two boys and two girls, using my adapted bicycle. I would not venture to utter until several years have elapsed any definite judgment on its possible value, but rely on the apparent rationality of the idea, and hope that other physicians may give it a trial.

Another important feature is that, with the untwisting, so to speak, of the spine by the position of the arms, we can add the inclined seat, by raising one-half of the saddle upon the proper side, as shown

in a primitive way in Fig. 9. Any of the saddles in the market with separate lateral sections that can be padded higher on one side, answer the purpose well. In one of these there is a contrivance by which one side may be raised by means of a screw which acts on a steel plate upon which the cushion rests. This of course would answer only for training at home, as balancing would be seriously impaired by the inclined seat. The lowered handlebar alone does not interfere with it at all, as I know by personal experience in riding on such a bicycle myself for the sake of trial.

Conceded that the ideas set forth in this paper are right, we only have to mention briefly the advantages of the treatment. First, a good many of the patients to be treated are in possession of a bicycle. Even for those who do not own one, the expense is relatively slight in comparison with that of other orthopaedic apparatuses. Secondly, it affords a physical exercise to which the patients will take kindly and which they will therefore carry out faithfully. This is a decided point of advantage, as the execution of gymnastic exercises always demands an unusual amount of patience and perseverance on the part of both patient and physician.

Finally, it only remains to describe the simple device by which either handlebar can be adjusted in any desired position. The handlebar used by me (as shown in Fig. 10) is sawed apart in the middle, and the two parts are adjusted by means of a screw and thread, fitting one into the other (the two necessary pieces having been soldered into the tubes). The circumference of the two pieces is grooved and held in place by a wedge with corresponding teeth, the latter being tightened by a screw with nut, fastening the jaws of the head, pointing toward the rider. The thread mentioned will allow the lowering of either side of the handlebar to any degree desired, while the two halves of the handlebar will still be held firmly together. The wedge with its corresponding teeth will hold all the parts absolutely firm when pressed in against the handlebar by the tightening screw and nut. Any skilled mechanic will be able to alter any han-

dlebar in the desired way. I personally am indebted to Robert Linder for faithfully carrying out my intentions.

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DIPHTHERIA OF THE NASO-PHARYNX.*

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ALTHOUGH we find brief mention here and there of the occurrence of diphtheria in the naso-pharynx, its importance in this position has by no means received the recognition it deserves. Guthrie¹ says that "nasal diphtheria is very common in children, and may often escape recognition, for membrane . . . may be found above the soft palate and in the posterior nares." Moritz Schmidt² says that the formation of membrane in the vault must take place very frequently, but dwells upon it more in its aspect of causing destructive action in the ears. Seibert,³ Rosenburg,⁴ and many others regard it simply as an extension from a faucial diphtheria, overlooking apparently the fact that the recognized tendency of this process is to extend downward. Bosworth,⁵ likewise, calls attention to the fact that "the primary deposit occurs at times in the pharyngeal vault or some other portion of the upper air tract," but he does not take the position that this is a very frequent seat, for he states in another paragraph that "the diphtheritic membrane primarily makes its appearance, in the very large majority of cases, on the face of the faucial tonsil, where it is open to direct inspection. . . . In rare instances," he goes on to say, "it makes its appearance on the pharyngeal tonsil, where it can be inspected only by the rhinoscopic mirror," adding that "this last resource is unavailing in most cases in children." In my opinion, however, it is a mistake to assume that the disease first makes its appearance on the faucial tonsil simply because it is first recognized there, and also to state that the vault can be examined only by means of the rhinoscopic mirror, and that this is unavailing in most cases in children.

The period of incubation of diphtheria is given by the majority of writers as about four days. When, however, the disease has been surely traced to infection, as in the not uncommon instance of a physician's receiving the expectoration directly in the face while examining a patient, the incubation is found to be but twelve to thirty-six hours. This, as has been experimentally determined by the inoculation of the ptomain in the lower animals, is probably the true period of incubation. It is, therefore, reasonable to believe that, in those cases in which the period of incubation has been extended for days or even weeks, the infection has been less in amount or less virulent, and has needed time to develop. Nowhere could this more easily take place than in the nose, or in the crypts and folds of the various tonsil groups, especially those of the naso-pharynx, where no mechanical cleansing takes place as in eating and drinking.

The literature of the subject of diphtheria is vast, and I shall not enter into a detailed account of the history of the disease. I feel, however, that a brief synopsis is not amiss, that a more perfect understanding of the points to be discussed in the paper may obtain. The microbic origin of diphtheria was first recognized in 1868 by Oertel,⁶ who thought that in a micrococcus he had found the specific germ. It was not, however, until sixteen years later that Klebs⁷ announced the discovery of the true bacillus of diph-

theria, which has since that time been called conjointly by his name and by that of Loeffler,⁸ who a year later first proved that the bacillus was pathogenic and obtained cultures. The Klebs-Loeffler bacillus is of about the same length as the tubercle bacillus, but is much thicker and is somewhat bent or curved. It is irregular in outline, due to its beaded or granular appearance, and is motionless. Its chief characteristics are the rapidity and peculiar appearance of its growth on culture media, which, according to Park,⁹ distinctly differs from that of any other mouth bacteria, except—notice this—the so-called pseudo-diphtheria bacillus, and in its taking the stain in a peculiar way, the granules and the ends, one or both of which are clubbed, being more deeply colored. But it must be remembered that many circumstances, such as different culture media and other influences in growing, alter the shape of the germs very markedly, so that, for instance, instead of having the club-shaped ends, these may even be pointed. The theory that the Klebs-Loeffler bacillus is the cause of diphtheria is now firmly established, as firmly as in the case of any of the germ diseases, but we also recognize that pseudo-membrane may be formed by other germs and possibly even by inflammations not microbic in origin. Loeffler¹⁰ in 1887 announced that a bacillus closely resembling that of typical diphtheria existed in apparently harmless pseudo-membranous inflammations, which from their mild clinical course could not be distinctly classed with true diphtheria. Its chief points of difference, he says, are that it is not pathogenic, that its ends are not so often club-shaped, and that it does not grow so characteristically. The life of the so-called pseudo-diphtheria bacillus is extremely short, and in this corresponds with the degenerated form of the bacillus of true diphtheria found in membranous rhinitis and other cases of mild diphtheria. The vitality of the Klebs-Loeffler bacillus, on the other hand, is very great. Park states that some membrane on cloth still gave cultures after six months. Von Hoffmann¹¹ has isolated a bacillus which, except for its non-pathogenic properties, cannot be distinguished from the bacillus diphtheriæ. This he found also on apparently healthy mucous membranes.

In view of these facts, it is not surprising that so much doubt and confusion should arise as to the differential diagnosis between diseases exhibiting pseudo-membrane as their earliest and most pronounced symptom. Since such diseases exist, so alike in their most prominent symptoms, the one very fatal, the other apparently innocent, it is of the utmost importance that the most searching analyses and every means of diagnosis at our command should be employed to enable us to arrive at a correct diagnosis. Roux and Yersin,¹² and Abbott,¹³ have asserted, and as I think on good grounds, that the pseudo-bacillus above mentioned is but an attenuated form of the Klebs-Loeffler bacillus, and may under certain conditions recover its virulency. While the so-called pseudo-bacillus gives rise to symptoms differing clinically from the Klebs-Loeffler bacillus, the difference is more in degree than in kind, and Abbott¹⁴ has found that the same pathological changes follow, though in less degree. The characteristic symptoms produced by typical diphtheria arise too late in the course of the disease to serve a practical purpose in affording us means to differentiate the two. Often the occurrence of diphtheritic paralyses or of albuminuria has been our only means of knowing that the patient has had true diphtheria, the course has been so mild, resembling in so many ways that of pseudo-diphtheria. Hardly one of us but has seen cases of true diphtheria, proved such by the typical sequelæ above mentioned, run their course with hardly a constitutional symptom, and again we have all had most

* Read by title before the American Laryngological, Rhinological, and Otological Society, New York, April 15, 1896.

threatening cases, causing us no end of anxiety and doubt, recover in a few days. When we think of the mild cases, even simulating simple lacunar tonsillitis, which give rise, as has been proven by reliable authorities, to diphtheria of fatal termination and also to infection to others, we begin to appreciate the responsibility resting upon us, and are taught to regard with a certain amount of gravity all pseudo-membranous exudate wherever formed. This was brought most forcibly to my mind during the years 1893 and 1894, when Abbott and Ravenel were carrying on their bacteriological investigations in membranous rhinitis, upon the results of which they based their brochures and presented the largest summary of cases published up to the year 1895. Of the thirteen new cases Abbott¹⁴ and Ravenel¹⁵ reported, in all of which Klebs-Loeffler bacilli were found, nine had been reported from my clinics at the Children's and Polyclinic hospitals. Until that time such cases had been treated as are those of dispensary patients and seldom submitted to bacteriological examination, because there were so few constitutional symptoms to cause any suspicion of gravity. Finding that several cases of infection undoubtedly arose from these, no more cases of this disease have been permitted more than the one visit to the dispensaries, and have been immediately reported to the board of health as cases of nasal diphtheria.

Although the anterior nares are so easily examined, such a location for diphtheria has been recognized only for a few years, and no one can doubt that the naso-pharynx, although hitherto examined even less frequently for diphtheria, forms a much more likely field for the lodgment and growth of such pathogenic micro-organisms. The recognition of pathological processes here, although at times attended with much difficulty and requiring much patience, will amply repay the pains taken, as it is an axiom that the earlier the diagnosis of a disease the better the prognosis.

Notwithstanding Bosworth's statement to the contrary, I feel convinced that in a large majority of children it is possible to examine the naso-pharynx. In those cases in which the examination with the rhinoscopic mirror cannot be made successfully, there still remain to us other methods of examining this region, namely: (1) inspection through the anterior nares, and (2) bacteriological culture from the vault, with one of which we can ordinarily attain our end. Thus, of three hundred and eighty dispensary patients between two and twelve years of age, I could study the vault in two hundred and thirty-four, in many only through the anterior nares. I acknowledge that in many subjects suffering from diphtheria the examination would be more difficult, but not if undertaken early. The accompanying cut, taken from an article in the *Polyclinic Journal*,¹⁶ shows an easy method I have used for holding children for throat and nose examination, though in most cases of severe diphtheria any forcible methods are unadvisable.

No one will deny at this date that diphtheria is a local affection, and gives rise only secondarily to constitutional symptoms by the absorption of the toxalbumins generated by the bacillus. It has been proven that the membrane deprived of its germs produces the diphtheria by the action of its ptomain, a ptomain so poisonous that "one-three hundredth of a grain is fatal to a full-grown guinea-pig." If we can, therefore, detect the disease clinically at the point where the infection is just taking place, that is to say, at its strictly primary seat, where the thin smoky film of fibrous exudate is only beginning to form, and slight constitutional symptoms exist, much can be done to arrest its progress. For "we may hope," as Bosworth says, "by the first application to rob the local progress of much of its infective potency and limit its

capacity for extension." Recognizing this, we should examine with the most thorough scrutiny not simply the pharynx and larynx, as is usually done, but also the nares and naso-pharynx, and not merely in cases of suspected diphtheria, but in all our patients, even those in whom some evident cause of sickness exists. The procedures are so easy of accomplishment in a large number of instances that it should be a rule for general practitioners also to adopt them as one of their routine methods of physical diagnosis. We would then seldom have the statement that the disease is constitutional "because the symptoms precede the local manifestations."



The Easy Method for Holding Children for Throat and Nose Examination.

As the whole course of diphtheria is only a few days, if we can gain even a few hours in the recognition of the disease the balance will probably turn in our favor. Bacteriology has done much in enabling us to tell whether the pathological process is diphtheritic. Time gained in controlling the disease is, however, only to be obtained by discovery of the primary seat or true origin before the pseudo-membrane is well formed, and therefore before absorption leading to symptoms of toxæmia has begun to take place. Diphtheria is a disease which overwhelms patients so suddenly that, except at the very beginning or when it is quite mild, cases of it comparatively rarely come to the dispensaries. They are struck down and feel so ill that the throat symptoms sink into insignificance and the general practitioner is called, so that, although the laryngologist may be called upon to exercise his peculiar skill in diagnosis or treatment, it is, unfortunately, not until the disease has made considerable progress. Thus it is that our dispensary cases of diphtheria are mostly made up of membranous rhinitis or of diphtheria just commencing in the naso-pharynx, fauces, or larynx, in which there are few and

light constitutional symptoms, and the patient comes because of some merely local discomfort.

CASE I.—Aged nine years. Taken sick November 25, 1893. Pseudo-membrane in naso-pharynx and covering both Eustachian prominences. Klebs-Loeffler bacilli found. Pseudo-membrane disappeared December 1, 1893. Only sequela was a slow pulse (50), thus showing the unmistakable diphtheritic toxæmia. At no time was the pseudo-membrane elsewhere than in the vault.

CASE II.—Physician, who for two weeks had been treating a case of diphtheria in a child, with Klebs-Loeffler bacilli present, and albuminuria, ciliary and other pareses. The physician developed sore throat with headache on November 21, 1895. Examination showed slight exudate in the naso-pharynx. Next day, in spite of all antiseptic measures, there was increase of pseudo-membrane in the vault. Dr. Harrison Allen was called in consultation; decision, probable diphtheria. Antitoxin injection November 22d. False membrane absent November 26th. Isolation, however, continued, because of persistent presence of Klebs-Loeffler bacilli. Recovery uneventful: no sequelæ. At no time was the pseudo-membrane present elsewhere than in the naso-pharynx.

CASE III.—J. C.—, aged eleven years. March 24, 1896, vault simply lined with pseudo-membrane. None elsewhere. Clinical diagnosis, diphtheria. Culture taken and examined, with report "contains some doubtful bacilli." Second day merest trace of membrane on left Eustachian prominence. I considered the patient practically well, and the diagnosis a mistake, but he returned to the clinic March 28, 1896, after having been sick two days. Vomited, and on the third day had acute otitis media sinistra. Examination of the vault showed the pseudo-membrane still present on left Eustachian prominence. Another culture taken April 3, 1896, and answer returned April 6, 1896, "Case is one of true diphtheria." House quarantined and patient sent to Municipal Hospital. No pseudo-membrane at any time elsewhere than in the vault.

CASES IV. and V.—M. N.—, aged four and a half years. July 20, 1893. Apparently simple rhinitis. One week later membranous rhinitis and pseudo-membrane in the fauces. R. N.—, her brother, aged eight and a half years, at the same time had pseudo-membrane only in the naso-pharynx.

I have observed numerous other cases of pseudo-membranous deposit in the vault, which, however, I have not been able to follow.

It is of importance to call attention also to two interesting cases reported by Holt.¹⁷

(1) Rachitic child, aged two years. January 7, 1890, had profuse nasal discharge. No pseudo-membrane visible for two weeks, then a minute spot on one tonsil and four days later on the other. Death finally resulted.

(2) An infant, six months old, exposed to this one, had nasal discharge of mucus and blood for twenty-nine days without other symptoms of diphtheria. Then œdema of the extremities occurred, followed by death on the thirtieth day as a result of nephritis. There was no visible membrane at any time. Autopsy showed a patch of diphtheritic membrane one inch in diameter in the naso-pharynx, and a smaller one in the pharynx near the epiglottis. No bacteriological examination was made.

In presenting these cases, although they are few in number, we take into account the infrequency with which, for the reasons mentioned above, we see diphtheria in the dispensaries. I regard them as sufficient in number and importance to warrant the claim that the naso-pharynx is very frequently the starting-point of the disease. That there was no extension of the

pseudo-membrane, and that the cases ran such a short mild course, are due, I believe, to the early and thorough methods of cleansing the naso-pharynx.

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A CLASS OF FATAL CASES PRESUMABLY DUE TO INTESTINAL PTOMAINS.¹

By E. D. FERGUSON, M.D.,

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SOMETHING over twenty years ago a case occurred under my observation that created in me a profound interest and became the subject of considerable thought and reading. The patient, a man about forty years of age, had the appearance and history of robust health. I had known him for several years and his sturdy figure had impressed me with a favorable view as to his ability to resist disease and his chance for many years of life. He was taken quite suddenly with abdominal pain and became rapidly very ill, so that on the second day I saw him in consultation. From the condition and clinical history, we could fairly exclude intestinal obstruction and peritonitis, but vomiting, which had begun early in the trouble, had continued, and instead of becoming offensive in odor, as would have been expected in obstruction, was of a watery material which later showed small brownish flakes which gradually grew darker. The vomiting was frequent but not violent, and at times was rather a regurgitation than a vomiting. His pulse was rapid, the countenance anxious, the complexion somewhat "muddy," although he had naturally a dark skin, and the sclerotic lost its pearly clearness, although not to a degree to lead me to pronounce it colored with bile. The movements of the bowels did not throw much light upon the case, but the color, though dark, was not a healthy brown, neither was it a green or a black. There was quite a degree of tympanites, but no notable tenderness.

The man was evidently "sick unto death," though he retained his mental faculties in a fair state during the greater part of his illness. The vomited material grew darker, finally almost a "black vomit;" his pulse became very rapid, and just before death the temperature rose to a very high point—over 105° F. No post-mortem examination was made, nor do I now think that any positive result could have been obtained

¹ Read at the annual meeting of the New York State Medical Association, on October 14, 1896.

from one, in view of the limited knowledge of pathology then in our possession.

Here was a case that I was unable to classify. That it was not a common disease was evident; nor could I assign it to any of the recognized forms of fever or local inflammations. That it was toxic in its origin seemed the only rational explanation, but none of the mineral or alkaloidal poisons would furnish a similar clinical history. The animal poisons seemed the more probable basis of explanation, and I recall my disappointment, when, some few years thereafter, I read Boehm's article on sausage, fish, and cheese poisoning, in Ziemssen's "Cyclopædia," without securing definite aid in unravelling the tangle. I had awaited the appearance of that volume with this case in mind, and, though disappointed in the hope of definite aid, my opinion that I had seen the work of some animal poison was strengthened in a general way.

However, I had been unable to secure evidence that the patient had taken any food likely to cause the trouble, or different from that taken by other members of the family. Hence I finally evolved the idea that his was a case of auto-infection, though the conclusion was based upon a process of exclusion rather than any reliable evidence from pathological investigations.

About ten years thereafter I witnessed a similar course of events in a girl about ten or twelve years of age. The onset was sudden, there being considerable abdominal pain, fever, and vomiting, with rapid failure in the vital forces. The vomiting was possibly more regurgitative in character than that of the first case, but the colored and finally "coffee-ground" appearance of the material from the stomach recalled the former case and led me to anticipate the fatal issue, which occurred in slightly less than three days from the time of onset. By this time some progress had been made in the chemistry of decomposition. Alkaloids had been secured from animal tissues, and a presumption was beginning to take reasonable grounds in favor of the intervention of bacteria in the process. The work of Selmi, of Bologna; Gautier, of Paris; and Brieger, of Berlin, had begun to throw a degree of valuable light upon this somewhat obscure field, so that rather definite notions were possible, and I began to speculate somewhat on the various links in the chain represented by my two cases. The dark or coffee-ground vomit had impressed me as an important element in the evidence, for I felt that I could exclude upon reasonably good grounds the presence of gastric ulcer in any of its forms as the source of the hæmatemesis. In piecing together the more prominent signs and symptoms as I have related them, I came to the conclusion that the first step was due to the presence and functional activity of some micro-organism in the intestinal canal; that thence resulted some ptomain or toxin which was absorbed into the intestinal veins and reached the liver, where it induced a rapidly progressive and diffuse parenchymatous hepatitis with its attendant systemic and local phenomena, among which was the hæmatemesis. To a certain extent, the process seemed analogous to acute yellow atrophy of the liver, or even yellow fever, though the cases did not show notable icterus. The analogy was sufficient, however, to induce the opinion that when another case occurred an autopsy would show profound hepatic changes.

Not very long after the second case I was requested to see a child about four years of age, which was thought to be suffering from peritonitis, with a view to opening the abdomen in the hope of finding the cause and removing the same. Though the child's abdomen was somewhat tympanitic, the evidence of peritonitis did not seem clear enough to warrant a surgical procedure, and the fact that regurgitation of a watery

mucus with small brownish flakes had recently occurred, together with the rapid development of the symptoms, led me to conclude that the case was similar to those just related, and that "black vomit" would occur and death follow. Such proved to be the case, the patient perishing after about three days of illness. The autopsy showed no peritonitis. The bowels were distended with gas, were quite hyperæmic, and contained a rather dark and somewhat grumous material. The liver had undergone notable changes; a portion being somewhat swollen, rather nutmeg-like, with brown and yellow mottling on section and softened in consistence, while the remainder was shrunken, the capsule was wrinkled, rather yellow in color, and was flexible with a rather leathery feel while handling without breaking the capsule.

A year or so after this case I saw a man, about forty-five years of age, who was also supposed to be suffering from peritonitis. The history showed abdominal pain, not localized, though apparently intestinal; very moderate distention with gas; rapid development of symptoms of exhaustion; rising fever; vomiting of a glairy, rather watery fluid; and slight icteroid tinge of the sclera. I ventured the opinion that the patient would have "black vomit" and would perish within a short time, which proved to be the case, for he died on the following day. A post-mortem examination showed the same condition of the abdominal organs that was found in the case of the child, the remaining organs of the body showing no evidence of disease.

So far I had encountered only cases of spontaneous origin, though they were not the only ones I had seen in which I had believed the same or a similar morbid process existed, yet they presented a more pronounced and typical course.

I now turn to a series of cases having a relationship that rendered them of even greater importance, for from them it seems reasonable that some practical conclusions may be deduced.

One evening three or four years ago, I was requested to see a young man who had just been shot in the abdomen. The bullet was believed to have penetrated the abdominal cavity. There was sufficient shock to justify a presumption that visceral injury had occurred. The usual preparations were made, and as early in the following day as the light would allow the abdomen was opened and a wound of the intestinal canal was found and closed. The patient progressed without serious symptoms for about two days, when he began to have abdominal pain and regurgitation of a watery material, which finally began to show brown specks but was not offensive. I felt that we were dealing with another case of poisoning by intestinal ptomains, and that a fatal issue would soon supervene. This proved to be the case, and the autopsy showed an absence of peritonitis aside from the adhesive peritonitis that was connected with the Lembert stitches and which had progressed only to the conservative degree that had resulted in the efficient closure of the wound in the bowel. The liver had undergone changes similar to those described in the foregoing cases, and there was no obstruction of the bowels.

In the spring of 1895, I operated for the purpose of suspending a retroverted and retroflexed uterus in a patient about thirty years of age. She had been under my care for about ten years, and persistent efforts by the use of pessaries had failed to restore and support the womb. She was in perfect physical health, and, measured by our present views of abdominal surgery, the risk was as near to zero as could be expected. The operation was simple and brief—a short incision gave ready access to the parts, and the uterus was brought into a forward position and fastened there. No severe shock was manifest, and the

patient for twelve hours gave no evidence of any trouble. On the morning following the operation she was comfortable, but had regurgitated a small amount of watery material. This fact made me anxious, particularly as she showed some fever not accounted for by evidence of trouble in the operative field. On seeing her again in the evening, the regurgitation had increased and, though no brown color was yet present in the vomited material, her evident tendency, as shown by quickened pulse, rising temperature, and muddy complexion, was to enter upon the course of the other cases I have related. On the following day the vomit became dark, nearly black, and she died a little over fifty hours after the operation.

Not long after this case I operated for the removal of a large uterine myoma in a woman about fifty years of age. The patient was in fair general health, probably better than the majority of such patients, and the removal of the uterus was unattended by unusual difficulties or any accident. The magnitude of the operation, however, resulted in considerable shock, but the reaction was satisfactory. For the first eighteen hours all went well, when regurgitation began, and the now somewhat familiar picture was reproduced, she dying about forty-six hours after the operation.

Again, in February of this year, I operated on a woman about thirty-five years of age and in good physical condition, removing both ovaries, which were cystic and presented papillomatous growths. The cysts were each about the size of my two fists and were firmly bound in the pelvis. The operation was difficult but no accident occurred, and the shock, which was moderate, soon passed off. For the first twenty-four hours all went as satisfactorily as could be wished. She was comfortable and cheerful and the bowels responded satisfactorily and thoroughly to the saline cathartic given on the morning following the operation. During that afternoon, however, the regurgitation began, but without notable abdominal pain and no distention. The bowels continued to move until death, the discharge becoming dark colored toward the end. The vomit finally became black, and she died about sixty hours after the operation.

Here are eight cases presenting a sufficient number of signs and symptoms in common to indicate a similar origin and to justify placing them in a class by themselves. The conditions common to all the cases were: a sudden onset and rapid course of the trouble; the reference of subjective symptoms to the abdomen, such as pain and nausea; the presence of fever in each instance, the fever usually becoming very high just before death; the occurrence of coffee-ground, or black, vomit as the cases progressed; the absence of the usual signs of peritonitis; the absence of evidence of intestinal obstruction; the dusky or muddy hue of the countenance some hours before death, with possibly moderate yellowness of the sclerotic; and finally, the evidence furnished by the three autopsies made in the series of eight cases as related. Only one explanation has seemed to me tenable, and that was the presence and activity in the intestinal canal of some organism capable of producing a toxin which could not only give rise to pain in the bowels, but was capable of profoundly disturbing the function of the liver so as to induce a parenchymatous hepatitis with rapid softening and absorption, resulting in an acute atrophy. Of course this process may have been located in the liver more particularly than in the bowels, but that point did not allow of determination by any means at my hands.

• There were four medical and four surgical cases in the series, and the clinical history removed them from the category of any ordinary infective process. Neither could we invoke the idea of some special micro-

organism of a contagious nature, for the cases were isolated and not associated with similar cases either by time or locality, nor were they subject to unusual conditions or causes of disease, either in food, domicile, or other element of environment. The fact now recognized that the products of bacterial life are varied by certain conditions, in some instances a pathological micro-organism failing to give virulent products, while a change of conditions will result in a full establishment of its malign properties, seems to me pregnant with significance in many ways. It must be accepted that bacteria exist in the intestinal canal in all persons, and under certain yet unknown conditions some of them may become capable of inducing disease, though usually the tenancy is harmless. The bacillus coli communis is a familiar example. The only logical explanation of this fact lies in the assumption that usually the functions are so discharged that the enemy is either inhibited from pernicious activity, or the special material upon which it depends for action is not at hand. In a general way, this may be represented by the terms immunity, resistance to disease, and the like; nor are these idle terms. They represent ideas that should command our attention with a view to practical deductions. It is not probable in the light of our present knowledge of pathology that these eight patients at remote intervals and places received into their bodies any micro-organism or toxin from which all other persons in the vicinity were exempt. It is more logical to suppose that they had become specially susceptible to the influence or activity of something present in the persons of others as well as of themselves, where, however, it either was not functionally active, or its products were neutralized. In the surgical cases it requires but little strain on the medical imagination to conceive that the shock attendant on opening the abdomen could have a notable influence on the chemistry of the intestinal canal. The subject has lately received considerable attention from other standpoints, and we are quite familiar with such terms as "stercoral empoisonment," "intestinal ptomaines," etc. We can conceive of no other explanation, particularly of the fever, for all now accept that fever is usually the result of the presence of some toxin, whether the toxin results from the bacillus of diphtheria or typhoid fever on the one hand, or from the staphylococcus present in a furuncle. Just what constitutes the essential condition of vulnerability and reaction in each case, why some are made ill and others escape, is the problem that offers itself. Myriads of typhoid bacilli are swallowed without pathological results. Most of us have received the diphtheria germs in our bodies. Staphylococci are constantly gaining access to the crypts of the skin in each one of us without producing suppuration.

In many instances we can gather a clew to some of the conditions favoring infection. No extraordinary care is required to prevent local infection at pressure points in patients confined to bed with a fever, but when paraplegia exists all our best-directed efforts will probably fail to prevent a bedsore. In this instance a profound interference with innervation has evidently contributed to the creation of a local susceptibility to certain pathogenic germs. A review of the question of immunity has impressed me with the varied conditions under which it may exist, and the important fact that it may be lost.

In our surgical experience it is notorious that whatever diminishes the condition known as vital force—a term we can hardly dispense with as yet—increases the susceptibility to pathogenic organisms. Diabetics, drunkards, in fact all those who are below par by their own fault, or through diseases, do not present the same chance for successful surgical work as do those in good condition. A few pus-producing germs will

usually fail to incite suppuration if in contact with healthy tissue, but even if in a healthy person they be present on or in tissue locally disturbed, as in tissue tightly ligatured, we can safely count on infection. We know, too, that a contagious disease will fail to infect some members of a family while others are attacked, and yet those who escape may contract the disease at a later exposure, and this without any physical change or deterioration in general health that we can note. The immunity of the negro to yellow fever is a fact for which we have no adequate explanation, any more than for our inability to engraft syphilis on the lower animals; but all these facts have a lesson which we should note and utilize so far as we can. In interpreting the phenomena connected with the cases I have related, it seemed fair to conclude that the result in the surgical cases was not due to the introduction of infection at the time of operation. This conclusion was justified by the absence of pathological changes in the operative field, together with the fact that the clinical history corresponded with those cases in which no operation was performed. If this conclusion is justifiable it adds another reason to show us that at present, much as has been done to diminish the hazard of severe surgical procedures, there remain some conditions involving risk to life which are as yet beyond our control, and which should prevent us from assuming that even an exploratory opening of the abdomen is free from risk. Previous to the case of suspension of the uterus, I had surgically entered the abdomen in a series of over twenty-five successive instances without a fatal result, and this simpler and apparently safer case than any in that list succumbed.

In explanation of the process, as before indicated, it seems reasonable to me to invoke the aid of shock under the influence of which germs within the intestinal canal were able to produce toxins, which under ordinary conditions would not have been the case. So far as the preparation of the patients was concerned by examination in reference to the bodily functions, including the kidneys, etc., by the use of salines to "clean" the intestines, and by a proper diet in each instance, all that reasonable requirements could demand was done. It is not to be forgotten also that the usual history in these cases was previous good health, in some instances specially so. The speediness with which the condition developed and progressed to a fatal issue is also one of the important facts.

In discussing these cases with some of my medical friends, I learn that similar cases have occurred under their observation, but, while I find that most surgeons are inclined to credit them to acute "stercoral poisoning," they usually have ascribed the origin of the trouble to obstruction of the bowels, either by adhesions or the paralysis connected with peritonitis. In my cases, the evidence so far as it is available is opposed to such a conclusion; nor does the clinical history correspond with that of intestinal obstruction. In some of my cases the bowels were moved, and, in the last one, the passages continued free to the end. That there should be a parietic condition of the bowels in a portion of the cases is not remarkable.

In a series of cases presented by Dr. H. O. Marcy at the recent meeting of the American Medical Association, and printed in the *Journal of the American Medical Association* for August 8, 1896, I find that he has assigned intestinal obstruction as the cause of the trouble in all his cases. In some of them it is clear that such was the explanation, but in others it is not so clear. The following is one of the cases:

"Mrs. D—, aged forty-two years. Very nervous organization, but in fair general vigor, although for some years a sufferer from a retroverted, adherent, enlarged uterus, cystic ovaries, and diseased tubes.

The bowel had been freely evacuated; only fluid food in small quantities, often repeated, given for some days before the operation, with as large quantities of water as could be easily taken. Operation, March 18, 1896. It was difficult, owing to the embedding of the diseased adnexa in the pelvic cavity. After the removal of the diseased structures, the enlarged retroverted uterus was brought forward and sutured upon each side to the abdominal wall. The pelvic peritoneum was reformed by lines of buried tendon sutures, leaving only a small portion of the fundus of the uterus uncovered, which was partially denuded of its peritoneum owing to old adhesions. The small intestines were covered by the omentum with great care, the fundus of the uterus was dusted with sterilized aristol, and a vaginal drain of iodoform gauze carried through the posterior cul-de-sac into the vagina. Patient rallied well from the ether. The night following the operation was comfortable. Nausea and vomiting ensued on the morning of the 19th, with a singular weakening of the heart's action, followed by a rapid elevation of temperature, reaching before death 107° F. The skin was mottled with dusky patches some hours prior to death. These conditions were believed to be due to intestinal obstruction. The gauze drain was withdrawn and an effort made to examine the pelvis through the opening, but without avail. Regardless of every effort, the patient died about forty hours after the operation. The autopsy showed a loop of the lower part of the small intestine attached to the fundus of the uterus, which was separated with the greatest ease. The intestine above was filled with several pints of a very fetid dark-colored fluid, believed to have undergone decomposition prior to death."

It is manifest that this case does not correspond to the usual history of intestinal obstruction, nor does the recent adhesion "which was separated with the greatest ease" amount to an obstruction, for it is certainly common to have temporary adhesion of the bowels after abdominal section and in cases of peritonitis, without serious trouble. The course and termination of the case, and the presence in the bowel of "several pints of a very fetid dark-colored fluid," speak strongly for the existence of some condition which was more important than even the possible obstruction, which we may probably assume was not occlusion. In our classification of cases it is important to seize upon some essential element for the assistance to be derived therefrom in our consideration of the clinical histories, and this is accomplished in placing to the front the idea of intestinal ptosis. I do not deny that intestinal obstruction may be present in addition. What I do wish to call attention to is that obstruction of the bowels without concomitant changes in the intestinal contents is usually a quite chronic condition, a fatal issue occurring at times only after many weeks. No doubt the obstruction is occasionally so prominent and important a factor as properly to entitle it to become the designating feature, but in many of the cases it is a minor element, and in still others does not exist.

It would give me pleasure to present a full *exposé* of the life history of the micro-organism to which the process is due, but no light has been thrown on that part of our subject.

In conclusion I must place my title in error by relating a case that recovered, and I do so with some hesitation, for the account is so remarkable that it still seems to me like a "traveller's tale." Nearly two years ago I was requested by telephone to go to a neighboring town prepared to operate for obstruction of the bowels. I learned over the telephone that the patient had given birth to a child about two days before, that she had failed to have movements of the

bowels, was somewhat tympanitic, was vomiting a dark fluid, had fever and abdominal pain, and was very much prostrated.

As it would be some time before I could reach the place, and as cathartics had been tried in vain, it was agreed that awaiting my arrival copious enemata of water should be given. The treatment was diligently pursued. A large bag of water was emptied into the colon, and as it did not return, was followed by another—in fact by several others. In the mean time, the vomiting had increased in quantity and in frequency, and finally became fecal in odor, which was at first regarded as confirmatory of the diagnosis of obstruction.

On my arrival I found feces in fairly good-sized pieces in the recently vomited material, while some of that vomited at an earlier date was odorless, but contained sediment nearly as dark as charcoal dust. The patient was in a very weak condition, but she had begun to perspire moderately and her pulse was slightly less frequent, and the fever had fallen. Though I believed she would die, the idea occurred that possibly the poison could be removed in this unusual manner, and the washing was continued until the vomited material was quite clear. In order to maintain the action of the heart, strychnine was given hypodermatically in heroic doses, being guided by the pulse. She hovered between life and death for several days, then rallied somewhat, but developed a broncho-pneumonia and its attendant pleuritis, which placed her in great peril again. She finally recovered, and I believe has remained well. It is manifest that this treatment cannot be applied as a rule, but the lesson it carries is patent.

The arguments that have been made to explain the condition by the presence of a special microbe seem to me to lack sufficient fulness to entitle them to stand as final. Various organisms have been found in the intestinal canal—in cases of "stercoral empoisonment," even the pus-producing staphylococci—particularly in puerperal cases in which the pelvic organs were free from pathological changes. The problems are too recent and too complex to allow of definite conclusions on that phase of the question. In view of what is known of the behavior of micro-organisms under varying conditions, it is not improbable that we may finally arrive at two conclusions. First, the condition may be due to a special ferment, either a bacterium or an enzyme, and this may be present in the body without pernicious influence until a favorable combination of circumstances arises. This is favored by what is known of such organisms as the bacillus tuberculosis, the pneumococcus, etc. Second, it seems quite probable that the process may not depend upon one special organism, but circumstances may render one of several the offending agent.

This last supposition would involve the idea that the trouble is not dependent upon a constant cause, and, as a corollary, it would follow that the intermediate steps may not be the same, or in other words, that we now class together several distinct processes on account of certain striking features in common. Such a conclusion seems to me probable, for the variation in the signs and symptoms of the cases noted, as well as in others I have not reported, seems to me to justify the assumption that similar but not identical processes were to be expected in the final explanation. However, the personal element of the equation may prove more important than is suspected.

There is still another hypothesis that is not entirely untenable. It is manifest that the chemistry of the

digestive process is to a positive degree under the influence of the nervous apparatus, not only as to the rate of the process, but quite probably as to various details of it. Hence it is entirely possible that, given the usual elements of material and mechanism, if the nervous influence is sufficiently disturbed, products may result that could prove highly deleterious. The disturbance in digestion that occasionally comes to most people when under depressing emotions is a matter of common observation, and the limit of that disturbance has not been defined.

Concerning the measures which we may rationally take to protect our surgical cases from this danger, it is manifest that whatever will place the intestinal canal in a state of relative freedom from vitiated food products and micro-organisms would be reasonable measures to adopt. This can probably be best accomplished by a diet of plain articles of food, as milk, fish, etc., for three or four days before the operation, with the use of one or more doses of calomel, to be followed by Epsom salts on the day before the operation. It is quite possible that calomel has a special usefulness for this purpose. The free use of water also, to aid in the elimination, particularly through the kidneys, is important.

Still, do what we may, it is to be feared that for some time to come we will occasionally encounter one of these sad cases, and, as we advance in a series of successful operations, we should not flatter ourselves that we have mastered all the perils attendant upon surgery, or that the day of "capital operations" has passed.

THE PHONENDOSCOPE.

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This instrument was devised by Bianchi, of Florence, Italy, with the aid of the celebrated physicist Bazzi.

It has been extensively used in Europe for several years, and Schwalbi, of Berlin, from whom I quote below, commends it highly.

Following is a description of the instrument, which will be made clear by referring to Diagram 1. It consists of two principal parts:

1. The resonator.
 2. The conducting tubes of soft rubber.
- The resonator is composed of three parts
- A. The resonator proper.

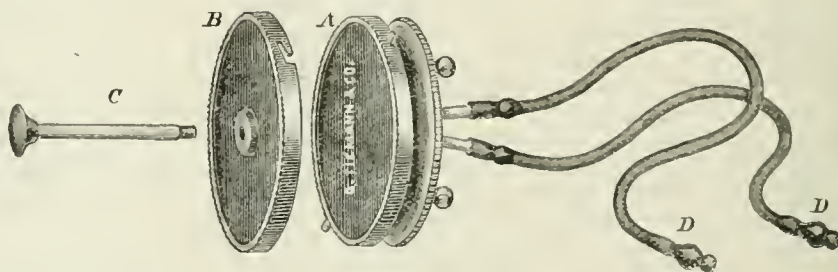


FIG. 1.—The Phonendoscope.

B. A removable membrane.

C. A staff of metal tipped with a hard-rubber button. This staff screws into a thread in B and can be removed with it.

The resonator consists of a capsule having its sides and top of metal. The bottom is made of an ebonized plate which is pushed forward from within by a small spiral spring. The plate is held in place by a metal rim. The top of the metal capsule is perforated by two converging apertures. Between these the spiral spring is situated, inside the capsule. The second membrane, also ebonized, may be attached to A by two slits in the metal rim surrounding it, which re-

ceive two projecting metal points on *A*. Into *B* the small staff above described is screwed.

The soft-rubber tubes are tipped with metal points which are received in the converging canals in the top of *A*. The other end of the tube is armed with a small ear-piece which is self-retaining.

I have modified the instrument by attaching the distal end of the rubber tubes to the ear-piece of an ordinary stethoscope. This is found to be more satisfactory for prolonged and repeated use of the instrument, as the tips originally provided have to be introduced too far into the meatus auditorius for comfort, and often fall out of the ear. These rubber tubes may be multiplied to any extent for the purpose of affording to a number of students the means for simultaneous use. The whole instrument weighs about eight ounces.

To use the instrument the rubber tubes are connected to the resonator, the ear pieces are inserted, and the capsule is laid on the surface of the body. The instrument is most sensitive when used without the outer membrane and when both tubes are used. It is least sensitive when the staff and outer membrane are both attached and only one tube used.

I have thus carefully described the instrument, because only by accurately understanding its construction can one realize its capabilities without actually testing it. The inventor claims, and his claims have been borne out by practical experience, that the phonendoscope is of great practical utility in the following directions: 1. The instrument enables us to appreciate the normal and pathological sounds emitted by the organs of the body. Many acoustic phenomena which are not audible by ordinary means of auscultation are rendered clear and appreciable. The instrument enables one to hear the respiratory murmur, the pitch and quality of the sounds of the circulatory apparatus, of the organs of digestion, of the ear, both in health and disease; also of muscles, joints, and bones (fractures, dislocations, etc.), of the pregnant uterus and fetal heart, and even of the capillary circulation. He also emphasizes the ease with which "comparative auscultation" can be made, using two instruments upon corresponding areas and using a tube from either resonator. By squeezing the tube from one instrument and then the other, an exact comparative study of acoustic phenomena may be made. This is of especial importance in tracing the direction and extent of the transmission of cardiac and aneurismal murmurs, and in deciding fine points in pulmonary diagnosis.

2d. It may be used to great advantage to determine the form, position, thickness, and relations of separate viscera, thus replacing percussion. For this purpose we use the resonator with staff and second membrane attached. The button of the staff is firmly pressed upon the skin over the organ to be examined and generally only one tube is used. As the index finger of the right hand gently strokes the skin near the button, a distinct vibratory sound is elicited. This varies according to the thickness and extent of the organ examined. The ear soon becomes so trained that it recognizes the slightest grades of change in intensity and quality of this vibration. The stroking should be done with a regular oscillating motion of the finger, care being taken not to vary the amount of pressure used. Proceeding from the button to the periphery, the stroking is continued until a decided change in the quality of the sound is heard. This is very readily appreciated and indicates a change in the conducting medium beneath. Marking the point at which this change is heard, we go on with the stroking in another direction, marking as before. Thus we outline by dots upon the skin, with great exactness, the underlying organs. The trained ear may not only

recognize the boundaries of underlying organs, but also distinguish gross changes in structure and texture. The following is a translation of the directions of the inventor for outlining the various organs; by referring to diagrams 2 and 3, the points of election will be readily seen:

Anterior Portion of the Body.—Lungs: Place the phonendoscope above, upon, and below the clavicle for the upper lobes (1-2); in the third intercostal space for the (4) middle lobe; in the fourth for the lower (5). Do not stroke too hard. In this way you can readily distinguish the beginning of the lung, its divisions into lobes, and the overlapping of the same. When a pleuritic effusion is present, put the instrument in the same positions and, after examining in the upright and reclining positions, place the patient first

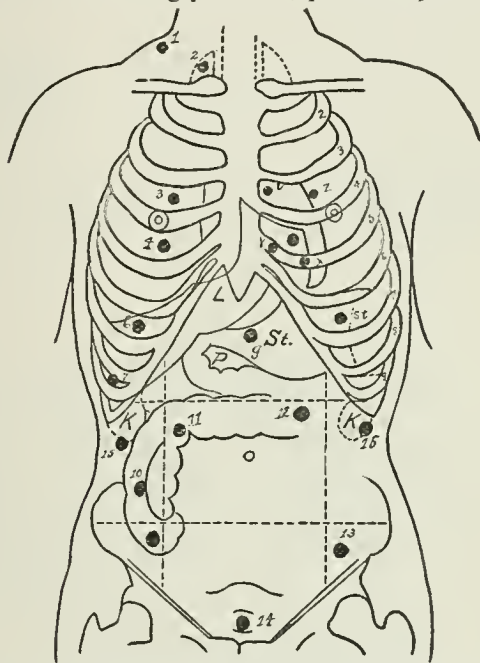


FIG. 2.—1, Upper lobe of lung; 2, upper lobe of lung; 3, middle lobe of right lung; 4, lower lobe of right lung; 5, Heart—(x) right ventricle, (1) right auricle, (2) left ventricle, (v) large vessels (aorta, etc.); 6 and 7, liver; 8 and 9, stomach; 10, ascending colon and cæcum; 11 and 12, transverse colon; 13, descending colon; 14, bladder (uterus); 15, kidneys.

on the right and then on the left side, to ascertain the variation in the level of the fluid. Stroke vigorously.

The heart: To determine the position of the heart, place the instrument in the left parasternal line, fourth intercostal space; for the right ventricle a little lower to the left, for the right auricle a little lower to the right; for the left ventricle, a little higher to the left; for the large vessels, a little higher to the right (arch of aorta, etc.); vigorous strokes. In this way we can determine the exact size and boundaries of the heart, its division into ventricles and auricles, and the position of the large vessels.

The liver: Place the instrument in the following positions successively: Beneath the xyphoid appendix in the right mamillary line, in the seventh intercostal space; in the ninth intercostal space over the mid-axillary line. Vigorous strokes.

The stomach: Place the phonendoscope in the seventh intercostal space, left midclavicular line, and then on the linea alba near the left free edge of the ribs. When the stomach is full, place the instrument just below the greater curvature. We can thus distinguish the pylorus, cardia, the coils of the intestine, and the nature of their contents, whether fluid or gaseous, and also the change in place and form of the organs when the position of the patient is shifted. Stroke vigorously for fluid, and lightly for gaseous contents.

The colon: For the cæcum and ascending colon place the instrument in the right iliac fossa, beneath

the free border and in the anterior axillary and mid-axillary lines. For the transverse colon, on two or three points, according to the breadth, above a line which passes from right to left over the umbilicus and strikes the left free border between the midaxillary and posterior axillary lines. For the descending colon, beneath the left free border in the midaxillary line and also near the anterior superior spine of the ileum. Stroking varies with the nature of the contents.

Bladder: Place the instrument in the linea alba above the symphysis pubis. Stroke gently when the bladder is empty, vigorously when it is full of fluid.

Ascitic fluid: Place the phonendoscope on either side in the anterior axillary line and in the linea alba on a level with the umbilicus, having the patient change from the upright to the reclining position, and even stand on his feet. Stroke vigorously.

New growths, also deeply situated organs, as the kidneys and spleen, can be outlined by placing the instrument over the centre of the organ and stroking the overlying region. Enlarged glands can be studied in the same way.

Posterior Surface of Body.—**Lungs:** Place the phonendoscope on either side in the scapular line at a

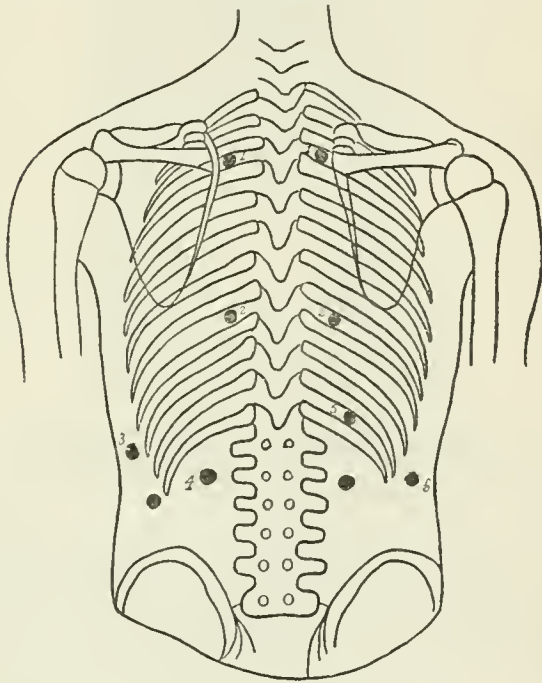


FIG. 3. 1, Upper lobes of lungs; 2, lower lobes; 3, spleen; 4, kidney; 5, liver; 6, kidney.

level between the first and fourth dorsal vertebrae for the upper lobes, and between the seventh and tenth for the lower lobes.

Liver: Place the instrument in the right scapular region at the level of the twelfth dorsal vertebrae.

Spleen: Place the phonendoscope on the left side in the posterior axillary and midaxillary lines and in the interspaces between the last ribs.

Kidneys: Place the instrument just within the semi-scapular line, immediately below the regions of the liver and the spleen.

My experience with the instrument extends to about one hundred carefully examined cases. I have examined patients with the naked ear, then with the stethoscope, and with the phonendoscope. Heart sounds have been especially studied. In cases of myocarditis, when the heart sounds could not be distinguished with the stethoscope, they have been distinctly heard with the phonendoscope, and this through several thicknesses of clothing. Murmurs which are inaudible to the unaided ear are so magnified and distinctly

reproduced as to be recognized with great ease. This will be a very substantial recommendation to physicians whose hearing is unfortunately defective. It is remarkable that there is so little disturbance and distortion of sounds when we listen through several thicknesses of material. Even fine crepitant râles may be heard with distinctness through the ordinary clothing. The heart can be examined with accuracy without disrobing the patient. I have several times detected even faint murmurs in this way and my diagnosis has been confirmed by my colleagues by observation with the stethoscope.

Another great advantage will be found in its use in the clinical lecture room. The tubes can be multiplied to any number and many students can listen to a heart or other organ at the same time, while the instructor demonstrates.

I am convinced that the phonendoscope is as great an improvement over the stethoscope as the latter was over immediate auscultation, and that we have in it a most perfect aid to accurate diagnosis.

NEW YORK, September 17, 1896.

THE VISUAL DISTURBANCES DUE TO NERVOUS DISEASES.*

BY WARD A. HOLDEN, A.M., M.D.,

NEW YORK.

IN beginning these remarks it may not be inadvisable to devote a few words to the theory of the tests of the visual field, inasmuch as it is chiefly these tests that give us information as to the location of the nerve affections causing disturbances of vision.

The light sense, as respects the power of distinguishing between two different light intensities, is most acute in the centre of the field of vision and gradually diminishes in the periphery, although even at the limits of the field slight differences in light intensity can be recognized. The color sense, as respects the ability to recognize a particular color, diminishes in the periphery of the field much more rapidly than the light sense, and at the limits of the field for white, colors of ordinary intensity in areas of moderate size are not recognized at all. If from any cause the conducting power of the optic nerve is interfered with uniformly, we find, first, that the acuteness of central vision is diminished, so that an eye with vision $\frac{20}{20}$ has now perhaps only $\frac{20}{40}$; we find, second, that the light sense is diminished in the entire field, so that a patch of pale gray which the normal eye could distinguish from a white ground at 60° in the periphery can now perhaps only be seen up to 30° in the periphery; and we find, third, that color perception is diminished, so that the field for blue is small, for red is smaller, and green is recognized only near the point of fixation. The condition then is one of relative loss of all functions in the entire field.

If we suppose the conducting power of the optic nerve to be still further interfered with, the acuteness of central vision will be further diminished, the color fields will be further contracted, the perception of green being perhaps lost altogether, and the power of distinguishing differences in light intensity will be much diminished in the entire field and altogether wanting in the periphery, where objects will not be seen. We have now not only the former relative loss of function in the entire field, but also an absolute loss of function in the extreme periphery of the field. The usual perimetric tests with a large white object will reveal only absolute defects in the field, but by using as a test object a pale gray patch or a small black point that can just be distinguished from a white

* Read before the Academy of Medicine, October 15, 1896.

ground by the normal eye at the limits of the field, the test becomes much finer and relative defects in the periphery can be made out. By using a paler gray patch and a smaller black point, or by using colors, relative defects in the intermediate and central zones will be revealed. In congenital color blindness with normal acuteness of vision the light sense is unaffected and functional tests may be made with the gray patches or black points, but in every case of acquired color blindness the color defect is accompanied with a light-sense disturbance, so that the functional tests may be done indifferently with colors or with grays and blacks.

The nature of a defect in the visual field is readily made out by standing eighteen inches from the patient and having him fix the finger held half-way between his eye and the observer's, while a card with a similar test object on each surface is brought in from the periphery in various directions, the point where the test object is first recognized by the patient being compared with the point where it is first seen by the observer, the patient's abnormal field thus being compared with the observer's normal field. For determining the exact extent of the defects and for recording them a perimeter is required. Since the field varies somewhat with fatigue, and since the errors of observation may be considerable when the fields for the different colors are mapped out successively, the relative extent of the color fields is best determined by holding a blue patch side by side with a red or a green patch and noting which color is first recognized as the two are brought in from the periphery at the same time. The normal eye will recognize blue first, red next, and green last, and this will also be the case in the contraction from optic-nerve atrophy and in other relative defects. But if there is a sharply limited absolute defect, as in hemiopia, the colors will all be recognized simultaneously at the margin of the defect; and it will sometimes happen that the red is recognized earlier than the blue, indicating a reversal of the sequence of the color fields. This reversal is due to imperfect adaptation of the retina, which is the physiological cause of the night blindness that accompanies retinitis pigmentosa and other diseases affecting the pigment epithelium. This reversal is also a symptom of hysteria.

When a colored test object is placed upon a white ground the colored patch will be seen beyond the limits of the color field as a dark spot on the white, and when it is placed upon a black ground as a light spot on the black. This renders it very difficult for the patient to say exactly where the color is first recognized. The difficulty, however, is largely done away with by putting each colored patch upon a gray ground having the same light intensity as the color. The patch will then not be seen as it is brought in from the periphery until the color is recognized, and in a scotoma for that color the card will appear uniformly gray.

In these ways we can most delicately determine the degree and the extent of defects in the visual field, and, since so many nervous diseases have visual disturbances among their first symptoms, the early determination of defects in the visual field may be of great value in diagnosis.

• In discussing the various types of visual disturbance in their connection with the lesion causing each, the subject naturally resolves itself into three parts, for some types of visual defect are characteristic of affections of the optic nerve, others of affections of the chiasm, and others still of affections in the visual path behind the chiasm. Disease of one nerve causes a visual defect in one eye only, but a single lesion in the chiasm or farther back in the visual path must cause symmetrical defects in the two eyes.

I. Diseases of the Optic Nerve.—With a diffuse

degeneration of the optic nerve, the ordinary atrophy, there is gradual failure of central acuteness of vision and peripheric contraction of the visual field, more or less concentric, the color fields being also contracted but preserving their normal sequence. The optic disc grows pale in its temporal half and later in its nasal, and finally the entire disc is white and excavated and the retinal vessels are narrow. This simple atrophy is most frequently due to a diffuse degenerative nervous disease, such as tabes, paralytic dementia, or disseminate sclerosis, and is often one of the earliest symptoms, and in tabes it is thought by some that the early occurrence of optic-nerve atrophy is an indication that the spinal lesions will be less severe and longer delayed in their development. Simple atrophy may be unilateral, but in most cases atrophy in the second eye follows later. This same peripheric contraction of the visual field occurs in post-neuritic atrophy of the optic nerve. An optic neuritis may, however, pass off without atrophy, and it is not unusual for a low degree of neuritis, probably dependent upon a meningitis, to persist for months or years without seriously affecting vision, and even the intense optic neuritis or choked disc which is a remote symptom of brain tumor may exist in a high degree without visual disturbance, but when vision is once affected it fails rapidly. This neuritis generally passes off after trephining, even though the tumor is not removed. In post-neuritic atrophy for a considerable time the outlines of the disc remain blurred and the retinal veins large. The disc is grayish-white in color and it is swollen instead of being excavated as it is in simple atrophy. The final appearance of the disc after neuritis does not always indicate the degree of visual disturbance, and occasionally after meningitis in childhood the same picture of post-neuritic atrophy is found in both eyes when one has good sight and the other is blind.

Entirely distinct in its pathology from peripheric contraction of the field is central scotoma. In the pure form there is diminished perception for red and green in the centre of the field, while blue is recognized here and the peripheric limits of all the color fields are normal. The cause of this symptom is an interstitial inflammation of the papillo-macular bundle of the optic nerve, that bundle which occupies the infero-temporal third of the disc and is then distributed to the macular region of the retina. As the inflammation advances, after a transient reddening of the disc its infero-temporal third becomes white and later excavated, while the remainder of the disc is of normal color. The pale sector remains sharply defined, so that it cannot be confounded with the diffuse temporal pallor of incipient general atrophy. The pure chronic form of this retro-bulbar neuritis of the papillo-macular bundle is usually due to tobacco and alcohol poisoning. There is never peripheric contraction of the field and until very late the central scotoma is only relative.

Central scotoma is found occasionally with disseminate sclerosis, with hereditary optic-nerve atrophy and with the acute retro-bulbar neuritis following grippe, etc. In these cases there is often an absolute central scotoma and frequently also some contraction in the periphery of the field. In simple atrophy vision once lost is usually never recovered, but in neuritis, particularly when limited to the papillo-macular bundle, lost vision may be entirely restored. In simple atrophy vision is best in a bright light, in neuritis in a subdued light.

The visual disturbances in hysteria, neurasthenia, and simulation are similar and cannot be sharply differentiated. All resemble the types of disturbance due to affections of the optic nerve. In extreme cases there will be total blindness in both eyes, of sudden

onset, although more frequently total blindness is limited to one eye. In the usual cases there is slight disturbance of vision for distant objects, more marked disturbance of vision for near objects, and concentric contraction of the field, or rarely a central scotoma. There is also fatigue of the visual field, the limits of the field varying with successive tests and gradually becoming narrower, and accompanying this there may be a reversal of the order of the color fields, that for blue being narrower than that for red. When the loss of vision is merely relative, the central acuteness may often be brought up to the normal by patiently urging the individual to read the letters lower down on the test card and by putting indifferent glasses before the eye. When there is apparently total blindness in one eye the tests for simulation will show that there is vision in each eye.

Before passing to the symmetrical disturbances in the two eyes, the unsettled question as to the existence of crossed amblyopia should be at least alluded to. Some British neurologists believe that a single lesion, presumably in the angular gyrus, can cause amblyopia in the eye of the opposite side with marked concentric contraction of the field and slight contraction of the field on the same side. Nothnagel has denied the existence of crossed amblyopia and many others have doubted it. Gowers, who is one of its chief advocates, reaffirms his belief in crossed amblyopia in his Bowman lecture of last year. He explains the amblyopia by supposing a lesion to exist in a hypothetical cortical visual centre higher than the half-vision centre in the cuneus. "Impressions seem to pass," he says, "to this higher centre in each hemisphere from both half-vision centres in the occipital lobes in such a way that in each higher centre both fields of vision are represented, but that of the opposite side in greater degree." In support of the existence of such a centre he adduces, first, hysterical amblyopia (which is now thought to be due to cortical disturbances), with which hemianæsthesia is frequent, but with which hemiopia is never found, the contraction of the fields being concentric, as would be expected if the amblyopia were due to involvement of the hypothetical higher visual centre. He adduces, secondly, the subjective visual spectra in the aura of epilepsy and in the scintillating scotoma of migraine. These visual disturbances are symmetrical in the two eyes but not necessarily hemiopic, sometimes more than half the field being involved, sometimes less, so that it is difficult to believe that they are due to involvement of one half-vision centre. The whole matter, however, is still vague, nor is it likely to be soon definitely settled.

II. Diseases of the Chiasm.—Pressure on the chiasm in front or behind, as well as pressure above or below, if near the median line, affects only the crossing fibres which are distributed to the nasal half of each retina and receive impressions from the temporal half of each field. The characteristic visual disturbance in chiasm disease is therefore bitemporal hemiopia. If the chiasm is cut through, all the crossing fibres being divided, the result is the absolute loss of the entire temporal half of each field, which is called complete absolute bitemporal hemiopia. If the chiasm is cut part way through so that only a portion of the fibres is divided, the result is the absolute loss of a portion of the temporal half of each field symmetrical for the two eyes, which is known as partial bitemporal hemiopia. If the chiasm is subjected to pressure that is sufficient to diminish but not abolish the conducting power of the crossing fibres, the result is loss of color perception in the entire temporal half of each field, while for large white objects the field is normal, which is called relative bitemporal hemiopia or hemiachromatopsia. Careful tests in this condition will reveal not only a color defect in the temporal half

of the fields but also a light-sense disturbance, pale gray patches and small black points not being perceived. Chiasm affections may thus give rise to a variety of visual affections, all corresponding to the type of bitemporal hemiopia. The simplest case is when the chiasm is slightly compressed by hemorrhage or exudation, or by the enlarged pituitary body, as we have it in acromegaly. There will then be produced a complete but relative bitemporal hemiopia. Central vision will be normal or nearly so; the field for large test objects will be normal, but colors and small test objects will not be seen in the temporal fields. If the pressure increases, the bitemporal hemiopia will become absolute, central vision will be diminished, and the optic discs will grow pale from atrophy of the optic nerves. If a malignant tumor of the pituitary body involves a portion of the chiasm, there will be at first a small absolute defect in the temporal half of each field, which will increase in extent until the bitemporal hemiopia becomes complete. The extension of the tumor involving the lateral bundles, the infero-nasal quadrant of one field is lost and later the supero-nasal quadrant, so that the eye is totally blind. Later the nasal half of the other field will be gradually lost and both optic discs will present the picture of complete atrophy.

III. Diseases of the Visual Path Behind the Chiasm.—Homonymous lateral hemiopia, the loss of each right or each left half of the visual fields, may be relative or absolute, partial or complete. It is rarely recovered from, although the defect may become smaller in the first few days. Central vision is usually normal. Homonymous hemiopia may be due to an affection of the optic tract, when the crus is likely to be involved, causing hemiplegia. It may be due to an affection of the internal capsule, when it is frequently associated with hemianæsthesia. And it may be due to an affection of the optic radiation of Gratiolet or of the cortex in the region of the calcarine fissure, when it is usually unaccompanied by other focal symptoms. If the lesion is peripheral to the primary optic ganglia, the tract atrophies and the discs grow pale. If the lesion is central to the primary optic ganglia the optic discs do not atrophy. It is also commonly stated that in lesions central to the primary ganglia the pupillary reaction to light will be normal, while in lesions of the tract there will be hemiopic pupillary inaction. But it must be said that Wernicke's symptom has not the great importance it is supposed to have, because in cases in which theoretically there should be hemiopic pupillary inaction it is often impossible to make it out with certainty. Ophthalmologists indeed have for the most part denied its existence altogether, and almost all of the cases reported have been seen by neurologists. Cases of homonymous hemiopia from tract affections are rarely seen, but bitemporal hemiopia from chiasm lesion is not rare, and most of the reported cases of hemiopic pupillary inaction, among them Seguin's often-quoted ones, were cases of bitemporal hemiopia. Here the determination of the presence of the symptom is interesting but of no diagnostic value, since the bitemporal hemiopia locates the lesion in the chiasm. In three cases of this sort I was not once able to elicit hemiopic pupillary inaction, though possibly the light was not thrown into the eye from a point sufficiently peripheric. In reading the report of Seguin's cases later, I find he states that when light reflected from a mirror was thrown into the eye at an angle of 90° to the temporal side of the line of vision no reaction occurred, but when the mirror was brought forward until the beam of light fell into the eye from an angle of 70° or 60° reaction occurred. Nor in this extreme peripheric field of 20° or 30° was reaction always completely wanting, but sometimes only less

marked than when light was thrown into the eye from a corresponding portion of the nasal field. Henschen, among others who have occasionally elicited the symptom, also describes it as being often only a less marked reaction and not complete inaction. When light is thrown into the normal eye from the extreme periphery of the field, pupillary reaction is never very marked, and often may be entirely wanting. Again it may vary greatly in the same individual, in the same conditions, and at one time be more pronounced from the nasal side and at another more pronounced from the temporal, the size of the pupil changing with the patient's constantly changing accommodation and the accuracy of the results obtained by the ordinary tests being exceedingly questionable. In order to eliminate errors due to changing accommodation and to Haab's cortical pupillary reflex, Heddaeus has recently proposed that the patient shall fix a test letter at two metres' distance, accommodating constantly for this, while two shaded lights, one to the patient's left and one to his right, are exposed alternately, and any difference in the degree of pupillary reaction noted. And it may be that, when performed with such refinements, the test for hemiopic pupillary inaction may give results sufficiently accurate to be of value in diagnosis.

There have been reported a few cases of relative homonymous hemiopia or hemiachromatopsia in which colors are not recognized in homonymous halves of the visual fields, while for large white test objects the fields are complete. Since in these cases coarse tests have not always revealed light-sense defects, it was supposed that, the cortical perceptive centres for form, light, and color being distinct, the color centre was here alone involved, or the color centre and the form centre only. Hence until recently it has been positively stated that homonymous hemiachromatopsia always indicated a cortical lesion. However, the careful examination of such cases has revealed light-sense disturbances also. In the only case that I have personally had an opportunity of examining, a patient referred from the nervous department of the Vanderbilt Clinic, there was a partial absolute homonymous hemiopia, and besides the absolute defect there were larger relative defects of different sizes for different colors, the defect for green being a complete hemiopia. But in each color defect there was a light-sense disturbance equivalent to those which accompany defects for the different colors due to lesions of the optic nerve. And there is little doubt but that light-sense defects will be found in every case of homonymous hemiachromatopsia, as they are found in every case of bitemporal hemiachromatopsia. It is difficult to suppose that a cortical lesion of two different centres could so exactly correlate the defects in color and in light sense, and it seems much more likely that further observations will lead us to the extreme opposite conclusion, viz., that hemiachromatopsia accompanied by a hemiopic light-sense disturbance must be due to an affection of the fibres of the visual path and not of the ganglion cells of the cortex. Nor does the only autopsy yet made in a case of this sort disprove this supposition.

45 WEST THIRTY-NINTH STREET.

Eating.—Children should be trained to eat slowly, no matter how hungry or what important business is pressing. Much safer a little food well ground than a hearty meal swallowed in haste. Cold food is even more difficult to digest than hot, if taken too rapidly. The normal temperature of the stomach is about 98° F.; food has to be raised to this temperature before digestion can take place.—*Medical Council.*

Progress of Medical Science.

Retropharyngeal Abscess.—Dr. Ambler says (*Cleveland Medical Gazette*) this affection is more commonly met with in children than in adults, and when occurring in the former is generally associated with a strumous diathesis.

Symphiseotomy.—Dr. Mayariet (*L'Obstétrique*, January, 1896) says that the most recent statistics are as yet somewhat discouraging. Neugebauer gives a maternal mortality of 11.1 per cent., and that of the child 19 per cent. The operations of M. Pinard and his followers in the last four years have given a mortality of 10.14 per cent. for the mothers and of 11.59 per cent. for the children. Perhaps this mortality would diminish considerably if all operators were careful and abstained from interfering whenever any unfavorable condition exists in mother or child which would compromise the success of the operation.

Bacteriology of the Hair.—Dr. L. Brocq (*Journal of Cutaneous and Genito-Urinary Diseases*, September, 1896) says that when the bacteriology of the hair is taken up various microbes are found in it. Six are, however, discovered quite constantly. These are: (1) a white fungus; (2) a yellow fungus; (3) a bacillus subtiliformis; (4) a bacillus in the form of a boat, staining with difficulty; (5) a special micrococcus, which Sabouraud designates provisionally under the name of micrococcus cutis communis; (6) the spore of Malassez, the flask bacillus of Unna, which he calls the bacillus asciformis. These two microbes, which appear to be the most important, are found in seborrheics who are not attacked with alopecia areata. No one of these microbes would have the importance of a causal agent in the disease.

Thoughts on the Origin and Spread of Contagious Diseases.—Dr. Faulds (*New York Medical News*) summarizes as follows: 1. That non-virulent microbes exist in all parts of the habitable globe. 2. That they were made disease producing in the case of cholera, small-pox, syphilis, diphtheria, and tuberculosis, in the thickly populated centres of the old world, through overcrowding and bad hygienic conditions, such as have never been known to us. 3. That the virus is always derived from a previous case, and is spread, either directly or indirectly, through human intercourse. 4. That increased vital resistance renders persons immune only in tuberculosis and other exceptional instances. 5. That if virulent bacteria could be prevented from finding a lodgment in human tissue, they would, for want of nutritive pabulum, soon return to their primitive dormant state. 6. That isolation, quarantine, and disinfection, under the direction of bacteriologists, are the only means by which we may hope successfully to prevent the spread of contagious and infectious diseases.

Suture in Veins and Arteries.—Dr. Sabanyeff, of Odessa, reports two cases of this kind. In the first the suture was applied to the femoral vein wounded during incision of the inguinal glands; in the second to the femoral artery. In the latter case the patient died from the original disease, and Dr. Padalka found by microscopical examination that the healing of the wounded artery took place from without inward. Dr. Heidenhans (*Centralblatt für Chirurgie*) cites two previously recorded cases, one involving the common femoral and the other the common iliac. He reports an instance in his own experience, in which in removing cancerous glands from the armpit an incision was made in the main artery. The bleeding was arrested by digital compression, and the edges of the arterial wound

were brought together by a continuous suture of catgut. Bleeding was thus completely arrested. The lumen of the vessel was not apparently diminished. The sutures held in spite of strong arterial pulsation. The patient made a good recovery. The axillary artery could be felt pulsating along the whole extent of the armpit.

Infection by Pets.—Cats have been suspected of conveying the infection of diphtheria, and scarlet fever has been traced to them. To this may be added the unwelcome news that a health officer has reported a case of small-pox which has been brought about in the same way; that is to say, by a cat from an infected house entering a neighbor's.—*Popular Science*.

Cerebral Concussion.—Kramer's study of cerebral concussion is summarized as follows in the *Lancet-Clinic*: A blow on the head produces a momentary increase of intracranial tension and consequent compression of the brain as a whole. The effect of this compression is to cause an interference with the blood supply to the entire brain, and this is sufficient to account for the primary symptoms of cerebral concussion. The so-called syncopie death, after severe concussion, is produced by a paralysis of the respiratory centres, the cardiac centres remaining intact. This fatal result may, in many cases, be prevented by the prompt institution of artificial respiration.

Seminal Vesiculitis.—Dr. Eugene Fuller (*Journal of Cutaneous and Genito-Urinary Diseases*, September, 1896) describes several operations, and draws the following conclusions: 1. Chronic non-tuberculous cases of seminal vesiculitis can be successfully and satisfactorily treated by extirpation of the sac. 2. Such an extreme measure, however, should be reserved for extreme cases, associated with serious or severe subjective symptoms. 3. Before resorting to extirpation the patient should have the benefit of the stripping treatment, if his circumstances allow it, and extirpation should be advised only in case the stripping treatment proves unsatisfactory. 4. In performing the operation the Kraske incision is the method advisable.

Cystitis in the Female.—Dr. Hersler's plan of treatment is thus outlined and recommended as giving the best results: (1) To remove any discoverable source or sources of irritation which act through the medium of the urine. This may be effected by a milk diet and a discontinuance of the use of acids, pepper, etc. Any mechanical source of vesical irritation should receive appropriate treatment. (2) The urine should be rendered bland by the use of a milk diet, the ingestion of considerable quantities of water, the administration of potassium citrate if the urine be too acid, or of boric acid and salol if it be alkaline. (3) Pelvic congestion should be relieved by hot vaginal douches, placing the patient in the knee-chest position, and the correction of constipation. (4) The inflamed cystic mucous membrane may be relieved by the administration of boric acid, sandalwood oil, copaiba, or creosote by mouth; or the use of injections of boric acid, carbolic acid, or nitrate of silver in suitable strengths. (5) The patient's general health should be improved by tonics, etc. (6) Rest in bed, especially in all acute cases, is absolutely imperative. While advocating direct local treatment for cases of cystitis which do not readily respond to ordinary therapeutic measures, I must advise that it should be employed with judgment and caution.—*American Journal of Surgery and Gynecology*.

Treatment of Ileus.—Naunyn (*Separat-Abdruck d. Mittheil. aus d. Grenzgebiet d. Med. u. Chir.*, I. Bd., 1896) gives the following set of rules for the treatment of ileus: 1. The prognosis of the operative treatment

of ileus is most favorable on the first and second day of its existence; it is markedly worse on the third day. 2. Seventy-two per cent. of the recoveries are obtained in those cases in which obstruction is due to a rupture, not including cases of strangulated hernia. 3. In primary peritonitis, this condition and not the resulting ileus must determine the operation. 4. (a) In chronic intestinal stenosis the necessity for an immediate operation does not often arise; (b) the seat of obstruction can usually be made out exactly, if it is located in the duodenum, descending colon, sigmoid flexure, or rectum; otherwise it can only be guessed at; (c) strangulation can often be diagnosed, and demands immediate operation. 5. An exact diagnosis of ileus is possible when it is caused by foreign bodies, e.g., gall stones, volvulus of the sigmoid flexure, and intussusception. Of treatment other than surgical, Dr. Naunyn says: 1. Avoid cathartics. 2. Large enemata of water or injections of oil, five to sixteen ounces, are better. Injections of air are less serviceable. 3. Opiates should not be given in large doses. 4. Washing out the stomach is recommended whenever there is faecal vomiting or the stomach is overdistended. 5. Food and drink should be reduced to the minimum. 6. Puncture of distended intestinal coils is of doubtful value.

Anæsthesia.—The *Medical and Surgical Reporter* gives the following instances in which chloroform is the preferable anæsthetic: 1. Chronic endarteritis occurring in those advanced in years. 2. Chronic inflammatory affections of the respiratory tract and advanced pulmonary disease. Of course, acute catarrhal affections of the respiratory tract are equally forbidding to the use of ether: but a patient suffering from such an acute inflammation should, unless delay were hazardous, be cured of his catarrhal condition before being subjected to any operative interference requiring a general anæsthetic. 3. Renal disease, acute or chronic. 4. When there is a history of ether having been taken badly at some former operation. 5. Chronic alcoholism. 6. Those cases in which the galvanic cautery is to be used in the neighborhood of the mouth or ear passages. 7. Cerebral tumors or abscess. 8. In old age. 9. In puerperal eclampsia where an immediate effect is required. 10. Night operations with artificial light. 11. During labor. 12. In military and naval practice, on the field of battle, its use seems to be at times justified, although strongly contraindicated.

The following conditions are looked upon as peculiarly unsuited for its administration, if not, indeed, prohibitive: 1. Surgical shock. 2. Epilepsy. 3. Spina bifida and hydrocephalus (Morton). 4. When there is a tendency to syncope. 5. Fatty heart and chronic valvular disease. 6. Acute alcoholism: Delirium tremens (Sansom). 7. Fatty liver. 8. It is unsafe to give chloroform to a patient already under the influence of chloral, whether in obstetrical practice or otherwise.

Curettage as a Method of Inducing Abortion.—Dr. Puech presents the following conclusions in the *Annali de Gynecologia et Obstetrica*: 1. Curettage should have a place among the approved methods of artificial abortion. 2. Before the fourth month it is efficacious and free from danger. 3. It should be adopted, particularly whenever rapid evacuation of the uterus is indicated. 4. It should be adopted whenever economy of blood is especially indicated—in anæmia and feebleness from any cause. 5. In intractable vomiting; particularly is it indicated for two reasons advanced—rapidity in performance and economy in blood.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MENTAL THERAPEUTICS.

THE wonderful influences of the mind on the complex nutritive processes and on the various diseased conditions of the body are readily acknowledged by every observing physician. The old saw, faith in the medicine and confidence in the doctor, has not only a foundation in fact, but an explanation in science. The more we think on the possibilities of mental therapeutics, the more we become convinced of its wide range of practical application. So much advantage, however, is taken by quacks and other pretenders of the well-known credulity of their victims, that the truly scientific observer has been loath to investigate the subject in the calmness of a judicial examination or with the unprejudiced aim of a seeker after fundamental truths. That the general subject deserves more earnest attention at our hands must be apparent to every thoughtful man who endeavors to explain certain nervous phenomena of almost daily occurrence, but which on casual examination appear beyond reasonable comprehension. Such, at least, is the conviction of Dr. A. T. Schofield, who, in an address on "Mental Therapeutics," published in a recent issue of *The Lancet*, strives to aid investigators in this new and attractive field of study. It will not be necessary for our present purpose to do more than offer in outline some of the main points upon which he bases his argument in proof of the intimate correlative agencies affecting mind and body and their direct bearing on both the natural and the perverted nervous tendencies. He starts with the assumption that the conscious mind, or ego, is but a very small part of the vast subconscious mind upon which it rests. The former has its seat in the cortex only, governing reason, feeling, and volition, while the latter "is connected with—or may we not say is the active principle of?—all life that lies below, including reflex action." While it is not possible to be conscious of any vibrations that do not reach the surface of the brain, the vast majority of impressions are directly and uninterruptedly transmitted through it to the subconscious mind, which thus becomes the storehouse and registry of all those intricate and complex energies which make up the responsive vital reflex of our varied and impressive environment. Although full consciousness is the result of the combination and interaction of the two conditions named, the conscious mind so-called becomes

a party to the impression only when the latter is focussed on the cortex by the direct attention of the individual affected. To go a step farther, the author assumes that the cortex not only receives impressions from without in a primary and direct way, but is also subjected to like impressions secondarily and indirectly from the subconscious mind. In the one case, there is an immediate and easily understood recognition of the impression, while in the other the phenomenon is not only without explanation to the individual, but is entirely beyond his control. In the latter category are mentioned unconscious habits, unconscious cerebration, and the like. The conscious mind, when it wills, dominates the unconscious, and thus in its own imperious way interprets sensations to suit its purposes, diverts normal processes into abnormal directions, changes the rhythm of vital processes, disarranges the nutritive machinery of the body, and even tampers with the pain signals in its mad misrule. Dr. Schofield says truthfully:

"The cortex, or surface of the brain—the seat of conscious mind—is a special factor for good or evil in every disease. Every organ and function is represented there, and there brought into vital unity. Professor Laycock says: 'The hemispheres, as the organ of thought and mental action proper, are in unity with all the processes of life whatever, whether they be termed vegetative or animal.' Indeed, the unity of the body and to a great extent of the 'ego' is formed in the cortex. Bain shows that all tissue nutrition is influenced from this great centre, and most physiological acts can be arrested mentally by its action. It controls unconsciously anabolic and katabolic cell action; and there is no doubt that a sound, cheerful mind, acting through it, is a great protector against disease of all sorts, and if disease has a hold a cheerful mind can often cure it. Mental therapeutics can be applied to the body in one of three ways: (1) By the unconscious mind directly—in spiritual or physical influences and surroundings; (2) by the unconscious mind acted on by the conscious indirectly—in rousing faith in persons, remedies, or places, etc.; and (3) by the unconscious mind acted on by the conscious by direct effort—in determination to get well, to shake off illness, ignore pain, etc. With regard to the ailments for which mental therapeutics is useful, it is a powerful means of cure in all organic and inorganic diseases, while in hysteria and allied neuroses it is the only reliable means of permanent efficacy."

He then gives several interesting instances of the influence of mind, conscious and subconscious, in ordinary disease and on the natural habits of thought and action in the human organism.

"A patient suffering agonies with toothache was told by her medical man to apply to the tooth a silver coin wrapped in silver paper. Believing it to be infallible, she did so several times and was relieved. One day, however, she was told the remedy was wholly mental, and at once it was powerless. Here is an instance of the pernicious effects of the conscious mind inhibiting after first aiding the subconscious. Unzer, in 1771, says: 'The expectation of the action of a remedy often causes us to experience its operation be-

forehand.' I have just received a remarkable illustration of this, that, however, goes beyond this statement. A colleague of mine gave a patient the other day some opium pills to produce sleep, but forgot to mention their object. Last week he found the pills had acted well each morning, but the patient had had no better sleep. Another patient thought she had taken a large dose of rhubarb as a remedy for constipation, and the thought was effectual. Hunter says: 'By my will I can fix my attention on any part until I have a sensation in that part;' while Müller affirms that it may be stated as a general fact that any state of the body which is expected with certain confidence will be very prone to occur as the mere result of that idea. It is easy to produce symptoms by suggestions. If, for instance, you press some particular part of the spine of a neurasthenic and say, 'Do you feel any pain here?' he may say, 'No.' But if you persist in your suggestion for half a dozen times, and the nervous centres are at all susceptible, he will say, 'Yes,' and the pain suggested by you will be felt. Now this is true with regard to producing cures as well as in producing diseases. The action of the subconscious mind in presenting a fact to the conscious mind is remarkably illustrated in a recent story of Sir R. Quain's. He was sent for by a man, aged forty years, who had a delusion that his body had a most offensive smell, and he even covered up his pictures lest they should be tainted. No smell could be perceived, but a most fetid iliac abscess was found and opened. His idea, therefore, was not a delusion, but a recognition through his subconscious mind of his condition."

By way of illustrating the power of suggestion in the treatment of so-called imaginary troubles, he mentions the value of the time element in connection with the watching of the mantel clock for indications of dosage:

"The real value of the clock in this, as in other cases, is truly scientific, and depends for its potent effects on rapidly formed accurate psycho-physical habits, or artificial reflexes, in the brain. A woman about seventy years of age came to me in deep distress about her obstinate constipation, which was so severe that every enema and pill had failed and mechanical evacuation was the last resource. This condition had continued for some years. The patient was of exceptionally powerful mind and will and remarkable intellect. Seeing this, I relied upon the clock as an efficacious aperient. I explained the power of an exact habit over the bowels, and told her she would be cured if at 9:30 A.M. exactly by the clock on the mantelpiece she sought relief each morning. She was at first aided artificially at the exact hour, but after a few mornings when 9:30 A.M. arrived, and she was taken out of bed, the bowels began to act, only she sometimes wanted to relieve them before the hour. This was never allowed; she was told that to be too soon would prevent the result as much as being too late. At the end of six weeks the bowels were duly relieved without medicine at half-past nine exactly, by the power of subconscious habit, and at the end of six months she had never missed a day. She has now no further trouble."

It is probably within the experience of many of our

readers that similar cases are to be found, in which the method of dosage was more than the dose itself, the placebo more powerful than the real drug, and, best of all and at the bottom of all, the belief that the doctor understood the case and knew exactly the best remedy to give. It is fair to assume, if the range of psycho-physical ailments is great, there should be an equal power of mental therapeutics to cure them. The highest recommendation for mental therapeutics is that it is not dangerous, that it is susceptible of further profitable cultivation, and that it may serve in many obscure and apparently desperate cases in effecting a cure when all the usual means have failed.

THE DIAGNOSIS OF TYPHOID FEVER.

An interesting experiment in the blood-serum method of diagnosis of typhoid fever has just been instituted by the board of health of the Province of Quebec. In the circular issued by the board it is explained that Pfeiffer and Widal have discovered that the addition to a pure bouillon culture of typhoid bacilli of blood-serum from a person suffering with typhoid fever causes an abolition of the active movements of these bacilli and an agglutination of the individual organisms into large clusters. This effect is not observed when blood serum from a healthy person, or from one suffering with a febrile disease other than typhoid fever, is added to such a culture. In the method originally employed by Pfeiffer a rather complicated technique was necessary to secure pure serum, but this was greatly simplified by Widal, who found that the test could be made equally well by means of a few drops of blood collected in a sterilized glass tube. Even with this advance the method was still not sufficiently simple to permit of its general employment as a reliable diagnostic measure. Dr. Wyatt Johnston, of Montreal, bacteriologist of the board of health, has recently shown, however, that a drop of typhoid blood which has been dried for several days will give this reaction promptly when moistened with water.

This discovery makes the method applicable to a system of public laboratory diagnosis similar to that now practised in many cities in the case of diphtheria, and the board of health has therefore determined to make a test of the method on a large scale. For this purpose it has distributed a number of envelopes containing a folded sheet of sterilized paper. A physician who has a case of suspected typhoid fever is instructed to cleanse thoroughly the tip of the patient's finger or the lobe of his ear, and, after carefully drying, to prick it with a needle sterilized in the flame. The blood so obtained is dropped on the paper and when it is dry the latter is folded and enclosed in an envelope directed to the laboratory of the board. There it is examined and a report is returned to the physician the following day.

The board desires, through this public proving of the test, to obtain data upon a number of points, and it asks those taking advantage of the offer made to them by the board to do all in their power to aid this inquiry. The following are the questions upon which

it is hoped to obtain some light: 1. The proportion of cases in which a correct diagnosis can be made by the serum test, and the relative efficiency of the method of employing dried samples. 2. The earliest period in typhoid fever at which it can be expected to give indications. 3. The length of time for which it persists after convalescence. 4. The existence of any relation between the intensity of reaction with the test and the course of the disease. 5. The study of the nature of the obscure febrile conditions, clinically termed gastric fever, continued fever, abortive typhoid bilious fever, typho-malarial fever, etc., about which our present knowledge is very meagre and unsatisfactory.

The results of this experiment will be looked for with interest, for the advantage of a reliable means of diagnosis of typhoid fever in its early stages can readily be appreciated.

HOT ROOMS AND CATCHING COLD.

WE are so accustomed to the formula that American houses are always overheated, and it has become so much the fashion among medical men to attribute catarrhal troubles to this cause, that it is interesting to learn of an English writer who thinks it is better to be warm than cold in winter. Dr. William H. Pearse, writing in the *Scalpel* for September, says that he ventures to differ from the popular belief, that there is special danger in going from a hot room into the open air, holding, on the contrary, that the heat of the room or house is a great preservative from chill or "catching cold" on going out into the open air. In Russia, in Central Europe, Canada, and the Northern United States, houses are made very warm with a dry heat in the winter, yet men, women, and children go out into a temperature below zero. The stimulation and heightened condition of the circulation and nerves, and ultimate molecules of protoplasm, give a great power of resistance to the outer intense cold, preventing "chill" in the first exposure until exercise with its infinite motions, as it were, takes up and maintains the conditions of resistance. Dr. Pearse says that he has walked at midnight from a highly heated mansion across Boston Common, in his dress coat only, on a calm starry night, the temperature about zero. He suffered no inconvenience and felt sure that the stimulus of the heat of the house gave him power of resistance to the cold.

Dr. Pearse is undoubtedly correct in his observation that one can come from a hot room into the cold outer air and run but little chance of catching cold. The danger is rather in entering a hot room from without, and especially in entering an overheated and unventilated apartment filled with excrementitious products from the lungs and skin of its inmates. A change from a hot to a cold atmosphere can be made suddenly, but that from extreme cold to indoor heat should be made gradually if one would avoid the catarrhal consequences of "catching heat."

A Woman's Bicycle Class in first aid to the injured is an indication of the progression of the wheel.

REVISION OF CODES.

OUR good brethren across the water are at present very much interested in the revision of their codes of ethics, in the hope of adapting them more nearly to the present requirements of medical men. It must be confessed that these documents read exceedingly well, the principles they contain are lofty and pure, the lines of action straight and distinct, and their general purposes laudable and just. The great difficulties, however, are in their practical application. The evil doer is apt to interpret the law to suit his own requirements, and hence the differences of opinion as to where the real boundary between right and wrong should be drawn. This, however, does not apply to the man who acts his best under all circumstances. The gentleman does not need a law of conduct, and the one who is not a gentleman can never be raised to the common ground of honesty, high morality, culture, or fair play. It is the golden rule, after all, when it can be properly applied. Any doubtful question can easily be answered on such a basis. How would you like it yourself? is a very direct question to the man with an elastic conscience and an easy adaptability to tricky situations. Even the ten commandments are nicely balanced on the "Do-unto-other" principle. We know of lots of good men and true who need no other code—men whom we are always glad to meet in council, whom we can always trust alone with our patient, and in whose mouths our professional character is always safe. It is not What code do you follow? but What kind of man are you?

THE WINTER HEALTH RESORTS.

IN the present issue we publish an account of the principal winter health resorts of this country, as a companion article to "Summer Health Resorts," which appeared in these columns several months ago. It has been truthfully said that on this continent there can be found every variety of climate during the year, suitable not only for the most exacting requirements of every class of invalids, but for such as require merely those changes of environment necessary for simple rest and needful recreation. So much is being done to advertise the special advantages of particular localities by parties interested in their development, that it is oftentimes difficult to select such on the basis of simple and well-established merit. The writer of the article in question has endeavored, very successfully, to be absolutely impartial in his statements, and with no other end in view than that of obtaining reliable data has merely presented them for what they may be worth, leaving each reader to choose for himself and adapt them to the individual cases seeking his advice. Climate cure, like every other means to the end, demands careful study and judicious application. The physician should be able to select his climates with as much certainty as his other remedies. To such an end the data have been collected, and it is to be hoped they will serve their purpose, not only for present study but for future reference. The American people are notoriously a nation of travellers during all seasons of the year, and

it behooves the physician to be acquainted with the more frequented regions, their mean temperature, altitude, scenery, and conveniences, in order to advise those who go for pleasure as well as for health. Aside from this, we trust that the accounts given of the varied attractions of the different resorts will afford interesting and profitably suggestive reading to such as may believe in voyages of discovery and may yearn for the new experiences which are their legitimate rewards. The tired doctor, above all, may need, in the midst of his winter's work, just the little trip which may be thus suggested to him, the taking of which may, perchance, still longer delay the inevitable obituary.

News of the Week.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending October 24, 1896: Assistant Surgeon M. S. Elliott, ordered to the naval laboratory and department of instruction, New York.

Dr. Milton E. Artman, of Buffalo Creek, Col., died from pulmonary hemorrhage on September 29th. He was a graduate of the College of Physicians and Surgeons in this city, and served as interne in Bellevue Hospital. He practised for three years in Rochester, but, his health failing, he went to Colorado about two years ago.

Medical Practice in Victoria.—The Melbourne correspondent of the *Medical Press* draws a very long face over the state of the medical profession in that colony. He says the doctors are too thick on the ground, and consequently the normal competition has grown into a struggle for existence. The population of the colony hardly reaches a million and a quarter, and the number of qualified practitioners is one thousand and seventeen. The number increases by about sixty yearly, which is out of proportion to the growth of the general population. It appears also that the physicians of the younger generation, or some of them at least, have been encroaching upon the correspondent's clientèle, for he says that the city is flooded with young men who neglect no opportunity of bringing themselves into conspicuous notice; and, more than all that, "the younger members of the profession have not only no reverence for their elders, but, on the contrary, look down upon them as unprogressive fossils, and comport themselves accordingly."

The Body of George Du Maurier, the artist and author, who died recently in London, was cremated, in accordance with his often expressed wish.

Prophets Not without Honor.—When Crown Prince Frederick of Germany was suffering from cancer of the throat, he sent to England for a laryngologist; when the Tsar of Russia was ill, he had his own physician, but sent to Berlin for a consultant; and now Queen Victoria is suffering from failing vision, and has sent to Germany for an oculist, Dr. Pagenstecher, of Wiesbaden, to examine her eyes. The

Medical Times says that there is a pamphlet in circulation in which many of the leading oculists of England are spoken of in disparaging tones, and it is intimated that the Queen was influenced by that to send abroad for advice.

An Epidemic in Merv.—A telegram from Merv, dated October 1st, states that during the past two months a malignant fever has raged among the Turcomans, nearly ten thousand persons having been carried off. Most of those attacked are children. A similar violent outbreak of fever occurred in 1893.

International Congress of Hydrology, Climatology, and Geology.—At the session of this congress, held during the last week of September, at Clermont-Ferrand, France, the following officers were elected:

Hydrology: *President*, Dr. Cazan (Eaux Bonnes); *Foreign Honorary President*, Dr. Jules Felix (Belgium); *Vice-Presidents*, Dr. Ferres Luchon (France), and Dr. Pinella (Spain).

Climatology: *President*, M. Hurion, director of the Puy de Dôme observatory; *Foreign President*, M. Lancaster (Belgium); *Vice-Presidents* (France), MM. Plumandon and Piche; *Vice-Presidents* (foreign), MM. Angel Anguano (Mexico) and Faralli (Italy).

Geology: *President*, Dr. Labat; *Honorary President* (foreign), Dr. M. E. Tietze (Austria-Hungary).

President of the Congress (national), Dr. de Ranse; *Honorary President* (foreign), Dr. Berthenson (Russia); *Vice-Presidents* (national), M. Linder (inspector-general of mines), M. Angot, and Dr. Garrigan; *Vice-Presidents* (foreign), Professor Ludwig (Austria-Hungary), Professor Kuborn (Belgium), and Laurence Rotch, director of the observatory of Blue Hill (United States).

The London School of Medicine for Women has recently received a gift of \$5,000 from a lady of wealth who had been attending some of the lectures.

Diphtheria is prevailing to an unusual degree in London, the mortality from the disease during the first week in October having been greater than that of any week this year.

The Women's Medical Institute in St. Petersburg, recently established, is forbidden by its regulations to receive any students who are not of the Christian faith. A petition signed by the Jews resident in Odessa, praying for the admission of certain women of their belief, has been rejected.

The Water Supply of Denver, according to the *Colorado Medical Journal*, is as bad as that of Chicago. For years, says our contemporary, the citizens of Denver "have been led to believe that they were drinking pure mountain water, piped directly from the snow-capped peaks in the mountains. Such a monstrous lie was never before circulated. Instead of pipes, are open irrigating ditches; instead of mountain water, pond and contaminated river water is the source of supply."

St. Joseph's Hospital, New York.—Dr. Alfons Müller has been appointed visiting physician to St. Joseph's Hospital.

Dr. Carl von Kupffer, professor of anatomy in the University of Munich, has been elected rector of the university for the coming year.

The Jubilee of the Pathological Society of London was celebrated on the evening of October 24th. There was a reception and an address was delivered by the president, Mr. H. T. Butlin.

To Investigate a Consumption Cure.—Drs. Bouchard, Chauveau, and d'Arsonval have been appointed a special committee by the Academy of Science in Paris to report on the alleged cure for consumption practised by Dr. Crotte. His method comprises the use of electricity and antiseptics, the electricity being employed to open the way for the parasiticide.

Typhoid Fever in Madeira.—A correspondent of the *Medical Times* writes that the water in the Island of Madeira is very bad, and that typhoid fever prevails there to a very great extent. Last spring there were four deaths in four weeks among the English visitors, and that the danger still exists is shown by the fact that one of the English resident physicians is just convalescent from an attack. One fatal case, it is stated, was directly traceable to drinking a glass of water.

The Jubilee of Anæsthesia.—The following congratulatory cablegrams were read at the exercises in Boston, on October 16th, in celebration of the semi-centennial of the first operation performed under ether:

"CHRISTIANIA, October 16, 1896.

"TRUSTEES AND STAFF, MASSACHUSETTS GENERAL HOSPITAL, BOSTON: Best congratulations on fiftieth anniversary.

"CÆSAR BOECK."

"MOSCOW, October 16, 1896.

"BOSTON, MASSACHUSETTS GENERAL HOSPITAL. COLLINS WARREN: The Moscow Surgical Society, at a special meeting held in honor of the fiftieth anniversary of the introduction of anæsthetics, celebrates the memory of Morton and Simpson, the great benefactors of mankind. It greets the committee and wishes it every success in its labors on behalf of science, which knows no geographical boundary.

"DIAKON, *President*.

"WARNECK, *Secretary*."

Mr. Thomas Bryant has been appointed surgeon-extraordinary to the Queen, and is thereupon made the subject of the following puff-extraordinary in the *London Star*: "It has been said of the new surgeon-extraordinary that his services are in such request that he wears out six pairs of carriage wheels in a year. He is not one of the showy surgeons, but a business-like, sturdy man of large experience, whose long professional life and freedom from fads have endowed him with much professional skill, and who has filled most places of honor to which surgical distinction leads in his time. Mr. Bryant is above the middle height, broad-shouldered, and erect, with hair shaded with gray, and firm, full lips. He lives in Grosvenor Street, and has a kindly and sympathetic manner."

Dr. A. Jacobi, in an address at the dedication of the Bender laboratory connected with the Albany Medical College, October 27th, referred to matters of hygiene, and dwelt upon the part taken by laboratory workers in bringing hygiene, and the etiology and prevention of disease up to their present high standard. He pointed out the shortsightedness of laws which would restrict vivisection in laboratories devoted to the advancement of science, the prolongation of human life, and the abolition of suffering.

An Anæsthesia Number.—The October issue of *The Practitioner* is devoted to the jubilee of anæsthesia, and contains the following articles: "The Past, Present, and Future of Anæsthesia," by Frederic W. Hewitt; "The Work of Simpson, Snow, Lister, and the Hyderabad Chloroform Commission," by George Rowell; "The Administration of Ether," by F. Woodhouse Braine; "The Principles of Ether Administration," by George H. Bailey; "The Story of the Discovery of Anæsthesia," by Dudley Wilmot Buxton; "Anæsthetics in Operative Surgery," by Frederick Treves; "Anæsthetics from the General Practitioner's Point of View," by Alfred Hartley; "The Need for Better Instruction in the Administration of Anæsthetics," by Marmaduke Sheild; "Hypnotic Anæsthesia," by J. Milne Bramwell; and "The Present State of the Law as to the Administration of Anæsthetics," by R. W. Turner. There are also bibliographical sketches of the "pioneers of anæsthesia," William Thomas Green Morton, Horace Wells, Sir James Young Simpson, John Snow, and Joseph Thomas Clover. The first administration of ether in England to induce anæsthesia, the editor writes, took place on December 19, 1846, at 24 Gower Street, London, the house of Dr. Boot, to whom the news of Morton's discovery was communicated by the late Dr. Bigelow, of Boston. The agent was administered to a Miss Lonsdale by Mr. Robinson, a dentist, who extracted a molar tooth from her lower jaw while she was under its influence. On December 22d Robert Liston amputated a limb under ether in University College Hospital, and so intense was the emotion of the great surgeon on the occasion that when he turned to address the spectators after the operation he could hardly speak. The administrator was Dr. William Squire, who is still living.

Southern Surgical and Gynecological Association.

—The ninth annual meeting of this association will be held in Nashville, Tenn., Tuesday, Wednesday, and Thursday, November 10, 11, and 12, 1896. The Nicholson House has been selected as headquarters for the association. Those who contemplate attending the Pan-American Medical Congress, to be held in the City of Mexico, November 16th–19th, will have time to do so after the meeting of the Southern Surgical and Gynecological Association. A rate of one fare the round trip has been made on account of the congress, stop-over privileges being allowed the holders of tickets. The president is Dr. E. S. Lewis, of New Orleans, La.; and the secretary, Dr. W. E. B. Davis, of Birmingham, Ala.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 15, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

The Relations of Diseases of the Eye to General Diseases.—In connection with this subject three papers were read, the first one being on

The Effects of Extrinsic Poisons on the Eye.—

DR. J. H. CLAIBORNE was the author. The list of agents which when taken into the system produced disturbance of vision was a long one. He would speak of the more frequent ones, and in doing so would acknowledge indebtedness for much of the information to the works of De Schweinitz and Wood. The importance of the subject appeared from the brief summary with which the author concluded his paper: 1. There were certain poisons which, when introduced into the human system, produced characteristic toxic symptoms in the eye. 2. These poisons were divided into two grand divisions: (a) Those which produced organic changes in the optic nerve and retina. (b) Those which produced no organic changes but whose effects on the eyes was only functional. 3. The majority of these poisons were found in the list of medicinal remedies.

Among the agents in the first division which the author dwelt upon were alcohol and tobacco, which occupied respectively first and second place. The habit of taking many small doses of alcohol a day, particularly before meals, was most likely to produce retrobulbar optic neuritis. This was illustrated in bartenders. Idiosyncrasy had something to do with it, for some persons drank all their lives and were not thus affected, while others suffered after limited indulgence. Most cases occurred between forty and fifty years of age, and men were naturally affected oftener than women, because the latter were less addicted to alcohol. This was equally true of tobacco amblyopia. Those who smoked short pipes and strong cigars were more likely to have amblyopia than those who did not. Some claimed to be able to distinguish between alcohol and tobacco amblyopia. The first symptom complained of was indistinctness of vision, and the patients were apt to come for glasses, especially if presbyopic, as they usually were. Perhaps the most distinctive symptom was inability to recognize red and green—central scotoma for these colors. The ophthalmoscope would show optic neuritis, but it was a question whether this form of optic neuritis alone would ever lead to complete blindness. It was well to look to syphilis as a combination, for tobacco, alcohol, and syphilis frequently went together. For his own part he had no faith in the word of chronic smokers and drinkers when questioned as to their venereal history.

Quite a number of cases of amblyopia from carbon bisulphide, used chiefly in the manufacture of vulcanized rubber goods, had been reported. Perhaps chloride of sulphur, associated with it, had something to do with the ocular symptoms. Some other agents named in this class, but less certain in their action, were hashish, cannabis indica, iodoform, arsenic.

Lead was apt to affect sight as well as to produce muscular paralysis. Quinine occasionally caused amaurosis, the dose necessary to do this varying with the idiosyncrasy of the patient. The author's case was the only one on record in which the blindness continued two years. Further, among the agents of the second division, Dr. Holden mentioned the venom of serpents, ergot, absorption of mercury rarely, male-

fern, pomegranate, belladonna, hyoscyamin, duboisine, cocaine, ptomaines from eating spoiled fish, etc. Among agents which produced contraction of the pupils were opium, chloral and its hydrate, eserine, pilocarpine, strychnine, and nicotine.

The poisons which produced variable eye symptoms constituted a long list. Among them were santonin, anilin, naphthalin, bromide of potassium, picric acid, amyl nitrite.

Eye Diseases Seen in Some of the General Infectious Diseases.—DR. CHARLES J. KIPP, of Newark, read the second paper, or as much of it as the time would permit. He said it contained nothing new. Beginning with the eruptive fevers, in measles a catarrhal inflammation of the conjunctiva was regularly present before the appearance of the eruption, and usually went away in the course of a few weeks. In exceptional cases it persisted for months. If ulcers of the cornea should form they might lead to its destruction if maltreated, as in one case which he had seen. Meningeal or cerebral complications might lead to atrophy of the optic nerve and blindness. Rapid and destructive suppuration of the cornea, also gangrene of the lids, acute inflammation of the lacrymal glands, and albuminuric retinitis had been seen in measles.

In scarlet fever inflammation of the conjunctiva was present in many cases during the eruptive stage, but by no means so often as in measles or small-pox. Blindness had often been observed when the scarlet fever was accompanied by renal disease, and optic retinitis with more or less impairment of sight had been observed during convalescence when no signs of renal disease were present. Albuminuric retinitis was more likely to be seen later. Dr. Kipp had seen one case of embolism of the central retinal artery in the left eye on the thirteenth day of the fever, without signs of renal or cardiac disease. One similar case was on record. Pustular inflammation had occasionally occurred in the lacrymal gland, on the cornea, etc.

The affections of the cornea might be said to be the most dangerous of all the lesions seen in small-pox. Circumscribed ulceration and infiltration of the cornea was most commonly seen about the fourteenth day. Dr. Kipp had seen a number of cases, and they were characterized by the slowness of repair, four to six months, or even more, elapsing before the cornea healed. In two there was total destruction of the cornea. Disease of the uveal tract was occasionally met with. The course of iritis was, on the whole, favorable. Pustules on the lids should be opened and treated with some simple ointment. Hyperæmia of the conjunctiva was nearly always present.

With the exception of a mild form of conjunctivitis, affections of the eye were rarely observed in typhoid fever. During and after convalescence weakness of accommodation, transient amaurosis, optic neuritis, ulcers of the cornea, and iritis had occasionally been observed. Optic neuritis might be due to meningitis, which was not infrequently mistaken for typhoid fever. Dr. Kipp also read on diseases of the eye in septicæmia.

The Visual Disturbances Due to Nervous Diseases.—DR. WARD A. HOLDEN treated of this subject in a technical way (see page 626).

A Warning to the Youthful Smoker.—DR. HERMAN KNAPP opened the general discussion. With regard to blindness being permanent in simple optic atrophy, he had seen one case in which the sight in one eye returned in two-thirds degree, the other remaining totally blind, the original cause being, it was said, meningitis during childhood. But he had never seen the optic atrophy of locomotor ataxia improve. If Dr. Kipp meant to say that septic irido-choroiditis

was mostly fatal to sight he could agree with him, but if he stated that it was always fatal to sight he must disagree, for in one instance he had known the sight again to become and remain good. He had never seen total blindness from tobacco or alcohol. Scarcely a case of tobacco amblyopia in his experience had occurred in a person who did not begin the habit before the twentieth year, most of them before the age of thirteen or fourteen. In tobacco and alcohol cases it was the central field which was affected, in quinine amblyopia it was the peripheral field. Those who drank and smoked much could not see so well during the day, but could see better comparatively at dusk. Another symptom was premature presbyopia. They had to use glasses five to ten years earlier than their state of refraction would warrant. Dr. Claiborne had mentioned some poisons with which Dr. Knapp had had no experience, but one he had not mentioned, namely, coal gas. He had seen one case of amblyopia due to inhaling coal gas in a sleeping-room.

DR. JOSEPH COLLINS mentioned a case of tumor of the aqueduct of Sylvius and immense internal hydrocephalus, with pressure on the optic chiasm, which did not cause visual disturbance until a few days before death. He could corroborate Dr. Claiborne's statement that there might be optic neuritis without much disturbance of vision; also as to the effects of tobacco and alcohol. He was unable to comprehend how sight could be recovered in the case of blindness attributed to early meningitis in Dr. Knapp's case, in view of the fact that the neuraxon when once destroyed could never be regenerated. The necessity for a thorough examination of the eyes was shown by the case of a girl who went to an ophthalmologist for failing vision and he treated her for hypermetropic astigmatism. Six months later she was seen by Dr. Collins, who discovered signs of cerebellar disease, and the diagnosis was further confirmed by an examination of the eyes made by Dr. Holden. To-day there was complete blindness from optic atrophy. Dr. Collins invoked a higher centre than the visual centre in the cuneus in explanation of crossed amblyopia. Regarding hemiopic pupillary reflex, he said great care was required to elicit it.

DR. T. M. POOLEY thought that in tobacco and alcohol amblyopia, which was due to a form of chronic inflammation of the optic nerve, there was more marked interference with the clear outlines of the optic disc than in other forms of retro-bulbar neuritis. The important factor in tobacco poisoning was the nicotine. Persons who began using the weed in adult life had comparative immunity from complications of the eye. Pipe smokers and those who used strong tobacco were oftenest affected. He had seen a number of cases of quinine amaurosis, and must disagree with the statement that it was usually complete. In the cases which he had seen the central vision had remained good. The contraction of the field of vision never, so far as he knew, became free. He was sceptical as to arsenic. He had seen complete paralysis of accommodation from wearing belladonna plaster and also from ordinary doses of hyoscyamus too often repeated. He had seen the morphine habit produce marked diminution of the amplitude of accommodation after it had been left off, and in two cases it had caused nystagmus, which afterward disappeared. In fact, affection of the extrinsic muscles of the eyes was present in a number of cases of toxic amblyopia. All cases of septic irido-choroiditis seen by him followed the course stated by Dr. Kipp and ended with total blindness. Dr. Pooley had seen a case of complete restoration of the field of vision which had been disturbed by syphilitic gumma.

DR. WILLIAM LESZYNSKY said he was present when Dr. Seguin demonstrated his case of Wernicke pupil-

lary reflex to the satisfaction of the ophthalmologists of the hospital. He was sorry Dr. Holden did not refer to the fact that examination of the visual field was not of a great deal of value without a complete examination of the eye. In Dr. Knapp's case of coal-gas poisoning, it might be explained by small hemorrhages about the nerve nuclei, which were absorbed before they did much damage. Dr. Leszynsky had seen a case of peripheral neuritis from arsenical poisoning, in which there was also optic neuritis.

DR. CLAIBORNE said he must have been misunderstood on one or two points. He had not said there was total atrophy of the optic nerve from quinine. Regarding Wernicke's symptom, he thought it was of value when it could be elicited, but its absence was not significant.

SECTION ON SURGERY.

Stated Meeting, October 12, 1896.

B. F. CURTIS, M.D., CHAIRMAN.

THE evening was devoted to the presentation of cases.

Extirpation of Tongue for Epithelioma.—DR. A. L. FISK presented a man thirty-three years of age, who had come to the hospital with epithelioma of the posterior portion of the tongue on the right side, which had started in February of this year. He extirpated the entire tongue and the enlarged glands of the right side in the neck. The interesting point was the unusual rapidity of healing, the man being able to sit up on the third day; and at present, two weeks after the operation, was able to speak so as to make himself understood.

The Radical Operation for Carcinoma of the Breast.—DR. R. A. SANDS presented a woman on whom he had performed the radical amputation of the breast for carcinoma. Some of the arm portion of the pectoralis was left. Dr. Sands called attention to the fact that he purposely modified the incision; instead of carrying it into the middle of the axilla, carrying it upon the arm. This gave a better functional result than in Halsted's cases, the patient being able to carry the arm up to the back of the head in dressing the hair; there were less trouble from the scar, and less likelihood of œdema of the arm.

Metastatic Abscess from a Latent Appendicitis.—The chairman, DR. CURTIS, presented an Italian boy, who, he said, gave a rather curious history. He had come to his clinic, suffering with a swelling of the heel. Under wet dressing the swelling subsided somewhat, but after four or five days he returned, with a painful swelling in the arm, evidently an inflammatory swelling in the region of the biceps. The abscess, for such it proved to be, was incised and considerable pus was evacuated. It had no connection with bone, was entirely in the muscle, and he remarked to the staff that it must be metastatic, although the origin was not apparent. The second night after the operation the boy complained of some pain in the abdomen, but had not done so before. Placing his hand over the appendix, Dr. Curtis found a considerable tumor, and on operating evacuated an abscess between the cæcum and omentum. Of course, the peritoneal cavity had to be entered, which necessitated large packing of the wound. The boy also had a rather severe bronchitis, also of metastatic origin, and was generally septic, but made a good recovery.

Resection of Knee for Tuberculous Disease.—DR. CURTIS presented a boy who for some years, or since the sixth year, had had tuberculous disease of the knee, which had resulted in ankylosis at 90°. He was brought to Dr. Curtis for amputation, but it was decided to try resection, removing as little bone as possible. Everything was cut, except vessels and nerves,

down to bone; a few foci of disease were gouged out, the leg was straightened, and it looked at present as though there would be complete healing. The shortening was about an inch; and a sufficient amount of the epiphyseal cartilage was left, he thought, to permit of further growth of the limb.

Amputation of Hip for Sarcoma.—Dr. Curtis presented a girl, aged six years, who had had swelling of the left thigh since infancy. Finally a distinct tumor developed on the thigh just below the pelvis, becoming as large as the child's head, and presenting an ulcerated papillomatous surface anteriorly. A fragment was excised and was pronounced myxosarcoma by the pathologist. It had evidently been a myxoma which had undergone sarcomatous degeneration. The limb was amputated. On account of the tumor on the anterior part of the thigh it was impossible to get an anterior flap; consequently a long posterior flap was made, and it was in this fact that the interest of the case lay. In another instance he had been compelled to resort to a long posterior flap for the same reason, the tumor lying so far to the front of the thigh. The wound of amputation being distant from the anus and genitals, there was less danger of infection than when an anterior flap was obtained. There was little tendency to hemorrhage, but what there was he controlled by the Macewen method, an assistant pressing upon the abdominal aorta through a folded towel.

General Fecal Peritonitis Following Perforative Appendicitis.—Dr. HOWARD LILIENTHAL presented a young woman, whom he had first seen on March 26th, after two days' illness. The first day she had had pains in the abdomen, and the second day violent chills and high fever. Evidently there was appendicitis; slight thickening existed on the right side. An incision was made in the right iliac region; pus was encountered on opening the peritoneum; the perforated appendix was in a mass of adhesions. It was removed, and a small incision was made in the median line, to learn whether the entire cavity was infected. There was peritonitis of a most intense type, and a large amount of feces present in the peritoneal cavity. He washed out the cavity as thoroughly as he could, through a catheter inserted into the small median incision, and injected some of Dr. Gibier's streptococcus antitoxin, feeling that it could do no harm, since the patient would die any way. Greatly to his surprise, she was better next day, and continued to improve. About the tenth day she had a chill and fever, and a few days later he felt a resistance in the left side, which he cut down upon and evacuated an abscess, which communicated along the posterior wall of the pelvis and behind the uterus with the opening originally made on the right side. From that time on recovery was uneventful but slow. The sinus closed and the patient went home; but at her first menstruation after the operation the sinus reopened, and had shown a disposition to close and reopen since. Fluid injected into one opening passed out of the other. He thought of injecting a fifty-per-cent. zinc-chloride solution, with the hope that it would cause it to heal permanently.

Rebellious Tuberculous Disease of the Skin Treated with Nosophen.—Dr. Lilienthal presented a young man, who had first appeared at the Mt. Sinai Hospital nine years ago, when he had a sinus of the forearm and a cicatrix of the upper arm. The surgeon at the hospital opened the sinus in the forearm, and found a small focus of disease in the ulna. From that time until the present, nine years, the boy had sinuses in the arm, apparently always limited to the soft parts, except on one occasion, when the surgeon found a small focus of disease in the olecranon. The operations were numerous; the arm was covered with scars,

the elbow was stiff, and the arm was wasted and practically useless. The condition was looked upon as tuberculous. Finally, all of the wounds healed except one, which was very rebellious. In his experiments he put on nosophen in powder, and at once the aspect of the wound changed entirely, and after the second dressing was quite healed. He did not wish to suggest that nosophen would have healed the original disease nor a sinus which was not drained.

Discussion on the cases being called for, Dr. CURTIS remarked that in his opinion the operation performed by Dr. Fisk in his case of cancer of the tongue, a combination of Whitehead's and Kocher's, was the only proper one.

Dr. F. TOREK thought Dr. Sands had not performed Halsted's operation on the breast, for, as he understood it, Halsted left no part of the pectoral muscles. Dr. Torek had performed the operation, after the manner described by Willy Meyer, five times, and preferred it to all others.

Dr. FISK had operated several times by carrying the incision up somewhat on the arm instead of into the axilla, but had obtained the idea from Dr. Mixer and another surgeon in Boston. It had the advantages referred to by Dr. Sands—no œdema, good skin approximation, useful arm. Of four patients operated upon by him, there had been no local recurrence in any, but in two death took place from cancer of internal organs within about a year.

Dr. GALLANT had employed the curved incision on the arm in about six cases, and said it was a safer one than the other, because of less danger to vein and nerve.

Dr. CURTIS thought the extent of the operation for carcinoma of the breast should depend upon the case. Halsted's operation was not necessary for small movable tumors not adherent to the pectorals. Not enough time had elapsed to pass final judgment upon the curative value of Halsted's operation. His (Halsted's) first statistics were not large, and were published too soon after the operation to exclude possible recurrence.

Dr. SANDS remarked that he had just read Halsted's description of his operation, and could positively assert that sometimes a part of the pectoral muscles at their insertion was left.

Dr. GALLANT inquired whether it was safe to allow pregnancy to go on in a woman who not long before conception had had the breast removed for cancer.

Dr. SAMUEL LLOYD had had no experience with carcinoma bearing on this question, but in a case of removal of the breast for mastitis the woman subsequently had one or two abscesses about the axilla during lactation following pregnancy and childbirth.

Dr. R. T. MORRIS said, with regard to gauze packing in appendicitis cases, that it was employed through fear of infection of the general peritoneal cavity. It having seemed to him that surgeons were thus getting a good many weak abdominal walls, he had resorted to rather a smaller drainage tract and walled off the area with aristol or something similar, which would produce a lymph coagulum about the drainage tract. The result was satisfactory. Another method which could be employed as a safeguard against hernia consisted in attaching the cæcum, or that portion of it from which the appendix had been removed, to the margin of the abdominal wound. The cæcum acted as a plug, preventing hernia. He had used this method in six cases.

Dr. KAMMERER would leave a free opening and use plenty of gauze in appendicitis with abscess and threatening general peritonitis.

Dr. F. TILDEN BROWN thought there might be some danger of hernia of the cæcum or inversion thereof, when stitched to the abdominal wound, as described by Dr. Morris.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 27, 1896.

JOHN SLADE ELY, M.D., PRESIDENT.

Dilated Stomach Simulating Ascites.—DR. C. N. DOWD presented a greatly enlarged stomach, taken from a patient who had the usual signs of ascites, with flatness on percussion in the dependent portion of the abdomen, no matter what position the patient was in, and tympanitic resonance above. There was also a small nodule in the right hypochondrium. The patient was doing badly, and an exploratory incision was made to determine whether she would be benefited by any operative procedure. This enormous stomach was found to occupy practically the entire abdominal cavity, extending into the pelvis below and pushing out the abdominal walls on each side. There were several quarts of fluid swashing about in it, and this, with the gas which was also there, gave the signs of ascites. It was impossible to pass a stomach tube. The patient made a good recovery from the ether, but died at a later time of inanition. The pyloric thickening was cancerous.

Scope of the Work of the New York City Board of Health.—DR. HERMANN M. BIGGS said that he had been connected with the health department since 1887, at the time of the first of the recent cholera outbreaks in this city. Dr. W. M. Smith, the health officer of the port, had requested him to make a bacteriological examination to establish the diagnosis of cholera. Dr. Prudden was associated with him in this work. This was the second time that such an examination had ever been made for the purpose of diagnosing cholera. Shortly afterward, at the request of Health Commissioner Bryant, they had been made bacteriologists to the health board. The disinfecting-station was then established. In the fall, at his suggestion, a memorial was presented to the health board, regarding the restriction of pulmonary tuberculosis; but so much opposition was made by the medical profession that nothing was done, except in an educational way. At that time, only one prominent medical practitioner supported the view that pulmonary tuberculosis was a communicable disease, and that the health board should take steps looking toward its restriction. In 1892, when a number of cases of cholera actually gained entrance to this harbor, it became possible to get money for the establishment of a bacteriological department. A resolution was introduced by Dr. Bryant, and passed December 18, 1892, establishing the division of pathology, bacteriology, and disinfection. In 1893 a system of house disinfection and disinfection at Sixteenth Street were put in force, and means for the transportation of articles was secured. An outbreak of typhus fever soon put the new system to a severe test. In January, 1893, the speaker said, he presented a communication suggesting the appointment of a bacteriological diagnostician for diphtheria and naming Dr. W. H. Park as a suitable person for the position. He was appointed in April, 1893, and the work in the bacteriological diagnosis of diphtheria was begun. In 1893 and 1894 the temporary corps was kept on duty. In the spring of 1894 his investigations in Berlin into the question of the value of diphtheria antitoxin had so impressed him with the value of the new treatment that on his return he urged the board to enter upon this work.

A special appropriation of \$3,500 was made in January, 1895, and the permanent force of the laboratory was then considerably increased, it reaching in the year a total of thirty-one. In another communication he had recommended that some steps be taken toward the control of pulmonary tuberculosis. Arrangements were early made for the free distribution

of diphtheria antitoxin. Experiments had also been carried on regarding the tetanus antitoxin, the testing of the virulence of bacilli found in throats which were affected apparently by simple angina, etc. Dr. Huddleston had recently carried on experiments to determine the best methods of producing vaccine virus. Last summer Dr. Alexander Lambert studied this subject in the large cities of Europe, and as a result of all this it was decided to adopt the fluid virus. More than thirty thousand diphtheria cultures had been examined during the past year; about two thousand examinations of sputa for tubercle bacilli had been made by Dr. Fitzpatrick; about five hundred vials of antitoxin had been produced weekly. The discovery of diphtheria antitoxin fortunately furnished a plea for securing money from the board of estimate and apportionment which could be used for the establishment of a research laboratory. None of the largest cities in this country, he said, was at the present time without a bacteriological laboratory for use in connection with the work of health boards. The money collected from the sales of antitoxin here had been sufficient to assist very materially in the scope of the work.

Mixed Infection and Virulence of Diphtheria Bacilli.—DR. W. H. PARK said that he had been deeply interested in the question of mixed infection, because of the important bearing of this subject on the antitoxin treatment of diphtheria. He presented temperature charts of three children affected with laryngeal diphtheria. In the first case, between February 11th and 19th, the temperature had ranged between 105° and 105.5° F. The glands had become swollen four days before death, and the pneumonia which had been present had become more marked. The autopsy showed broncho-pneumonia, and lesions of the kidneys and other organs. The cultures from the lungs showed numerous streptococci, as well as Loeffler bacilli. The cultures from the neck were nearly pure growths of streptococci. Cultures from the blood of the various organs showed pure growths of streptococci. When these streptococci were injected into a rabbit, they were found to be of moderate virulence. His experience had been that after the streptococci were passed through a few rabbits they increased somewhat in virulence, but then the virulence remained stationary.

The second case was that of a child of one year, with laryngeal diphtheria and high temperature. It was given antitoxin. Twenty-four hours later it was intubated, but after three and one-half hours the tube was removed. Thirty-six hours after admission the temperature was 106° F., and remained high until death. The child remained a large part of the time in a position of opisthotonos. The lung showed a late stage of broncho-pneumonia. Cultures from the lungs and other organs gave streptococci.

The third child had been sick only two days, but the chest was full of râles. There was no membrane in the throat; some diphtheria bacilli were found in the throat. The temperature at the end of forty-eight hours reached 107° F., and the child died. The autopsy showed both lungs consolidated. Cultures from the lungs and from the blood showed the pneumococcus, and a few colonies of diphtheria bacilli were found in the cultures from the lungs.

Cultures from the blood of those dying early in diphtheria, without high temperature, were usually sterile; when there was a high temperature, septicæmia was generally found. When the lungs showed lesions, diphtheria bacilli were always present in the consolidated areas. Streptococci were also found. The diphtheria bacilli were found in the blood only twice in fourteen cases. It had been suggested by Dr. H. M. Biggs that the work done some time ago regarding the virulence of the diphtheria bacilli be again

tested. In cases in which the clinical diagnosis was follicular tonsillitis or pseudo-diphtheria, the virulence of the cultures was tested and notes were made regarding the number of diphtheria bacilli, and whether or not they were characteristic. In four months 71 such cases had been tested, and from 50 of these bacilli were obtained in pure culture and inoculated into guinea-pigs. In 38 of the 50, the bacilli were characteristic and abundant; in 37 they were virulent; in 1, non-virulent. In 2 the bacilli were atypical. Out of 48 characteristic cultures, the bacilli were virulent in 46 and non-virulent in 2. In 2 cultures of the pseudo-type they were virulent. Of those tested, in 26 the diagnosis was not diphtheria; and of these 22 were virulent and 4 non-virulent. In 24 doubtful cases the bacilli were virulent in 22, and in 2 not virulent—in other words, in twelve per cent. of the 50 cases they were non-virulent. In 2 of these the bacilli would be called atypical.

DR. L. WALDSTEIN asked Dr. Park if he had noted any relation between the size of the individual links and the lengths of the chains and the virulence of the bacilli; also whether in making cultures of the streptococci the virulence was affected by the alkalinity or acidity of the medium.

DR. PARK replied that he had examined swabs from slight pus cases, and in these the chains had been very long. In some of the cultures from the severer cases the chains had been rather short. He had made no exact observations as to the effect of the alkalinity of the medium on the virulence of the bacilli.

Tetanus Antitoxin.—DR. ALEXANDER LAMBERT said that he had been trying for three years to get a culture of tetanus bacilli which would retain sufficient virulence to allow him to investigate the tetanus antitoxin. Finally he had obtained a culture one cubic centimetre of which would kill a guinea-pig in five or six days. It then occurred to him that, as clinically tetanus was usually a mixed infection, it might be well to try mixed cultures. He had, therefore, mixed the tetanus bacillus with the bacillus *roseaceum metalloides*. The result was that a guinea-pig inoculated with this mixture promptly died in tetanic spasms. Following out this line of investigation, he was soon able to get a toxin 0.001 c.c. of which would kill a guinea-pig in two and one-half days. He was now able to obtain from the horse the tetanus antitoxin, one cubic centimetre of which would kill three million three hundred and fifty thousand grams of guinea-pig. Apparently, two and one-half to three times the equivalent of antitoxin was necessary to protect the animal from a fatal dose of toxin. Antitoxin already obtained was of therapeutic strength, and he believed it would soon be placed by the health board upon the same commercial basis as diphtheria antitoxin.

DR. GEORGE P. BIGGS said that he had found that the antitoxin animals were capable after a time of taking enormous quantities of the antitoxin. The doses taken now by some of the animals under treatment the longest were five hundred cubic centimetres at a time. It had been found that new horses could within four to six weeks be made to yield an antitoxin of high strength, whereas formerly it was thought that three months were required. The expense of production was thereby much lessened and a higher grade of antitoxin obtained. Very few of the horses this year had died under the treatment with toxins. He had made autopsies on many of the patients dying at the Willard Parker Hospital, but no new lesions had been found in the cases treated by antitoxin.

THE PRESIDENT asked if any lesion had been found in the horses which had died, which would explain the death or their susceptibility to the toxins.

DR. BIGGS said that autopsies had been made, but

nothing had been found to explain the varying sensitiveness of different animals.

Vaccine.—DR. J. H. HUDDLESTON said that the virus was collected from heifers two to four years old. Clinical tests could alone furnish a guide as to the quality of the virus. Experiments were made to determine in what part of the vesicle the living germ was present, using for this purpose four young children and vaccinating them in from three to five places. The vaccinations were successful in all of these children, and it was found that the base gave the best results and the serum the poorest, although it was the latter that had been usually employed on quills and ivory slips. Other comparative tests showed that the younger the animal the better the results, and the more nearly typical the eruption. In practice, heifers two to three months old were found to be best, all things considered. It had been found that a small area covered with well-developed vesicles yielded as much as a larger area, because on the latter the vesicles were not usually so numerous. The area selected was usually the posterior portion of the abdomen, and a small extent on the inner surface of each thigh. The maximum quantity of lymph was obtained just before the vesicle became a pustule—in other words, usually four or five days after vaccination; but there was a considerable individual variation in the animals. If several vaccinations were made on the calf at intervals of a day, the later vaccinations, as in the case of a child, would be found to mature much more rapidly than the first ones. Continued experiments had shown that the liquid virus gave a higher percentage of successful vaccinations in the proportion of seventy-one successful vesicles by the dried virus to one hundred by the latter. The best method of preservation had not yet been determined. Experiments had been made of mixing it with lanolin, with glycerin, and with chloroform water, and glycerin and water. The lanolin seemed to be the best preservative of the vaccine, but the glycerin had more power to limit the number of bacteria in the vaccine. The receptacles for the virus consisted of small stoppered glass vials. The virus was so thick that it was with great difficulty that it could be drawn up into capillary tubes. The heifers were examined by a veterinarian, and, if found healthy, were kept for two or three days before vaccination. There was no advantage in previously disinfecting the skin with sublimate solution, for it must become infected again before the time for removing the virus. When the vesicles had properly developed, the parts were thoroughly cleansed and the pulp was taken and passed through a rolling machine, and at the same time mixed with glycerin. The average product from each of fifty recent calves was 16.5 c.c. By using a small spear-shaped lancet and moistening the point with the fluid vaccine, one quick puncture was sufficient to complete the vaccination. The vaccination made in such a way yielded a small, typical vesicle, with a small areola, and caused the patient scarcely any discomfort. There seemed to be considerable evidence to show that a single inoculation was not as complete a protection against small-pox as it had been supposed to be. An inspection of a number of these scars showed them to be so minute that they might be after a time easily overlooked.

The Examination of Tuberculous Sputum.—DR. CHARLES B. FITZPATRICK said that the method of staining that he had employed was that described by Gunther. In this, Ehrlich's anilin-water-fuchsin solution was used for the coloring agent, and a three-per-cent. solution of hydrochloric acid in alcohol as the decolorizing agent. The bacilli by this method were stained a very distinct red. Examinations made in eight cases of influenza during the past winter failed to show the presence of any specific bacillus. In many instances

the examinations of the sputum showed a mixed infection—a few tubercle bacilli with, perhaps, a streptococcus infection. On the disappearance of the mixed infection, it was often reported by the attending physician that the patient showed marked general improvement. The addition of twenty-four parts of English salt to a one-half-per-cent. solution of carbolic acid acted with the same efficiency as a preservative as did a five-per-cent. solution of carbolic acid, and it did not coagulate the sputum into balls.

THE PRESIDENT said that for several years he had entirely abandoned the use of strong acid solution. He would take about eight ounces of alcohol, and drop into it a few drops of sulphuric acid. This formed an excellent decolorizing agent, although perhaps somewhat slower in its action than the stronger solutions. Nuttall had found that many of the tubercle bacilli were decolorized by strong acid, and proposed the use of this weak-acid decolorizing solution.

DR. FITZPATRICK said that with a simple mixture of alcohol and water one could remove enough of the primary stain to admit of the application of the secondary stain to the bacilli.

DR. WALDSTEIN said that in the decolorization of smears it was not important to have the acid dissolved in water; but in staining sections the solution should be an aqueous one, in order to avoid the shrivelling of the sections.

Isolation of Diphtheria Antitoxin.—DR. MILLER said that so far he had been unable to fully corroborate the interesting experiments of Brieger on the isolation of the antitoxin. The essential point was the separation of the antitoxin as a zinc compound. It seemed to be especially difficult to completely separate it from the albumin.

The society then went into executive session.

Clinical Department.

A CASE OF RUPTURE OF THE UTERUS.

By JOSEF SAXL, M.D.,

NEW YORK.

ONE night last week I was summoned in haste to attend a woman in labor. Her husband told me on the way to the house that she was thirty-two years of age, of Bohemian nationality, and that this was her sixth confinement. She has always been in perfect health. For all previous confinements as well as in this one she was attended by a midwife.

She was in labor for a few hours, and then suddenly the pains ceased and she fainted away with a piercing cry.

On arrival I found the woman semi-conscious, pale, and covered with clammy sweat. There was complete absence of radial pulse, the heart was very weak and rapid, the respiration was shallow and rapid, and the woman vomited twice. The abdomen was distended and doughy to the feel. The fetal head was presenting upon the perineum. I injected strychnine, gr. $\frac{1}{60}$, and digitalin gr. $\frac{1}{100}$, hypodermically, raised the foot of the bed, and proceeded to deliver with forceps. The child was dead. I removed the placenta and examined the uterus, and found a tear through the cervix on the left side, extending up to the body of the uterus. After that I administered ergot and compressed the womb from above, and directed the midwife to give her an enema of salt water and whiskey. The patient revived somewhat and regained consciousness, but complained of terrific pain in the abdomen. I gave her a dose of morphine and atropine hypodermically, and she seemed to do well for about half an hour, after which she fainted again, and although stimulants were given

freely she expired about fifteen minutes later. No autopsy was performed. The midwife denied having given ergot.

A RELAPSING FEVER.

By H. G. MURRAY, M.D.,

BALTIMORE, MD.

THE following case seems to me worth reporting. I was called on August 14th to see the patient, a strong, robust farmer, who was suffering, as he said, from intense fever. The temperature was 104° F.; pulse, 90. He complained of great pain in the back and limbs. The spleen was slightly enlarged. The next day jaundice developed, but was not severe. There were no other symptoms of any account. On August 21st the patient was well, and on the 22d he was riding a bicycle. On August 28th he was again attacked, the fever reaching 105° F. on the first day. The muscular pains were not severe. Jaundice was not present. In a week the temperature began to decline, and soon reached normal. He is at present very weak and much depressed. A blood examination was not made, and, of course, the case is not complete; but no doubt will exist as to a case with such a history being one of relapsing fever.

The treatment recommended was useless. Quinine in powerful doses had no effect. Diet, sponging, and stimulants were used.

TWO CASES OF TAPEWORM.

By FRANK OVERTON, A.M., M.D.,

PATCHOGUE, N. Y.

IN the spring and summer of 1894, Mr. W——, a nurse in a city hospital, passed links of tapeworm at intervals. For his relief the mixture of malefern, pomegranate root, pumpkin seed, and croton oil, popularly known as the "early-bird mixture," was prescribed, without special attention being given to previous dieting. About an hour and a half after he had taken it his bowels began to move; there were cramps, and he felt extremely nauseated. Some of the worm was passed through the anus, when an attack of vomiting came on, in which the patient felt a large lump coming up, which gave him a severe sensation of choking so that he felt faint. By violent retching he finally expelled the lump, which proved to be a mass of tapeworm. He examined it for a moment and saw that it tapered to a small thread and then he went away, intending to examine it carefully later, but an attendant emptied it down the closet. But little of the worm was passed by the anus. For six weeks, until he left the hospital, there was no recurrence of the trouble.

Vomiting of the *ascaris lumbricoides* is comparatively frequent; but persistent search and inquiry has failed to reveal another case in which a tapeworm was vomited.

In September, 1895, a young woman presented herself in great distress of mind, bringing a few joints of tapeworm which she had just passed. The "early-bird mixture" was prescribed after brisk catharsis had been established with Rochelle salt. In about two hours a large mass of tapeworm was passed. Examination showed that there were two tapering strings of tapeworm, each becoming as fine as a thread; but only one head was found.

About six weeks afterward the patient again began to pass links of tapeworm, and the same treatment brought away a single tapeworm, about ten feet in length, which tapered to a fine thread; but no head could be found.

In six or seven weeks she again passed links, and treatment again brought a long tapering string of tape-worm, but without a head. As before, links began to be passed inside of two months. She then consulted an eclectic physician, who administered three drachms of malefern in two ounces of castor oil. Although he failed to find the head, there has been no recurrence of the trouble.

This case is interesting because it demonstrates the extremely rapid growth of the worm. For three successive times its head produced enough links in six weeks so they were passed from the bowel. So if the head is not found, and no links are passed for two months, the trouble is almost certainly cured.

OCCUPATION NEUROSIS OR IRONER'S CRAMP.

By L. PIERCE CLARK, M.D.,

ASSISTANT PHYSICIAN AT CRAIG COLONY, SONYEA, N. Y.

I DESIRE to place on record a case of ironer's cramp, as I am not aware of its having been reported before by writers on neurology. There seems to be no reason why it should not be a common affection, but I have never seen or heard of a similar case. It appears that ironer's cramp partakes also of the nature of a pressure paralysis, as described by Gowers. Occupation and professional neuroses, as Gowers,¹ Dana,² and Strümpell³ term them, are very common affections in this work-a-day world, and there is no reason why the same should not be common among ironers. Probably the firm grasp of but two or three fingers upon the flatiron has greater etiological significance than the pressure resulting from the weight of the shoulder and arm. Therefore, all things being equal, the stronger and the more vigorous the worker, the greater the liability to the disease. This affection of ironer's cramp and its kindred affections ought to be classed under the more comprehensive and preferable heading of occupation neuroses or spasm, and many cases of pressure neuritis would properly come under this head also. We generally find the neuralgic and spasmodic symptoms closely associated in the same case, as the one here reported shows. There is some inflammation with almost all occupation neuroses, either in the early part of the disease or later on, especially after long-continued application of the cause. The following case, which has but recently come under my observation, is reported:

W. S.—, thirty-one years of age, laundress. For three months she was employed at laundry work, and during this time she was engaged in the sole occupation of ironing. After two weeks of this kind of work, the two middle fingers of the right hand became "numb," and at night the pain was quite severe, running from the wrist to the elbow. The sharpest pain was noticed just at the elbow, on the anterior surface of the forearm. She also noticed that within the next four or five days the muscles of the right arm became quite weak, and that the numb and painful sensation made itself felt almost nightly. Occasionally this was present when she was unemployed for a few hours. After ironing for some time, these two fingers cramped and became "stiff," and she was unable to bend them easily. Upon examination, paræsthesia was found to be present in the forearm, wrist, and palmar surface of the hand. About half the time two points appeared as one, when applied simultaneously. Dynamographic examination showed the right hand pressure to be sixty-eight pounds; left hand, seventy-eight pounds. Dur-

ing the next three days the affection grew steadily worse, and in consequence she made several trials in using her left hand instead of the right in doing her work. As this practice did not prove satisfactory, her occupation was changed. The pain in a great measure ceased, numbness and prickling sensations were no longer troublesome, but the loss of muscular power still persisted.

The treatment of an occupation neurosis is unsatisfactory: First, because of the tendency of the affection to recur after having been once firmly established; secondly, because the physician is usually obliged to make concessions to the causation. It is necessary to exercise twice as much ingenuity in the treatment of an occupation neurosis in the very poor, because the patient cannot cease from daily labor. This case was no exception to the rule. Deep massage was first tried. It was applied from the centre of the palm to the elbow. The greater freedom from pain and the "cramped feeling" was obtained when massage was applied two hours after the daily work. If the muscles were painful before going to work in the morning, they were massaged again before work was begun, and at all spare moments during the day systematic muscular exercise of the affected hand was maintained.

Finally, this treatment failed of its desired effect, and douches and tonics were supplemented. These gave freedom from "pain and cramp" for a few days, when they, too, failed, and laundry work was ordered discontinued. A month's treatment has improved the use of her hand, although full muscular power has not yet returned.

HERPETIC NERVE DISTURBANCE.

By W. M. WELLER, M.D.,

ITHACA, MICH.

IN the MEDICAL RECORD of September 26, 1896, I notice an article entitled "Counter-irritation in the Treatment of Herpes." I do not question the value of blisters in treating the nerve disturbance accompanying herpes, but give them an important, if not, indeed, first place as a remedy; yet they sometimes fail to give relief.

I have a case of herpes zoster under treatment now, in which I have not only failed in getting the happy results which Dr. Wilkins describes, but have failed to give any permanent relief whatever, although the area affected has been pretty well covered by repeated blisters, beginning early in the attack and continuing to the present time.

My patient is an old lady, sixty-seven years of age, and in rather feeble health. Severe pains commenced four weeks ago in the right side, and were followed in a few days by an eruption of isolated patches of vesicles, extending from the spine across the subscapular and mammary regions to the median line in front. The pain has continued with unremitting severity up to the present time, September 29, 1896, aggravated by movements and relieved only by hypodermic injections of morphine.

Another case, which was a great source of perplexity and discouragement to me, happened in my early professional struggles. This patient, too, was an old lady, and the case lasted for many weeks.

On the other hand, I have seen cases like those described, in which a blister seemed to cut short the pain as if by magic.

The point I wish to make is this: that while the majority of cases of herpetic nerve disturbance are amenable to treatment in a time ranging from a few days to two or three weeks, cases occurring in the aged, and in which there is a well-marked neuritis, may possibly continue so long as to be a source of discouragement to both patient and physician.

¹ Gowers' "Text-Book of Nervous Diseases," vol. ii., page 710.

² Dana's "Text-Book of Nervous Diseases," page 469.

³ "Text-Book of Medicine," page 545.

CONGENITAL TRANSPOSITION OF THE VISCERA.

By F. C. STUDLEY, M.D.,
MILWAUKEE, WIS.

THE following case of congenital complete transposition of the thoracic and abdominal viscera may, perhaps, be interesting to the readers of the *MEDICAL RECORD*. In this patient the apex beat of the heart is in the right thorax, between the fifth and sixth ribs, directly in the nipple line. Left of the sternum I could not detect any dulness whatever on percussion. The liver, which is somewhat enlarged, is entirely in the left hypochondriac and epigastric regions; while the stomach, from cardia to pylorus, and the spleen as well, are placed to the right of the median line. The patient, a German, thirty-seven years of age, aside from occasional attacks of indigestion with cardiac palpitation, does not complain of any indisposition whatever; nor, so far as one can understand, is his condition at all inconsistent with long life and perfect health.

DOUBLE OVARIOTOMY, FOLLOWED BY PREGNANCY; AND DOUBLE OVARIOTOMY DURING PREGNANCY, FOLLOWED BY THE BIRTH OF TWINS AT TERM.¹

By R. STANSBURY SUTTON, M.D., LL.D.,
PITTSBURG, PA.

ON October 18, 1892, Mrs. J. R. P.—, aged twenty-eight years, was admitted to my private sanatorium. She was greatly emaciated and feeble. Pulse, 40. Her abdomen was very large. Diagnosis, ovarian cystomata.

She was married in 1885, at twenty-one years of age. One year later, in 1886, her only child was born at term. Prior to the birth of this child, her attending physician diagnosed an ovarian tumor lying to the right of the uterus. Six years and seven months intervened between the date of this discovery and her admittance to the hospital.

On October 20, 1892, two days after her admission, I opened her abdomen and removed from the right side a twenty-five-pound multilocular ovarian cyst, the pedicle of which I severed with a Paquelin cautery, the ligature on the stump lying close to the horn of the uterus. From the left side I removed a multilocular cyst weighing six pounds. The cautery failing to get hot, I severed the pedicle with a pair of scissors; the ligature on this pedicle lay close to the horn of the uterus. The cavity was sponged dry, and the patient elevated to the Trendelenburg posture. The wound was long, the abdominal wall exceedingly thin, and the pelvic contents were fully exposed. The uterus was somewhat larger than normal, the pedicle stumps were short, and the ligatures lay close to the uterine cornua. The uterus was retroverted; the fundus was brought forward to the lower angle of the wound; a patch of its peritoneal covering was abraded with the edge of a knife; it was then fixed at the lower angle of the abdominal wound with two buried silkworm-gut sutures. The wound was closed. The operation occupied twenty-five minutes. The tumor from the right side contained a large amount of colloid material, and this was characteristic of the one on the left side.

To repeat: This operation was done on October 20, 1892. On June 10, 1894, the subject gave birth to a male child weighing ten and one-half pounds. Again, on February 25, 1896, she was delivered of a male child weighing eight pounds.

Some ovarian tissue must have been left in one of the pedicles, and the tube must have remained patu-

¹ Read by title at the International Gynecological Congress, Geneva, Switzerland, August 31 to September 6, 1896.

lous, through which the ovum found its way into the uterus.

Prior to the operation the patient had remained sterile for about six years after the birth of her first child. In this instance we have the remarkable paradox that double ovariectomy terminated the sterility. My opinion is, that in this case an aberrant patch of ovarian tissue existed at a point close to the uterus and adjacent to the tube, that the section of both with the scissors brought the cut surfaces of the patch of ovarian tissue and tube into juxtaposition, that the lumen of the tube was not destroyed, and that ova passed from the patch of ovarian tissue into the uterus.

This case has a remarkable bearing on the question of surgical conservatism in dealing with the ovaries. If, in this instance, no ovarian tissue had been left, two fine children would not have been born. This case and the numerous conservative operations by operators in all lands urge the necessity and prove the wisdom of saving even a small particle of ovarian tissue wherever it is possible, and when there exists no contraindication for such action.

The case has also suggested to my mind the possibility of ovarian grafting, and the wisdom of doing our cases in pairs—that is, two cases at the same time, in order that we may find in two cases sufficient healthy ovarian tissue to supply both patients, by leaving some healthy ovarian tissue in one and transferring some by grafting to the other patient, if necessary.

The second case referred to in the title of this report now follows: On February 13, 1893, Mrs. D.—, aged thirty-four, widow for ten years, mother of one child, thirteen years old, was sent to me for operation. At her menstrual periods she had cataleptic seizures and frequent attacks of severe pain in the ovarian regions. She was incapacitated for work, and all remedies had failed to relieve her. She stated that she had menstruated two weeks prior to this date. Digital examination revealed a linear stricture at the juncture of the upper and middle third of the vagina, which arrested the finger. The finger was now transferred to the rectum, and by the aid of the superimposed hand I made the following diagnosis: Stricture at the upper third of the vagina, lacerated cervix, subinvolution of the uterus, chronic salpingitis and ovaritis.

On the 18th, five days later, I made a very short incision in the median line, and through it removed the ovaries and tubes. I noted the supposed subinvolution of the uterus, and closed the wound. The patient recovered promptly, and left the hospital.

About ten months after her discharge from the hospital her attending physician informed me that in nine months less forty-one days after the operation, he had attended her in confinement. She gave birth to twins, healthy children.

This case and others in our literature prove the tolerance of the pregnant uterus to surgical operations on its appendages. It has also proven that we are not safe in placing too much dependence on statements made to us by female patients.

The suggested merits of these cases, I trust, may prove a sufficient apology for presenting them to this learned body of representative gynecologists.

Instruments.—A heaping tablespoonful of washing-soda to a quart of water is the proper proportion for the solution in which instruments should be boiled for sterilization. Do not boil non-metallic sutures in this liquid, for it will very greatly weaken them. Do not boil an aluminium instrument in this liquid, for it will be corroded and completely ruined. — *International Journal of Surgery*.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE FIRST HUXLEY LECTURE—PROVINCIAL MEDICAL SCHOOLS—SIR J. LITTLEJOHN AT LEEDS—MR. HUTCHINSON AT MANCHESTER—MR. VICTOR HORSLEY AT LIVERPOOL—THE CARTER-HORSLEY CONTROVERSY—THE COMMITTEE ON WATER SUPPLY—DEATHS OF MR. MORRANT BAKER AND DR. LANGDON DOWN—MEDICAL COUNCIL CANDIDATES.

LONDON, October 9, 1896.

THE first "Huxley lecture" was delivered on Monday by Prof. Michael Foster, at Charing Cross Hospital. This lecture has been founded to commemorate the late Professor Huxley, whose medical education was obtained at Charing Cross. Dr. Foster proposed that this first lecture should be a sort of preface to those of the future, as his successors would probably single out some new advance in science and expound its bearings on medicine and surgery. He therefore took account of the state of science when Huxley took his seat as a student in the school, compared with its present condition. But he could not give an account of the progress made in those fifty years, and would, therefore, only dwell on two or three points. These were the observations of the brothers Weber on the inhibitory action of the vagus, Bernard's discoveries as to the effects of section of the sympathetic leading to our knowledge of vasomotor action, the formation of glycogen, and Waller's observations on nerve nutrition. The lecturer concluded with a notice of Huxley's influence on physiology, and asserted that the hopeful position of English physiology to-day is in large measure due to that influence.

The provincial schools of medicine have of late shown a vigor that does them credit. They have always celebrated October 1st with the time-honored introductory, and often invited lecturers from a distance to occupy the chief place on the occasion. The value of these schools has now and then been called in question, and their defence was taken up at the opening of the session at Sheffield by Sir H. Littlejohn, who had been invited to come from Edinburgh to deliver the lecture. Taking up the subject of provincial schools, he maintained that they had certain advantages over such great teaching centres as London, Edinburgh, and Dublin. He pointed out that in smaller schools there could be more personal superintendence on the part of teachers, so that the deficiencies of students were ascertained and a healthy stimulus given. This, which is a revival of pupilage in a better form, could not be the same in large schools, and the close companionship of teacher and taught could not fail to strengthen good resolutions and beget that *esprit de corps* which is the essence of professional life. Besides this, the great provincial hospitals afforded ample scope for clinical work, and in this respect contrasted favorably with the wards of metropolitan hospitals, crowded with the students of the great schools. In the provincial schools students could now complete their education with practical bedside tuition in all departments, including attendance in lunatic asylums, in hospitals for children, for infectious diseases, and for diseases of the eye, all of which has now become compulsory and which can scarcely be practicable in the largest schools.

Mr. Victor Horsley went to Leeds to deliver the introductory lecture at the Yorkshire College. He called attention to the superlative value of chemistry in the study of physiology and pathology, and expatiated on the advantages and disadvantages of guilds, mediæval

and modern. This led up to the subject of combination for medical defence, which was treated with considerable vigor. In fact, Mr. Horsley gave a parting shot anent the controversy with Mr. Brudenell Carter, respecting the Medical Council, on which I have already written and which is now over. Mr. Carter, in his last letter, again twits his antagonist with looseness in the use of English words; says he cannot "understand the force either of the adverb or the adjective" in the phrase "practically commits literary forgery," and asks whether non-literary forgery would be one "not yet written down"? There is a paragraph, too, about the phrase "misrepresenting acts of Parliament," which Mr. Carter says is an offence he had no idea could be committed, though he can imagine "the possibility of misrepresenting the language of the acts, or their intention, or their effect." After this, he rather superciliously suggests that this may be what Mr. Horsley means, and "his obscurity may only be due to his not knowing how to express himself." This trifling is amusing enough, but convinces no one. It is no more an argument than telling Mr. Horsley he is so much the younger. Mr. Carter closes by saying: "The farrago of rubbish and falsehood, the meanness and malignancy of which I have, I think, sufficiently exposed, is connected together by coarse personalities and vulgar abuse, such as are no longer tolerated in any decent society. I do not think it would be consistent either with my own dignity or with my professional position to continue a controversy which my opponent conducts in such a manner." The editor has said the correspondence must cease, and regrets the "bitterly personal nature" of many of the letters, and wisely adds that "neither the cause of medical reform nor the elucidation of the medical arts is furthered by accusations of mendacity and other crimes."

Mr. Hutchinson went to Manchester and discoursed on "Medical Education" to the students of Owens College. He set before them a high ideal, advising a training in a wide knowledge of all that concerns our terrestrial environments. Not to discourage students too much, he mentioned some things they might, after learning them properly, forget, as not likely to be called upon to practise. None, he thought, should neglect to spend a few months in Paris and Vienna before settling down, and should learn the languages in those months, as he would afterward want to read them. As to recreation, he assured them that whoever enters with proper zest into the study of climate, topography, botany, geology, and zoology would never be at a loss for motives to go into the fresh air and get exercise, and such might very well leave cricket, football, and golf to men of less resource and less responsible pursuits. He would also relieve them from such things as games of cards, and possibly also from the gratification of music. Altogether an arduous curriculum, as he acknowledged, but then he said it was only temporary, and its reward lasting through life.

The report of the select committee on the bills of the London water companies shows that the question of supply ought not to be delayed. The committee pronounces the existing state of things to be a most unsatisfactory compromise between public control and commercial enterprise. It results in waste of large sums in promoting and opposing various bills, thus adding to the burden of consumers. It is difficult and almost impossible to decide the extent of monopoly that should be granted to enable the companies to procure ample supplies without adding unfairly to the capital, and therefore to the compensation whenever they are bought up. It is a fact, I believe, that, though the companies have made and are making enormous sums out of their monopolies, the consumers pay more for

their water than it costs in a fourth-rate continental city.

During the dry summer I had to report that a considerable district was suffering from want of water, to the great danger of the public health; and this because the company, running short, did not choose until very late to buy the overflow of another company. Yet that company has collected its dues just as if it had fulfilled its contract. In that case, I think it would be only just to forfeit the monopoly. In every case in which such a company fails to carry out its contract, the least compensation to the public should be the forfeiture of the current quarter's dues.

Mr. Marrant Baker died on October 3d, after a long illness. He resigned the surgeoncy of St. Bartholomew's Hospital several years ago, on account of ill health. He had filled other offices, and had been on the council of the College of Surgeons, and also examiner in surgery at the London University. He contributed valuable papers to St. Bartholomew's Hospital Reports, to the societies, and to the medical journals.

Dr. Langdon Down died on Wednesday, aged sixty-seven. His career was associated with the London Hospital, of which he had become consulting physician after passing through the various positions open to him. Soon after graduating at the London University, he was appointed resident physician to the Earlswood Asylum, and this appointment he was allowed to retain several years after he became assistant physician to the London. This asylum (for idiots) directed his attention to the education and training of the feeble in mind, on which he published a monograph in 1876, and this was followed in 1887 with his "Mental Affections of Childhood and Youth." Meantime, he contributed numerous papers on allied subjects to the societies and journals. At the same time he carried on his work at the London Hospital until, on the expiration of his term, he was elected to the consulting staff. His residence at Hampton Wick was also an establishment for the feeble in mind and the scene of many hospitalities to his professional brethren.

The Society of Members have endorsed the nomination of Mr. Rivington by the Association of Fellows of the College of Surgeons. He has accordingly issued an address, accepting the joint invitation to contest the election, and, having been a leading reformer for many years, will doubtless receive much support.

OUR PARIS LETTER.

(From our Special Correspondent.)

PARISIAN MEDICAL AND SURGICAL MEASURES DURING THE CZAR'S RECENT VISIT—THE BABY GRAND-DUCHESS OUT FOR AN AIRING—PUERICULTURE AND PROTECTION—OYSTERS PROPAGATE CHOLERA AND TYPHOID FEVER—PROFESSIONAL SECRECY—DOCTORS' LETTERS CANNOT BE PRODUCED IN COURT.

PARIS, October 15, 1896.

So important an event as the visit of the Czar and Czarina of all the Russias to Paris could not but make its influence felt upon the medical department, as well as upon the profession at large. Many physicians preferred, in fact, to prolong their vacations rather than be subjected to the crowds and many difficulties of attending to their practice. When we add that it is estimated five millions of people were in Paris during the stay of their imperial majesties in the capital, some idea of the serious impediment to free circulation and traffic may be formed. In other words, the entire population of Paris was doubled, or very nearly so indeed, during the fêtes which are just over.

The danger to life and limb was correspondingly

great; there were numerous medical and surgical accidents, such as asphyxiations, syncopes, falls, run-overs, etc.; also several deaths therefrom, notwithstanding the excellent police and sanitary organizations. The latter took the form of ambulances, stationed in different parts of the city along and near the routes that the emperor and empress would take when going to any function or visiting any public building. These ambulances were changed every day during the three days' visit of Nicholas II., and the prefect of police, M. Lepine, had posters put up in the eighty different quarters of Paris before the arrival of the nation's guests, telling explicitly where these ambulances were to be found each day. Cards, or "*coup files*," were also issued to physicians, enabling them to pass the lines of police and soldiers.

It was not uninteresting to see the baby Grand Duchess Olga, the only child of the emperor and empress, being taken out for an airing in the arms of her nurse, dashing down the Avenue l'Alma, the carriage surrounded by cavalry. This brings us to the subject of puericulture and protection, upon which Dr. Ledé has just written a very valuable essay. The conclusions he reaches are these: In order to assure equal protection to child and nurse, the age of the milk of a woman that is to act in the capacity of wetnurse should be limited to five months. The nurses should be strictly supervised, and situations given them only after they have received medical certificates. Children should receive only natural milk (mother's or wetnurse's milk) until they have cut at least four incisors. After the appearance of these teeth, the addition of a small quantity of animal milk, cow's milk sterilized, may be tolerated, to which a pap of flour may be added during the period of second dentition. Only after the appearance of the canines ought we to attempt to wean children, or begin feeding them with eggs and soups until completely weaned; and they should always be closely watched by the physician and weighed frequently.

Speaking of food hygienically, the oyster is likely to fall into disfavor with the general public, which is beginning to realize the serious risk it runs of contracting not only typhoid fever but sometimes cholera, as was demonstrated by the epidemic of Grimsby, in 1893. In 1889 Giaxa made a series of bacteriological experiments, with reference to the action of sea water and oysters on pathogenic microbes. He found that the multiplication of the cholera bacillus in sea water depended upon the number of other microbes present. The opinions regarding the presence of the bacillus of Eberth and its harmful power were not thoroughly established until Professor Chantemesse took up the question and cited facts proving the reality of the propagation of typhoid fever by oysters. A merchant in a small town in the province of Hérault, not long since, received a consignment of oysters coming from Certe. Fourteen persons of the town (where there had not been a single case of typhoid fever for a year) contracted the disease after eating of these fresh raw oysters; two of them died of malignant typhoid fever. It was impossible to deny the relation of cause to effect in this instance, so well studied and authenticated. The point to elucidate was whether other oysters, coming from no matter where, were capable of producing the same deleterious results. In order to determine this absolutely, Professor Chantemesse bought at the Paris markets Marennes oysters, English and Ostende oysters, oysters from Portugal, and other countries. A bacteriological examination disclosed to him the presence of numerous germs, and especially that of the coli bacillus. Some of the best and most healthy oysters were placed in sea water purposely contaminated with the dejections of typhoid cases and the bacillus of Eberth; after remaining twenty-four hours in

the water, they were taken out and preserved closed twenty-four hours longer. At the expiration of that time they were still fresh and contained numerous coli bacilli and typhoid bacilli living. There is, therefore, a manifest danger as regards the contamination of oyster beds or parks for fattening and preserving oysters, by rivers, brooks, and streams carrying in their currents morbid germs of different sorts, as they empty into the ponds, coves, inlets, or bays where oyster cultivation is usually carried on. Unfortunately, it is next to impossible to guard against this danger effectively. But there is a ray of hope for the epicure—a good cook can produce a preparation of the luscious bivalve quite as palatable as the raw material, while he destroys in the fiery furnace the death-dealing microbes.

The case of Dr. Playfair, of London, who was recently condemned for revealing professional secrets, has been a good lesson to all who do not hold sufficiently sacred the confidences obtained in the exercise of their profession. Let us now hear the French on this point. The court of appeals of Douai decided quite recently that in no case can a tribunal authorize the production in court of letters written by a physician and having reference to the treatment and care given a patient, even though the production of said letters be authorized by the physician himself.

It would seem from the foregoing that the permission of the recipient of such missives is not even to be considered. Neither is anything said with reference to their production in court when both writer and receiver agree to it. But as this is strictly a medico-legal question, we prefer to leave it in abeyance. It is enough to know that in France the violation of professional secrecy is a criminal offence, punishable by fine and imprisonment, and that the English law is in the same tenor.

THE TREATMENT OF ACUTE ABSCESES.

TO THE EDITOR OF THE MEDICAL RECORD.

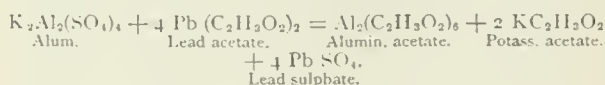
SIR: A wrong statement is made in the article appearing under the above title in this week's MEDICAL RECORD, which must not, in my opinion, be left uncorrected. Dr. Peet says in his paper on the treatment of acute abscesses:

"The acetate of aluminium is made up as follows:

R Pulv. alum. 5 v.
Pulv. plumbi acet. 5 xxv.
Aque distil. q.s. ad O iv.
M.

"There is a precipitate when this solution is made up and the bottle should be shaken before its contents are used."

This would give one the idea that the precipitate is the acetate of aluminium, or at least some ingredient with medicinal properties. As a matter of fact, the precipitate is the inert sulphate of lead, and should never be used when acetate of aluminium is wanted, but should always be filtered away; or, still better, the perfectly clear solution of aluminium acetate is decanted after allowing the heavy sulphate of lead to settle down to the bottom of the vessel. The chemical reaction occurring in making this preparation is as follows:



As the solution of aluminium acetate is, on account of its harmlessness, generally used profusely in open wounds, granulating surfaces, extensive burns, etc., the presence of the sulphate of lead may prove a positive source of danger, namely: the absorption of lead

may cause lead poisoning. That this possible source of danger is taken into consideration by others besides myself is shown by the fact that in all pharmaceutical books in which a formula for the preparation of soluble aluminium acetate or solution is given, the directions are added that it be not made in warm weather or that it be allowed to stand a few hours on ice before being filtered, so as to allow the lead sulphate to precipitate out as completely as possible (the latter being to a very slight extent soluble in warm water). In conclusion I will say that the solution of aluminium acetate has been used for decades as an antiseptic dressing and is the well-known "solutio Burrowi," of the European physicians. The formula, though, differs materially from that given by Dr. Peet, the latter containing an unnecessarily large proportion of lead acetate and too small a proportion of alum.

WILLIAM J. ROBINSON, PH.G., M.D.

NEW YORK, October 10, 1896.

Surgical Suggestions.

Indications for Removal of Surgical Dressings.

—1. The removal of stitches. 2. The removal of drainage tubes. 3. Saturation of dressings by an abundant discharge. 4. Soiling of dressings by faces, urine, or vomited matter. 5. The disturbance of the dressing by a restless patient. 6. Pain if it is due to pressure, and especially if of a pulsating character. 7. The occurrence of secondary hemorrhage. 8. Fever if it points to some trouble in the wound.—ROTH.

Malignant Diseases of Larynx.—Dr. Delavan (*New York Medical Journal*, September 5, 1896) advances the following propositions: 1. Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by an operation, in the absence of a decided indication to the contrary, and the operation should be performed with the least possible delay. 2. Every tumor of the larynx suspected to be malignant, of intrinsic origin, of limited extent, and apparently freely removable, justifies an exploratory thyrotomy in a suitable patient, in the absence of infiltration of the surrounding structures and of affection of the lymphatic glands.

Treatment of Crural Hernia by an Inguinal Operation.—This operation is performed in six stages, viz.: 1. Opening of the inguinal canal. 2. Exposure of the superior orifice of the crural canal and isolation of the neck of the crural sac. 3. Extension of the crural hernia into the inguinal wound. 4. Opening of the crural sac and removal of the same, together with any omentum it may contain. 5. Closure of the crural ring by sticking Poupart's ligament to the pectineal fascia. 6. Closure of the inguinal wound by sutures.—*Revue de Chirurgie*, March, 1896.

Pus Tubes.—Dr. Thomas A. Ashby (*American Journal of Surgery and Gynecology*, August, 1896) says: "I have become more and more convinced from a large experience with pus tubes that the best results will follow in those cases in which the uterus is removed with the pus sacs. The rule I adopt is this: When the pus tube or tubes can be enucleated and removed without rupture or without leaving an infected area behind, to confine the operation to a simple removal of the pus sac. When the tube is closely attached to the uterus and cannot be easily separated from it, or when the uterus has been infected, either by the constant discharge of pus through the uterine cavity, or by softening or localized deposits of pus in its walls, it is far safer to remove the entire organ or to amputate at the junction of the body with the neck.

Spastic Paralysis.—Dr. Bullard (*Boston Medical and Surgical Journal*, September 3, 1896) summarizes as follows: Operative procedures—tenotomy and tenomyotomy—are of much value in cerebral spastic paralysis when their aim and scope are fully understood. They correct the deformity permanently, and they place the limb in a favorable condition for treatment by other means; they are not themselves curative. Muscular tissue alone should not be divided. When possible the tendons should be cut. When this is not possible either muscle and tendon, or muscle and aponeurosis.

Operative Gynecology and Insanity.—Dr. A. H. McFarland, in the *Cincinnati Lancet-Clinic*, says that: 1. Gynecological operations are more likely than any other surgical procedure to distract the mind. 2. Hereditary antecedents of the patient should always be determined. 3. In insane patients operations should be performed only when the physical condition endangers life or renders it insupportable. 4. Patients, precedent to the operation, should be in a calm frame of mind; hence, moral treatment of the patient previous to operating is the best prophylaxis. 5. Inherited and acquired insane constitution is the fundamental factor in most cases of insanity. This conclusion does not, however, justify us in ignoring physical diseases immediately preceding or associated with insanity. 6. Healthy genital organs do not give rise to reflex symptoms; consequently caution should be exercised in operating for the relief of insanity. 7. Operations may be satisfactory in properly selected cases.

Fistula in Ano.—Dr. S. G. Gant gives the following twelve cautions that should be observed in operating for fistula in ano: 1. Always operate under rigid aseptic conditions. 2. Be certain that all sinuses and diverticula have been divided. 3. See that the director is not forced out of the main tract into the neighboring tissues. 4. Divide the sphincter at a right angle, and not obliquely. 5. Ligature or twist all spurting vessels. 6. Guard against injuring the peritoneum when the sinus is high up. 7. Guard against cutting the vagina, prostate, or urethra when the sinus is in the anterior wall of the rectum. 8. Do not operate on patients suffering from acute phthisis or Bright's disease. 9. Give patients the benefit of the sun as much as possible. 10. Do not pack the dressings tightly after the first twenty-four hours, but lay the gauze loosely in the bottom of the tract. 11. Warn your patient of the possibility of incontinence following the operation. 12. Be guarded in your prognosis.—*Langsdale Lancet*.

Tuberculous Abscesses.—Dr. Gage, in the *Boston Medical and Surgical Journal*, September 10, 1896, draws the following conclusions: (1) An abscess occurring in connection with tuberculous disease of the bones or joints is always secondary in importance, as well as in development, to the primary disease. Its treatment must not, therefore, in any way interfere with the treatment of the original lesion. (2) When the abscess is accompanied by any evidences of constitutional impairment, or interferes in any way by its location with the use of proper mechanical treatment, it should be immediately opened. When there is no interference with general health or with mechanical treatment, the abscess, if it presents a pure tuberculous infection, may be left until it is nearly ready to open spontaneously. If it presents a mixed infection, it is to be opened at once. (3) In all cases abscesses are to be opened as soon as they approach the surface, to avoid unnecessarily extensive burrowing. (4) Of the

methods commonly used in opening these abscesses, aspiration with irrigation, free incision with curetting, all seem to give inferior results to those obtained by simple incision in the most dependent portion, with the least possible interference with the walls of the abscess.

Hip-Joint Disease.—In young children the very beginnings of hip-joint disease are announced by muscular twitchings during sleep; added to this, the subject is irritable, the secretions are disturbed, the appetite is fictitious, the muscles are flabby and shrunken away on the affected side, the countenance is pale, and the signs of illness are very apparent. Soon follows a little limp in the gait, attended with pains in the knee or ankle-joint—not often in the hip. These pains are at first very slight, and may escape attention unless the medical attendant is very alert. A rise of temperature will be sometimes noticed in the evening, and it may be continuous; toward the last of this stage more or less spasm of the muscles will have supervened.—*Medical Arena*.

Absolute Alcohol as a Disinfectant for Instruments.—Dr. Robert L. Randolph publishes, in the *Johns Hopkins Hospital Bulletin*, September-October, 1896, a bacteriological study of Squibb's absolute alcohol (98½ to 99½ per cent.) as a disinfectant for cutting instruments used in eye operations. The fact that cataract operations require a keener knife than other operations in surgery, and that heat is therefore objectionable, because it dulls the edge, led the writer to test the value of alcohol, which Reinicke says is the quickest disinfectant that can be relied upon for disinfecting the hands. Scrubbing them in alcohol of ninety per cent. strength for five minutes, he thinks, in taking up the fat takes up the bacteria from the hands, so that they can be washed away. The writer has found no experiments recorded as bearing upon the efficacy of alcohol as a disinfectant for instruments, and in so far his tests represent the only work of the kind that has been done. Inoculation of fifty tubes with fifty eye instruments, taken at random from the experimenter's case and from those in hospital use after being cleansed in the usual way, resulted in sixteen tubes remaining sterile. We will not enter into the experimenter's test methods, but in his own words: "It is evident that the alcohol in the first and second series was adequate for disinfecting purposes, but it is equally true that alcohol is totally inadequate for disinfecting instruments which have been infected with the staphylococcus albus in pure culture, and this might contraindicate our relying upon absolute alcohol for disinfecting instruments which had been used in an operation when the pyogenic organisms are present in great numbers—as, for instance, in panophthalmitis." The conclusions he draws are: 1st. That of a given number of eye instruments, by far the majority are infected by exposure to the air. 2d. That absolute alcohol would seem a valuable disinfectant for instruments infected under the conditions which ordinarily surround us in everyday life. This conclusion seems warranted by the results obtained in the first and second series of experiments. Attention may be called to the fact, too, that in the second series the nails were all without a doubt infected, and it might be said that they had been exposed to conditions which, to say the least, were extraordinarily favorable for infection; so that this series, I think, is strongly suggestive that alcohol possesses disinfectant properties of no little value. 3d. That the septic character of instruments infected with a pure culture of staphylococcus albus is not altered by exposure for twenty minutes to the action of absolute alcohol.

Reviews and Notices.

ANATOMY, DESCRIPTIVE AND SURGICAL. By HENRY GRAY, F.R.S., F.R.C.S., Lecturer on Anatomy at St. George's Hospital Medical School. A New Edition, thoroughly Revised by American Authorities from the Thirteenth English Edition, Edited by T. PICKERING PICK, F.R.C.S. With 772 illustrations, many of which are new. Philadelphia: Lea Brothers & Co. 1896.

THIS new edition of Gray's Anatomy is thoroughly revised and brought up to date. There are many new illustrations, though the old ones which we have cause to regard, through long association, with some affection are in great part retained. With these constant and careful revisions, Gray's will long remain pre-eminent among the text-books of anatomy.

A TEXT-BOOK FOR TRAINING-SCHOOLS FOR NURSES. Including Physiology and Hygiene and the Principles and Practice of Nursing. By P. M. WISE, M.D., Medical Superintendent, St. Lawrence State Hospital; Editor of the State Hospitals Bulletin; Professor of Psychiatry, University of Vermont. With an Introduction by Dr. EDWARD COWLES, Physician-in-Chief and Superintendent of the McLean Hospital, Boston, Mass. In two volumes. New York: G. P. Putnam's Sons. 1896.

THE first volume of this useful work is devoted to a brief study of anatomy and physiology and to the elements of nursing, such as bedmaking, observation of symptoms, and clinical records. In the second the principles and practice of nursing are taught in a thoroughly practical and interesting manner, considerable space being devoted to the nursing of the insane in hospital and in the household. The two volumes together constitute an excellent book of instruction for nurses, and one which they may profitably study as a supplement to the lectures and bedside teaching in the training-school.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. From Models in the Museum of the Saint Louis Hospital, Paris. With explanatory woodcuts and text by BESNIER, FOURNIER, TENNESON, HALLOPEAU, DECASTEL, FEULARD, and JACQUET. Part IV. Edited and Annotated by J. J. PRINGLE, M.D., F.R.C.P. London: The Rebmman Publishing Company, Limited. Philadelphia: W. B. Saunders. 1896.

PLATES XIII. to XVI. in regular series represent in this part mycosis fungoides (two plates), psoriasis, and tubercular leprosy of the face. The first of the illustrations of Alibert's disease was made in 1889 from one of Besnier's cases. It is a typical case of what Alibert called in 1812 *Piau fungoide*. The second photolithochrome shows a single ulcerating tumor in the axillary region—illustrative of the form in which tumors appear from the first. Accompanying this instructive article are six woodcuts showing various stages of this affection. The text is furnished by the careful pen of Henri Feulard, while Ernest Besnier has written the interesting description which goes with the first plate.

Feulard also contributes the article on psoriasis, for which the illustration is taken from a model of one of Fournier's cases. It is of the ordinary type.

The lesions upon a separate figure of the penis would need the *etiquette* to make one sure of the disease.

Tuberculated leprosy is well represented and the disease is well treated of by Besnier. A woodcut shows the same patient nine years later, when the face has been freed from active lesions by internal and external treatment. A high order of lithographic work and of literary accompaniment are combined to make this production valuable.

RHEUMATISM, ITS NATURE, ITS PATHOLOGY, AND ITS SUCCESSFUL TREATMENT. By T. J. MACLAGAN, M.D., Physician-in-Ordinary to their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein. Second Edition. London: Adam and Charles Black. 1896. New York: The Macmillan Company.

It is twenty years, the author tells us, since he wrote the opening sentences of the preface to his first edition. We do not remember having reviewed the first edition, so cannot dismiss the present attempt with the usual few lines pointing out the changes and improvements made in the rewriting.

To us and to most readers it is a new work. Those who read the first are, many of them, dead, but others will remember the author's introduction of salicin as a remedy for rheumatism, in 1876. Prior to this rheumatic fever was, as the author says, the despair of physicians, who were practically helpless in cutting short the attack. In the opening chapter the forms of rheumatism are described and compared with each other, and with conditions which occasion similar symptoms. Then follows a review of the lactic-acid theory, the neurotic theory, the action of malaria, etc.

The writer considers the lactic-acid theory ingenious and beautiful, and by no means devoid of foundation, but one which cannot be accepted without careful consideration. It is impossible, he says, that the curative effect of salicylic acid can be due to any neutralizing action on lactic acid.

The many and varied forms of treatment which have prevailed at different times are discussed, perhaps at greater length than the fallacious theories upon which they are based would seem at times to warrant. A good-sized chapter is devoted to the mode of action of the salicyl compounds.

Chapters on rheumatic hyperpyrexia, the relation of rheumatism to chorea, and anomalous forms of rheumatism, which close the work, furnish interesting reading. The paper and printing are excellent.

THE HUMANE SOCIETY OF THE COMMONWEALTH OF MASSACHUSETTS. Report 1895 and 1896. Boston. 1896.

THIS volume contains an interesting report by Drs. J. COLLINS WARREN and GEORGE B. SHATTUCK of an investigation into the methods of resuscitating the apparently drowned. It contains also much valuable information concerning the society and its work.

JACKSON'S READY-REFERENCE HANDBOOK OF SKIN DISEASES. The Ready-Reference Handbook of Diseases of the Skin. By GEORGE THOMAS JACKSON, M.D., Professor of Dermatology, Woman's Medical College of the New York Infirmary and in the University of Vermont, Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. New (second) edition. In one 12mo volume of 589 pages, with 69 illustrations and a colored plate. Cloth, \$2.75. Philadelphia: Lea Brothers & Co. 1896.

IN bringing out a second edition of this work considerable improvement has been made both by the author and by the publisher. The volume presents a better appearance, and the text and illustrations have been added to, both in quantity and quality.

The same yellow-jacket-like frontispiece confronts one as heretofore. While the pathological portion of the picture may be true to nature, the outline drawing of the individual's anatomy can scarcely be so considered. One is always prepared to admire in art, though never having seen it in nature, a blue Italian sky or a lilac atmosphere of the Pacific Coast, although believing the painting overdrawn. It is difficult to admire this picture from the artistic side, or to believe that the coloring is not exaggerated. However, the case is an interesting one.

While the alphabetic arrangement of skin diseases is not to be compared to a scientific classification, were one possible, it does away with the possibility of controversy and criticism, and makes reference to particular subjects easy.

To the list of the first edition have been added some seventeen additional diseases, beginning with acromegaly and ending with porokeratosis, and the number of extra illustrations exceeds the new chapters.

The text in many parts has been rewritten and added to, enhancing the value of an already useful work conscientiously prepared.

Intercostal Neuralgia, double-sided and very violent, persisting for months, was completely and definitely cured by Dr. Goldberg after three injections of ichthyol. The solution employed contained thirty centigrams in one hundred grams of water. A syringe-ful each day was injected. The pain lasted two or three hours after each injection, but was not too severe to keep the patient away from the theatre.—*Gaz. hebdomadaire de la Russie Médecine*, No. 2, 1896.

Therapeutic Hints.

Pseudo-Jusquiamine, one of the three alkaloids discovered by Merck in the *Duboisia myoporoides*, acts as a mydriatic, decreases salivary secretion, and when injected subcutaneously, even in large doses, diminishes the number of pulsations without paralysis of the vagus. It has no value in hystero-epilepsy, and is not toxic even in large doses.—BUONAROTTI.

Headaches.—Dr. M. Galliard directs attention to a form of headache which is differentiated from migraine and syphilitic cephalalgia by its continuity, the absence of nausea and vertigo, and its cessation at night. It is nearly always limited to the forehead, occasionally to the vertex, to the occiput, or to the temples. It generally survives any coincident disorder of the *primæ viæ*, and is distinct from the persistent headache of neurasthenia, which it resembles in its resistance to ordinary remedies. Dr. Galliard recommends a grain and a half of calomel in the morning before breakfast for six consecutive days. On the third or fourth day diarrhœa with colicky pains may set in. The gums should be carefully watched. If the headache should persist, a similar six days' course should be given after a few weeks.

Alcohol as a Disinfectant in Obstetric Practice.

—Drs. Ahlfeld and Vahle (*Deutsche medicinische Wochenschrift*, 1896, No. 6) describe some experiments made to ascertain the value of alcohol as a practical disinfectant in obstetric practice. The results obtained by disinfecting the hands with alcohol have been ascribed to the solvent properties of alcohol upon fatty tissues, thus allowing bichloride of mercury and other antiseptics to come into immediate contact with the bacteria. Some assert that alcohol does not destroy bacteria, but coagulates the epithelia of the skin, and in this way hardens them without preventing the passage of germs. It has been found that alcohol does destroy germs, but acts more efficiently upon micro-organisms containing water or those found in tissues containing water. Dr. Ahlfeld finds that alcohol does not act simply by dissolving fatty substances, because ether, which is a better solvent of fat, is not very efficient as an antiseptic. Experiments prove that alcohol exerts a direct influence in destroying virulent streptococci. Alcohol exerts but feeble influence upon dried tissues containing bacteria and upon bacteria from which the water has been removed. An experiment was made with amniotic membrane when wet and when dry, which illustrated in a striking manner the action of alcohol on a moist membrane. Experiments upon the hands of attendants and nurses demonstrated the value of alcohol as a disinfectant.

Disinfectants in Obstetrics.—Dr. Jewett (*American Gynecological and Obstetric Journal*) submits the following interesting conclusions to an article on this subject: There is no clinical proof that puerperal infection can occur from normal vaginal secretions. All childbed infection in women previously healthy is by contact. Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious. Its general adoption in private practice could scarcely fail to be mischievous. In healthy puerperæ, delivered aseptically, post-partum douching is also contraindicated. These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded. A purulent vaginal secretion exposes the woman to puerperal infection. In the presence of such discharges at the beginning of labor, the vagina should be rendered as nearly sterile as possible. Concentrated antiseptic solutions should not be used, and the process should

be conducted with the least possible mechanical injury to the mucous surfaces. In case of highly infectious secretions, the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor. Sterilized glycerin, or other suitable material, may be used to restore the proper lubrication of the birth canal. The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or oftener daily for several days during the last weeks of pregnancy. It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge. Clinically, the amount of the discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces usually furnishes a sufficient guide to the treatment. Probable unclean contact within twenty-four or forty-eight hours is an indication for prophylactic disinfection.

Measles.—Chronic bronchitis, broncho-pneumonia long in resolution, and, though less often, empyema, are familiar sequelæ, as well as chronic tuberculosis, especially of the lungs and bronchial glands. Measles indeed seem to prepare the ground for the tuberculous process in a large proportion of children who die from tuberculosis in its various forms, whether acute or chronic; and there are very frequent instances of previously healthy children in whom wasting and chronic disorder, both in the pulmonary and alimentary tracts, and not necessarily tuberculous, seem to arise directly out of severe attacks of measles.—H. BRYAN DONKIN, *The Diseases of Childhood*, p. 186.

Eczema of the Breast and Nipple.—The treatment of eczema of the breast and nipple is with soothing lotions, dusting powders, and cooling salves. When fissures occur, every effort should be made to avoid weaning a child dependent upon its mother's milk; and in such event pencillings of the crack with weak solutions of the nitrate of silver or with compound tincture of benzoin may be used. The Lassar paste, made stiff enough with talc to resist simple contacts sufficient to remove a softer unguent, is an admirable application to these surfaces. All lotions and salves require removal with a weak alkaline and glycerin wash before the child is put to the breast. The use of the rubber nipples and shields sold in the shops is not wholly satisfactory. In treating eczema of this region it is of value to spread strips of soft muslin with the unguent or pomade ordered, and to retain the dressing in contact with the inflamed surface by the aid of cheese-cloth bandages.—JAMES NEVINS HYDE, M.D., *Twentieth Century Practice*, vol. v., p. 226.

Neurasthenic Headache.—

R Ammonii carbonatis..... ʒ iij.
Tinct. moschi..... ʒ vi.
Spts. lavandulæ..... i.
Elix. ammonii valerianatis..... ʒ viij.
M. S. Two teaspoonfuls in water at a dose.

—HAMILTON.

Paralysis Agitans.—

R Strychninæ sulphat..... gr. i.
Acid. arseniosi..... gr. i.
Ext. belladonnæ..... gr. v.
Quininæ sulphat..... ʒ ij.
Pil. ferri carbonat..... ʒ ij.
Ext. taraxaci..... ʒ i.
M. et ft. pil. No. 90. S. One pill three times a day.

—S. W. GROSS.

Obstinate Vomiting of Pregnancy was cured by the application of electricity, but it was discovered that the battery was not in working order at the time the electrodes were applied, so that it was purely by suggestion that the result was accomplished.—DOLÉ-RIS, *Lyon Médicale*, May 17, 1896.

Lobelia may be given in nauseating doses to facilitate reduction of strangulated hernia.—ADOLPHUS, *The Medical Brief*, October, 1896.

Dyspeptic patients with constipation and enlarged liver often do better on bicarbonate of sodium, ten grains to a pint of hot water, slowly sipped three times daily, than on any other form of treatment.

Loeffler's Solution.—

R Alcohol 60 parts.
Toluol. 37 "
Liq. ferri perchloridi. 4 "
Swab the affected parts with this every two or four hours.

Malarial Chills.—

R Liquor potassii arsenitis,
Tinct. iodi āā ℥. ss.
S. Ten drops in water or milk three times a day.
—*New York Polyclinic*.

Antiseptic Wash for the Mouth.—

R Thymol. gr. iv.
Benzoic acid gr. xlv.
Tincture of eucalyptus ℥ ss.
Essence of peppermint ℥ i.
Chloroform ℥ xv.
Alcohol ℥ iij.
M. Twenty drops of this solution, in a glass of water, may be used at a time.
—*Presse Médicale*.

Ulcerated Sore Throat.—

R Chloral hydrate. gr. xx.
Water. ℥ iij.
Syrup. ℥ i.
S. Teaspoonful every hour or two for pain and to induce sleep.
—BRODNAX, *Medical Council*.

Preventive Treatment of Gout.—We may almost always prevent the painful attacks in chronic gout and dissolve the deposits of biurates in the joints by combining the use of lycetol with proper regime. This drug has the uric-acid solvent properties of piperazin joined to the diuretic action of tartaric acid.—HENLEY, *Denver Medical Times*, January, 1896.

Hot Baths in broncho-pneumonia of children are advocated by Dr. Lemoine (*Gaz. Méd. de Liège*, May 7, 1896). Fifty-six cases have been thus treated. They were all severe and all recovered. If there are no extensive pulmonary lesions in the beginning, a tepid bath is given and repeated every three hours until defervescence. If lesions are extensive and the fever is high, twice daily for two or three days a mustard bath is given, and in the intervals a simple bath every three hours. In five adult cases of very severe congestion in the grippe, the bath succeeded completely after all other medication had failed.

Asthma.—There have been numerous classifications of the disease, but it appears to me that they can all be included under three heads, according to the apparent provoking cause, viz.: (1) Irritation of the terminal filaments of the vagus nerve, either in the respiratory passages, particularly the nasal, or in the digestive tract, the stomach probably chiefly; (2) irritation of the main trunk of the nerve itself; (3) irritation of its origin in the brain. Of these three causes, the first two are decidedly the most common, and are frequently combined, as is illustrated by some of the cases I have recorded. The last, or purely nervous form, in which the paroxysm occurs independently of any local irritation, is probably rare, and, I am inclined to believe, will be found to be more uncommon the more thoroughly we are able to investigate the conditions in each of our patients under which an attack occurs.—DR. SAUNDERS, *Canadian Practitioner*, March, 1896.

Oil of Cloves is added to small doses of ipecac to correct the nauseating properties.

Threatened Abortion.—Inject by the rectum twenty-five or thirty drops of tincture of asafœtida in two or three soup-spoonfuls of water.—WARMANN.

Antineuralgic Powder.—

R Powdered guarana. 0.75 cgm.
Sulphate of quinine 0.20 "
Bicarbonate of sodium. 0.75 "
Salicylate of sodium 0.75 "
For one dose to be taken in several cachets.

—*Le Scalpel*.

Intestinal Hemorrhage in Typhoid.—

R Benzonaphthol. 5 gm.
Salicylate of bismuth. 10 gm.
Extract of opium 0.10 cgm.
Syr. of rhatany. 30 gm.
Syr. of orange flower. 30 gm.
Mucilage 120 gm.
Soup-spoonful every half-hour.

—*Le Scalpel*.

Aqueous Extract of Cannabis Indica is said by Lees (*British Medical Journal*, I., 300, 1895) not to possess the almost toxic influence of the alcoholic preparation. It does not influence the secretion of the bronchial glands, and hence is at times preferable to opium. In phthisis it is said to calm the attacks of cough, and is a valuable soporific in diseases of infancy. The adult dose is from two to four grams, while children may be given one or two centigrams for each month of their age. The following formula is given:

R Ex. cannabis indicæ aq. 10 gm.
Aq. aurantii flor. 50 gm.
Saccharin (soluble) 0.2 dgm.
Dessert-spoonful once or twice daily.

Extract of Myrtle.—This preparation, made from the dried fruit of the *vaccinium myrtillus*, has been employed by Winternitz in certain cutaneous affections (*Blätter für klin. Hydroth.*, No. 4, 1895), such as seborrhœal, mycosic, and squamous eczemas, with prompt and favorable results. Other observers have extended its beneficial influence to the treatment of burns. A thick layer is painted upon the skin and covered with a thin layer of absorbent cotton, and the whole is retained by a gauze bandage. Upon the face after the extract is applied rice powder is sprinkled. When the cotton adheres it should be removed once a day or less frequently, after moistening with a one-per-cent. chloride-of-sodium solution.

Constipation in Women.—A very frequent cause of disease in women is constipation. It is remarkable how careless many women are in this respect. It devolves upon the mother to educate the daughter that it is necessary to health that the bowels should move at least once in twenty-four hours. Not only do they have from constipation a poisoning of the system from absorption of the liquid and gaseous contents of the bowels, the ptomaines or poisons developed in them from fermentation producing depressing effects on the nervous system, with derangement of the stomach and assimilative organs, as shown in pale faces, debility, neuralgia, headache, etc.; but we get, in addition, from impaction of the feces in the rectum, uterine displacement, with its consequent disturbances in the pelvic circulation and with its general reflex neuroses. Gynecologists know well that the left ovary is more often diseased than the right one. The left ovarian vein has no valve, and a slight pressure upon it prevents it emptying. Doubtless the pressure of a loaded rectum in this event is a prolific cause of ovarian disease, especially on the left side.—DR. HOLMS, *Southern Medical Journal*.

New Instruments.

TWO NEW NEEDLE HOLDERS.

By GEORGE HASLAM, M.D.,

FREMONT, NEB.

SOME time ago Messrs. Tiemann & Co. made for me a needle holder which has proved very satisfactory for suturing or catching on a needle and thread a bleeding point in any deep cavity.

The blades of the instrument are five inches long, making the whole instrument nine and one-half inches in length; at the same time the blades are only one-fourth of an inch in cross-section.

As seen in Fig. 1, the chief advantages offered in

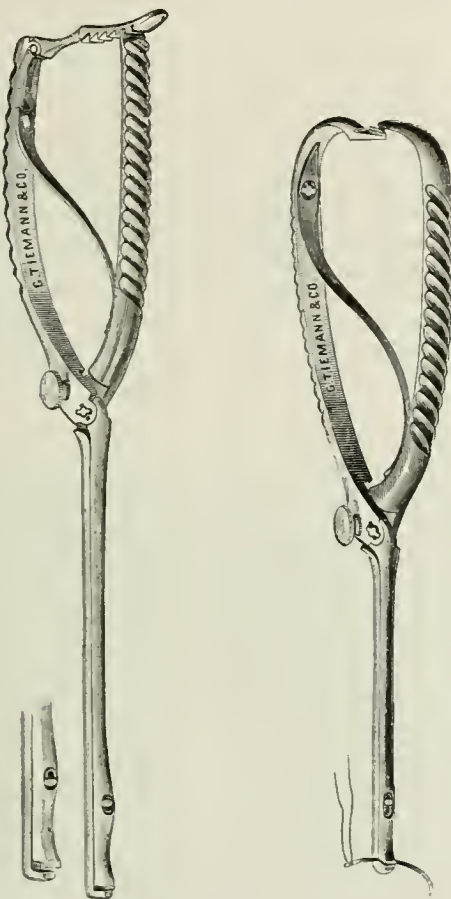


FIG. 1.

FIG. 2.

this instrument are an almost unobstructed view of the site of operation; an instrument which will with equal facility hold a Hagedorn or an ordinary needle; lastly, the ease with which a needle is caught, for there is no necessity of passing one jaw under the needle, as with most instruments.

Fig. 2 represents a smaller instrument, fitted with the well-known automatic catch, and designed for more superficial work. Both instruments have proved very useful in my hands, and they are readily cleaned.

An Imaginary Invalid, who lived in a large square of London, was ordered by his doctor to take a turn round the square every morning before breakfast. One day the doctor found him very nervous and dejected. "Ah, doctor," he said, "I am certainly much worse. I have been able to walk round the square until to-day, but this morning I was so tired that when I had walked half-way I had to return home again."—*The Scalpel*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 24, 1896:

	Cases.	Deaths.
Tuberculosis.....	185	101
Typhoid fever.....	33	9
Scarlet fever.....	72	5
Cerebro-spinal meningitis.....	4	1
Measles.....	43	2
Diphtheria.....	163	16
Smallpox.....	0	0

The Russian Government has issued instructions to all its consuls to give the necessary *visé* to the passports of all physicians, whether Jew or Christian, who may wish to attend the Moscow congress.

Insomnia is a common complaint of Arctic explorers who winter in the polar regions, but with the return of the sun the ability to sleep the usual number of hours is regained.

Medical Women in the Elizabethan Period.—During the sixteenth century two women were licensed to practise, one surgery and the other medicine, in Norwich.

The Cost of a Medical Education in Germany is estimated to be about \$700 a year for four years. This includes only the necessary expenses for tuition fees, books, and board, and allows nothing for beer and tobacco.

An Inspector of Medical Schools.—It has been proposed that an official be appointed to inspect all the medical schools of the country, in order to make certain that they do what they promise in their catalogues to do in the way of imparting an education.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By Francke Huntington Bosworth, M.D. 8vo, \$14 pages. Illustrated. William Wood and Company, New York. Price: muslin, \$5.50; leather, \$6.50.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS FOR STUDENTS AND PHYSICIANS. 8vo, 938 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY for the year 1896. 8vo, 834 pages.

TRANSACTIONS OF THE MEDICAL SOCIETY OF WISCONSIN for the year 1896. 8vo, 593 pages.

DISEASES OF THE EYE. By G. E. de Schweinitz, M.D. Second Edition. 8vo, 679 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price: cloth, \$4.00; sheep or half morocco, \$5.00.

A TEXT-BOOK OF SPECIAL PATHOLOGICAL ANATOMY. By Ernst Ziegler. Translated and edited from the eighth German edition. By Donald MacAlister, M.D., and Henry W. Cattell, M.D. 8vo, 575 + xxxii, pages. Illustrated. The Macmillan Company, New York.

MODERN GREEK MASTERY: A SHORT ROAD TO ANCIENT GREEK. By Thomas L. Stedman, M.D. 12mo, 380 pages. Harper & Brothers, New York.

Winter Health Resorts.

By A. F. McKAY, M.D.,

CHICAGO, ILL.

FROM meteorological tables, geographical and other data, a general opinion can be derived as to the nature of the climate of a section, and whether it is favorable or unfavorable to health. It will generally be found, however, that there are strictly local conditions which may seriously affect the salubrity of a particular resort or hotel, as too much shade, bad drainage, poor water, malaria, etc., which should enter into consideration in determining whether a given locality is or is not the best place to send a special case, which can be ascertained only by a personal examination by disinterested parties. We would, therefore, call attention to the responsibility assumed by a physician in sending a patient a long distance from home, merely with a vague idea of the benefit to be derived from a change, without a precise knowledge of the place or conditions which the patient will find at his destination.

Climate is so dependent upon purely local conditions, pertaining often to only a limited area of territory, that it is impossible for any work based solely upon "official" data, taken at fixed points, to convey anything more than a generalization. These conditions can only be ascertained by a careful study of the localities claiming the patronage of the health seeker, and the physician who prescribes climatic change for his patient on generalizations will benefit just about as large a proportion of them as he would if he filled his prescription for all patients from one bottle. The ideal health resort must have a natural basis upon which to build, conditions of soil which render it easily drained, ample supply of water free from contamination and not too strongly impregnated with minerals to be suitable for drinking-purposes. Owing to the attempt so often made to combine the functions of health and pleasure resorts, places which have the elements of the former in large degree are often rendered useless as such from the preponderance of the latter. In studying winter resorts we will save space and avoid repetition by making a classification of climates into four classes, based upon variations of altitude, temperature, rainfall, and humidity.

Class 1.—A low, damp, warm climate will include all below fifteen hundred feet in altitude, with a mean annual temperature of 55° F. or above, an annual rainfall of thirty-five inches or more, and a relative humidity of seventy-five per cent. or more.

Class 2.—A medium, damp, warm climate will include all having an altitude between fifteen hundred and three thousand feet, a mean annual temperature of 50° F. or higher, an annual rainfall of twenty-five inches or more, and a relative humidity of seventy per cent. or more.

Class 3.—A medium high, dry climate is one between three thousand and forty-five hundred feet in altitude, with an annual mean temperature of 45° F. or higher—governed by latitude—a rainfall of twenty or more inches, and a relative humidity of sixty-five per cent. or more.

Class 4.—A high, dry climate is one above forty-five hundred feet in altitude, with mean temperature from 40° to 50° F., an annual rainfall of less than twenty inches, and a relative humidity of below sixty per cent.

While in a low, damp, warm climate pulmonary affections are less prevalent as indigenous disease than in a low, damp, cold climate, yet it is not so favorable for recovery as the higher and drier climates. Kidney disease, in general, is most favorably affected

in the medium high, dry climate, where evaporation from the skin is active if not subject to too sudden changes. Digestive diseases are less frequent and less severe in the low, damp, warm climate than in almost any other, although affections of the liver are more frequent, this type of disease being more prevalent in all warm, damp climates. The warm, damp climate is the most favorable for nervous diseases, especially if complicated by disturbances of the circulation. Acute inflammatory diseases are more prevalent and more severe in the high, dry climates than in the low levels and where there is more moisture. Rheumatism is generally improved by the high, dry climates more than the low, damp ones, except when complicated by cardiac affections, when a low altitude and dry climate should be selected. While this classification is but crude and fragmentary, yet it may aid the physician somewhat in the selection of a resort for various classes of invalids.

In the consideration of winter resorts the aim will be not so much to cover all the possibly available resorts of the South as it will be to mention a few resorts available for all classes of invalids, not only classes with regard to the diseases for which it may be desirable to find a resort, but with regard to the circumstances and conditions of the health seeker.

Beginning with Washington, on the border line between summer and winter resorts, we will consider a limited number in Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Louisiana, Arkansas, Kansas, Colorado, New Mexico, Texas, Arizona, and California.

WASHINGTON, D. C.

In an article of this kind no detailed description of Washington as a city need be attempted, further than to state that it furnishes more attractive entertainments as a winter resort than perhaps any other city in the union. The winter climate is an uncertain one, as experienced by the writer during nine years' residence. Some winters, in fact most of them, average delightful weather; yet there are many disagreeable days and occasionally a winter of severity, when cold weather and a frozen river remind the Northern visitor very forcibly of the weather he left behind him. Washington is practically at sea level, the Potomac being a tidal river to a point some miles above the city. The mean annual temperature is 55° F.; mean precipitation, forty-three inches; per cent. of cloudiness for winter, fifty-eight; and relative humidity, seventy-two per cent., bringing the city under Class 1. Washington is not a desirable winter resort for pulmonary invalids.

VIRGINIA

Can hardly be considered a winter resort, except, perhaps, along the coast region, on the ocean and great bays which indent its shores, where fine fishing and hunting afford ample sport for the pleasure seeker, while the invalid will find almost too many winter days, and is likely to move on farther south. Richmond, Norfolk, Virginia Beach, Newport News, Old Point Comfort, Char'ottesvile, Lynchburg, and Danville, all are places where breaks in the journey to the Southern resort may be made and many entertaining features be enjoyed; but none except those on the coast offer any special attraction as resorts.

NORTH CAROLINA

Furnishes quite a variety of resorts, varying in altitude from sea level to a number of thousands of feet above. The State is divided into three distinct

divisions, known as the "eastern section," the "middle and Piedmont section," and the "mountain section." These divisions are a consequence of the general topography of the State, which may be described as a vast declivity, sloping from the summit of Smoky Mountain, at an altitude of seven thousand feet, to the level of the Atlantic Ocean, which forms the eastern boundary of the State. The length of this slope is about five hundred miles, and it is made up of three immense terraces. The first is the "eastern section," constituting a vast plain extending from the coast inland for a distance of about one hundred and twenty-five miles. The surface of this plain rises by easy gradations at the rate of a little more than a foot to the mile. The second or "middle section," comprising nearly half the area of the State, varies from three hundred to one thousand feet above the sea level. The third terrace, or "mountain section," is the highest elevation in the United States east of the Rocky Mountains, averaging about three thousand feet above the sea. With a situation nearly midway of the nation, north and south, and with the varieties of altitudes, North Carolina furnishes all the gradations of climate found at sea level between the Gulf of Mexico and the Gulf of St. Lawrence, and a variety of products, from the palmetto and *Magnolia grandiflora* to the white pine and hemlock, and from the sugar cane and rice to Canadian oats and buckwheat. One of the first of its resorts reached by rail from the north is

Raleigh, situated midway of this general slope and on the second terrace, enjoying the average of the general temperature of the State. The city is situated upon a granite foundation, which crops out on its southern limit, furnishing abundant material for the finest buildings. The site slopes gently in every direction, affording perfect natural drainage. The clear water streams rising from the granite mountain renders the problem of an abundant and pure water supply one of easy solution. Raleigh is called the "City of Oaks," some of the most magnificent specimens of this monarch of the forest gracing the streets and parks. The elevation of Raleigh above sea level is three hundred and fifty feet. The mean annual temperature is 60.1° F. The mean temperature for January for a period of twenty-one years is 41.2° F. The mean of the lowest temperatures for January is 32.1° F., and, as January is the coldest month, these figures give an idea of the coldest weather likely to be experienced. The average yearly rainfall in 47.67 inches. The average for January is 3.38 inches, and for February 3.67 inches, this being a light average for the two months most likely to be needed as a resort for Northern invalids. Raleigh, being the capital of the State, naturally abounds in social and educational advantages for the home-seeking invalid to whom its medium climate may be adapted. There are good hotel accommodations, and quite a resort business has been attracted. Raleigh comes under Class 1.

Salisbury.—Passing westward and upward from Raleigh, we come to Salisbury, at an altitude of seven hundred and sixty feet. It is one of the best of the small cities of the State, and in climatic features is very similar to Raleigh, the slight rise of a little over four hundred feet not being sufficient to make any marked difference in temperature.

Hickory.—At an altitude of eleven hundred and seventy-five feet and among the foothills of the "mountain section" is Hickory, which, with a fine hotel and beautiful country surroundings, offers many attractions for the invalid.

Hendersonville.—Next to Asheville in size and advantages of hotel and modern city improvements, Hendersonville is the best resort in the mountain section of North Carolina. Its altitude is twenty-two

hundred feet, only two hundred and forty feet below that of Asheville, and, as far as climate is concerned, essentially in the same class.

Charlotte is historically interesting, from the fact that it was here that the Mecklenburg declaration of independence was adopted. It is also the centre of the North Carolina gold fields, has well-paved streets, and is, perhaps, as typical a city of the "new South" as can be found. Tourists *en route* to or from Florida will find Charlotte an excellent place to break the journey, as most excellent hotel accommodations are obtainable. The altitude of Charlotte is eight hundred and eight feet; mean annual temperature, 60° F.; mean annual rainfall, fifty-three inches; mean relative humidity, sixty-seven per cent., bringing the city under Class 1.

Asheville.—Until quite recently Asheville has been known principally as a summer resort, but since the erection of several large and very fine hotels especially adapted to the winter business the place has steadily grown in favor as a winter resort and is one of the most popular in the South. Asheville is situated in the "mountain section" or high terrace of the State, at an altitude of twenty-three hundred and forty feet, protected on all sides by spurs of the Appalachian chain of mountains, which constitute the "feature" of this section. Asheville has attracted some of the wealthiest men of America, who are spending millions of dollars in beautifying and embellishing a country for which nature has done much. The city has spent other millions in furnishing every convenience known to modern city building. Six mountain streams, draining as many valleys, afford perfect drainage for Asheville, while springs of the purest water gush forth in endless number from the hillsides in every direction, thus furnishing an abundance of that very essential element of the ideal health resort. The mean annual temperature at Asheville is 59° F.: mean for winter, 45° F. Total annual rainfall, 42.6 inches, of which 9.5 inches fall during the winter; relative humidity, 70.1 per cent. Asheville is within Class 2 in every particular, and may be considered an eligible resort for consumptives as well as many other invalids.

Tyrone is a little hamlet of about three hundred inhabitants, nestled among the hills at the foot of the Tyrone range of mountains, forty-three miles southwest of Asheville. Its population is almost exclusively of Northern and Western people, and it affords a desirable resort for the home-seeking invalid of moderate means. The altitude of Tyrone is fifteen hundred feet above sea level. Mean temperature for January, 41.29° F.; February, 41.3° F.; March, 52.8° F.—bringing Tyrone on the dividing line between Classes 1 and 2.

SOUTH CAROLINA.

In topography South Carolina very much resembles the eastern and middle sections of North Carolina, but it lacks the mountain section, the highest elevation in the State not exceeding one thousand feet and falling gradually from the northwest to the southeast. The eastern or coast section has but one place of any importance as a resort, viz.,

Charleston.—The climate of Charleston differs but little from that of many favored localities of southern Europe. The mean annual temperature is 67° F., and the mean annual rainfall sixty inches. The relative humidity is seventy-eight per cent. Charleston comes under Class 1, and is hardly to be considered a desirable climate for consumptives, but more favorable for nervous diseases, especially those with cardiac complications. Charleston offers many attractions for the tourist, as the city has many interesting features along commercial and historical lines.

Columbia.—The men who laid out the city of Co-

Columbia over one hundred years ago were far-sighted, liberal-minded men, for the streets are one hundred feet wide, with avenues of one hundred and fifty feet in width, and the site, elevated on a picturesque hilltop overlooking valleys for scores of miles, is one rarely excelled. It affords excellent natural drainage, and there are no stagnant pools or marshes in the vicinity. Columbia has one of the finest water powers in the South. Many of the streets have magnificent rows of elms that shade the walks, and also rows through the middle of wide avenues, giving the city the appearance of a large park. The mean annual temperature at Columbia is 63° F.; and of winter, 47.5° F. The total rainfall is forty-seven inches, the average for the winter months being a little less than four inches. The altitude is four hundred feet.

Aiken has for many years been a prominent resort for consumptives. It is situated in the pine woods, which fact gives it some advantages over places with similar climate but without the woods. The mean annual temperature is about 64° F., with a mean for winter of about 50° F. The mean relative humidity is about sixty-three per cent., the rainfall forty-nine inches, and the altitude two hundred and fifty feet, the town being situated on a ridge overlooking the low country around.

GEORGIA.

In general topography Georgia differs but little from South Carolina, except that in the extreme north-western portion the country is given the characteristics of western North Carolina by the southern extremity of the Appalachian mountains. The highest altitudes in the State are less than two thousand feet, sloping gradually down to the ocean on the east and toward the Gulf on the south. Beginning with the higher resorts, the most prominent from its importance as a metropolis is

Atlanta, the name of which has been so indelibly written on the historical and commercial pages of this nation's history. It is not within the scope of this article to enter into detail with regard to the great industrial and commercial interests of Atlanta, except so far as it may be a matter of interest to the invalid or tourist to know that there will be found every modern convenience and comfort of the most metropolitan cities of the North, together with a climate which admits of the enjoyment of these advantages almost uninterruptedly a great portion of the winter. Atlanta is at an altitude of eleven hundred and thirty-one feet, has a mean annual temperature of 62° F., annual rainfall of fifty-seven inches, and relative humidity of sixty-nine per cent., coming within Class 1, except as to humidity, in which respect it is below that class.

Lithia Springs.—Within forty minutes' ride of Atlanta are the Bowden Lithia Springs, where the temperature rarely goes above 85° or 90° F. in summer, or below 40° F. in winter. The altitude is twelve hundred feet. The place has a semi-sanatorium with artesian water, besides the springs, which contain over four grains of lithium bicarbonate to the gallon.

Mount Airy is one of the highest resorts in northern Georgia, seventeen hundred feet above sea level, and has quite a reputation as a winter resort for consumptives and asthmatics, is free from malarial influences, and is worthy of consideration.

Marietta, but a few miles distant from Atlanta, is quite a popular winter resort, and has some reputation as a resort for consumptives, though why more favorable than other points similarly situated is not apparent.

Rome is a flourishing city of over fifteen hundred inhabitants, situated in the northwestern corner of the State sixty-five miles north of Atlanta. Rome is situated among the foothills of the southern Appalachian

mountains, at an elevation of nine hundred feet, and has a picturesque as well as healthful location.

Augusta is situated on the Savannah River, two hundred and fifty miles from its mouth and two hundred feet above the sea. The city extends along the river bank for a distance of about four miles, giving it a pleasing picturesqueness. The streets are very broad, are bordered with fine trees, and are exceptionally well kept, many being paved with asphalt. Just outside the city, about two miles, is Summerville, built upon the sand hills, a natural sanatorium. Summerville is on the same chain of hills as Aiken, S. C., sixteen miles distant. The mean annual temperature at Augusta is 65° F.; rainfall, fifty inches; and relative humidity, sixty five per cent.

Savannah is pre-eminently a beautiful city, and it is to the fortunate early arrangement of the town that it owes much of its beauty. No other American city has such wealth of foliage, united with all the conveniences of a great commercial city. Its parks and squares are adorned with statues, fountains, and gigantic oaks and magnolias, and among these are roses which bloom luxuriantly in open air all winter. Savannah is eighty-seven feet above sea level, has an annual mean temperature of 67° F., annual precipitation of fifty-three inches, and relative humidity of seventy per cent. Points of interest near Savannah are Bonaventure, a cemetery noted for its unique foliage; and Thunderbolt, where oyster roasts and fish dinners are great attractions. The Isle of Hope is another popular resort, where the best of fishing is found. All of these are reached by electric cars.

Brunswick has grown in ten years from a straggling village to a thriving city of ten thousand souls. Situated upon a peninsula almost completely surrounded by salt water, and with a complete system of sewerage, the town is exceptionally healthful. One of the pleasant features of Brunswick is its chain of a dozen sea islands, with long stretches of magnificent beach, which are rapidly gaining prominence as a winter resort. These islands abound in game, such as wild boar, deer, and quail. From the standpoint of either business, pleasure, or health, Brunswick should not be overlooked by the tourist or home seeker. Brunswick is supplied with artesian water from wells four hundred feet deep. The mean temperature for six months, from October to March, is 59° F. The mean for January is 47° F., while that of August is 82° F.

Thomasville.—Among the pines of southern Georgia is Thomasville, which for some years has been gaining in popularity as a winter resort for invalids, especially those of a tuberculous type. Thomasville is three hundred and fifty feet above sea level, and with a rolling topography has good natural drainage and freedom from malarial influences. Realizing the value of invalid patronage, Thomasville has provided liberally in the way of hotel and boarding-house accommodations. The mean annual temperature is 68° F.; the mean for December being 52.70° F.; January, 52.15° F.; and February, 56.60° F.

FLORIDA.

The general reputation of Florida as a winter resort is so well established that little need be said in the way of an introduction. That many invalids who have been sent to Florida might have done much better somewhere else is not so much an evidence of the defects of Florida as a health resort as of the ignorance of its true sphere on the part of those who sent them there. For consumptives for whom there is a chance of recovery in Florida there are better localities, while for those for whom palliation only remains there is perhaps no place more favorable; while for the nervous, wornout invalid, with func-

tional or organic heart complications, there are few if any more favorable places than Florida.

Fernandina, situated just within the border, in the extreme northeastern corner of the State, offers many attractions to the tourist. A seaport on the Atlantic, with a fine harbor and all the "modern improvements," there is no lack of attractions. The climate is practically the same as that of Jacksonville, thirty-six miles distant.

Jacksonville.—The largest city of the State is Jacksonville, which, with its thirty thousand of population, stretches back from the banks of the St. Johns River. Being the gateway through which the throngs of winter visitors pass to the many resorts of the State, the city has a metropolitan air. The accommodations for the tourist and invalid are extensive and of every class, from the very highest to those which can meet the requirements of a limited purse. The mean annual temperature is 69° F.; mean precipitation, fifty-three inches; and relative humidity, seventy-four per cent. Average cloudiness for winter is forty-seven per cent. of possible sunshine.

St. Augustine.—As one proceeds southward along the coast, St. Augustine is the next resort of note. St. Augustine has many attractions of antiquity as well as modern improvements, and is one of the most interesting places in Florida. Being situated on the Atlantic, its climate is more essentially an ocean climate than is that of the resorts situated inland or on the Gulf coast. Other resorts along the coast line, with climatic conditions varying but little except to escape all frost, as one goes farther south, are Ormond, Titusville, Rockledge, and Lakeworth, the latter being the most southerly point accessible by rail on the Florida peninsula. Almost directly across the peninsula on the Gulf coast is

Punta Gorda, which means full point or fat point. Though the town is not yet full-grown, it is taking shape and beauty, and affords excellent hotel facilities for the winter tourist, who finds sport and recreation in the waters of the bay. Punta Gorda was below the frost line in the disastrous winter of 1894-95, which so materially altered the meteorological records of the State of Florida.

Fort Myers was an army post for many years, but now is assuming all the airs and ambitions of a health resort. The streets are shelled, and shaded by tropical trees. The Punta Raesa River affords the finest sport in tarpon fishing to be had in Florida waters, over a hundred a day of these gamy monsters having been landed by the fishermen.

Tampa is to the west coast of Florida what Jacksonville is to the east, *i.e.*, the gateway from the Gulf of Mexico. Tampa has rapidly grown to an important commercial centre, and is becoming a rival of Jacksonville for the patronage of the winter tourists, having hotels equal to those of any of the resorts of the Atlantic side of the State. While it is not the purpose of this article to mention hotels in particular, it is perhaps excusable for us to say that the Tampa Bay Hotel has no superior anywhere from the standpoint of sanitary perfection. The mean winter temperature of Tampa is 72° F.

St. Petersburg.—From Tampa can be seen St. Petersburg, a growing village six miles away, located on the southern extremity of the peninsula which lies between Tampa Bay and the Gulf. This is a delightful resort for the invalid in winter, and is especially appropriate for those who do not care for the more expensive attractions of the larger hotels.

Bartow.—Thus far we have considered only the coast resorts of the State. Almost directly east of Tampa, near the centre of the State, east and west, is Bartow, a town of twenty-five hundred people, with many interesting features.

Lakeland, as suggested by its name, is in the centre of the lake region. The lakes of Florida all have a common level and are on the highest land of the State. Lakeland has pure air, pure water, and an excellent hotel.

Orlando.—The largest interior town in the State, situated among the lakes and with excellent hotel facilities, Orlando offers good features to those who prefer an inland resort. For many classes of invalids the inland resorts are more favorable during January, February, and March; but by April the weather gets warm and the ocean resorts are more comfortable for those who do not care to return North so early.

Gainesville is the centre of an "all-around" region, and is the meeting-point of the up-country and low-country products. Corn, oats, and Jersey cows flourish, and, although tropical fruits catch a frost occasionally, it is a good region for the home-seeking invalid.

Pensacola.—Western Florida has been less prominent as a health-resort region than the peninsular section, but Pensacola is entitled to a place among the eligible resorts, and is by all odds the leading resort of western Florida. Its principal attraction is its bay and the entertainment that can be derived from fishing and sailing thereon. Many winter tourists already appreciate the attractions of Pensacola, and its old forts, its navy yard, and its facilities for driving, boating, fishing, and hunting will attract increasing numbers. The mean annual temperature is 64° F.; rainfall, sixty-nine inches; relative humidity, seventy-six per cent.

ALABAMA.

There are no marked features of special interest to the tourist or invalid in Alabama. The topography is without much variation, except in the extreme northern portion of the State, where the terminal spurs of the Appalachian Mountains render the country rough and rugged, the highest points lying about two thousand feet above the sea, and gradually sloping from that to its level or nearly so at the southern line.

Huntsville.—Situated in the northwestern portion of the State, at an altitude of seven hundred feet, with the mountain spurs surrounding it to a height of several hundred feet, Huntsville offers many attractions as an early winter and early spring resort. In fact, the entire winter is mild and pleasant, though not entirely devoid of winter features, such as an occasional snow and frost. Huntsville has good hotel accommodations and as good water as can be found anywhere. The mean annual temperature is 62° F.; annual rainfall, fifty-eight inches; relative humidity, seventy per cent. There are a number of fine mineral springs in the vicinity of Huntsville.

Citronella, in southern Alabama, in the pine belt, has more than a local reputation as a consumptive resort. It is not much of a place, but has a good sanatorium and enjoys a large patronage.

Mobile.—Mobile Bay and its attractions offer inducements for the tourist, though the city has not made any effort to attract invalids. While Mobile is a seaport city, it is quite elevated, affording good drainage, and, with the breeze from the Gulf to temper the heat of summer and the cold of winter, it has a mild and equable climate. The annual mean temperature is 67° F.; rainfall, sixty-six inches; and relative humidity, seventy-four per cent.

TENNESSEE.

While Tennessee is not far enough removed from the snow and ice of the Northern States to be considered a typical winter resort, the region has a good winter climate and is especially well adapted to the

purposes of a "half-way" stopping-off place for early winter and late spring for invalids who must leave the North early and return late. It is a high, dry, and healthful State, free from malaria, as a rule, and offering many advantages for the home-seeking invalid.

Nashville is five hundred feet above sea level, in the beautiful and fertile Cumberland valley. The city is one of the best built and best paved in the country, and offers many advantages for either the invalid, tourist, or home seeker. The mean temperature is 60° F.; rainfall, fifty-two inches; and relative humidity, seventy per cent.

Chattanooga.—In the southwest corner of the State and in the heart of the mountain region of Tennessee lies Chattanooga, which, with its Lookout Mountain, comprises one of the most attractive resorts of the South. It is far enough south to have the advantages of a mild climate without the debilitating effects of malaria, which are to be guarded against in the lower Southern resorts. The traveller expects to find such combinations of mountain and plain in the edge of the Rockies and other great mountain chains, but it is doubtful if any other such combination is to be found so accessible to all the great centres of the country. Lookout Mountain has one of the finest resort hotels of the South. Chattanooga is seven hundred and eighty-three feet above sea level, while Lookout Mountain is twenty-three hundred feet. The mean annual temperature of Chattanooga is 61° F.; annual rainfall, sixty inches; and relative humidity, seventy per cent.

Knoxville is nearly in the centre of the east Tennessee valley, in full view of the highest peaks of the Appalachian Mountains, and surrounded by hard-wood forests and valuable mineral deposits. Knoxville has forty-five thousand population and excellent hotel accommodations, is nine hundred and eighty feet above the sea, has a mean annual temperature of 57° F., rainfall of fifty-three inches, and relative humidity of seventy-two per cent.

Memphis.—In the extreme southwestern corner of the State, on a bluff rising one hundred feet above the Mississippi, is Memphis, not noted as a health resort, yet having many features which will commend it to the winter tourist and certain classes of invalids, viz., those of a nervous type. The city is built on a series of low hills, affording excellent drainage, which has been supplemented with an excellent sewer system. It has an ample supply of pure artesian water, and has in ten years reduced one of the highest mortality rates to the rank of one of the lowest. With good hotels and a number of excellent sanatoriums, Memphis offers much to the invalid other than pulmonary. The mean annual temperature is 61° F.; rainfall, fifty-five inches; and relative humidity, seventy per cent.

MISSISSIPPI.

With the exception of a few resorts upon the Gulf coast, Mississippi has but two or three places worthy of mention.

Holly Springs, in the northern portion of the State, is a pretty and well-drained town of moderate size, but with better than the average hotel accommodations.

Jackson is the State capital, and as such has many advantages not enjoyed by other cities of the State. The topography is rolling, affording good drainage, besides which the city has many other attractive features.

Vicksburg.—Since the great siege of Vicksburg by Grant, its name has been a familiar one to every intelligent American. Probably few of this generation are aware that the city is situated upon a high bluff, rising very abruptly from the river to a height of several hundred feet, which fact gives it a unique place among

the cities of the Mississippi Valley. There are excellent hotel accommodations, and aside from its historical interest the city has a place among winter resorts.

Bay St. Louis is located on the Bay St. Louis, an arm of the Gulf of Mexico, and for some years has been growing in popularity both as a winter and as a summer resort. Being only fifty miles from New Orleans, it is a popular resort for the people of that city in summer, and for the invalid or tourist from the North in winter. While the hotel accommodations are fair, there is room for a very much better resort hotel. There are numerous boarding-houses.

Pass Christian.—Like Bay St. Louis, this town is situated upon a long peninsula. Along the entire water front is a shell-paved avenue, lying under the shade of magnificent live oaks and magnolias, which, with its surrounding forests of pine, cover the place with a perennial verdure. Roses and violets bloom all winter, and it is always a land of flowers. The mean annual temperature is 60° F. Pass Christian has one of the best hotels on the Gulf coast.

Biloxi possesses all the advantages of climate and attractions characteristic of the Mississippi Gulf coast, and is a popular resort for Southern people, with a growing popularity for the Northern tourist as a winter resort. The town has several hotels, which were built for summer-resort purposes, but have been reconstructed to meet the demands of the Northern visitors in winter. None of the Mississippi resorts are provided with as fine hotels as are the prominent Florida resorts, but from all other standpoints they are fully the equals of Florida.

LOUISIANA.

Louisiana has a few points where with better hotel accommodations a large class of invalids would find congenial climatic conditions, but in this respect not much is to be said.

New Orleans, with its unique cosmopolitan characteristics, with its cemeteries, old markets, old civilization, and good hotels, will afford a desirable and interesting point for a time, and should by all means be included in the itinerary of the tourist who proposes to "do" the Southern resorts. The mean annual temperature is 69° F.; rainfall, sixty-five inches; relative humidity, seventy-one per cent.

Hammond.—Fifty miles north of New Orleans, at an elevation of fifty feet above sea level, is Hammond, situated in the long-leaf pine region which stretches across the southern portion of the State. The soil at Hammond is sandy, well drained, and very productive. Hammond has a good hotel, pure and abundant artesian water, and in all respects is a most favorable place for the classes of invalids who must keep to a low altitude. Bright's disease is almost unknown among the inhabitants, and the locality has proven very beneficial in many cases, the pure water and mild climate with the "piney" air seeming to be a good combination.

La Fayette.—Westward from New Orleans about one hundred and fifty miles is La Fayette, a town of some five thousand population, and the only place between New Orleans and the Texas line that has any appreciable elevation above the sea level. La Fayette is situated upon a sandy soil, fifty-two feet above the sea, and for a few miles the topography is rolling and broken, offering excellent drainage. There is comparative freedom from the malarial influences which are more or less prevalent in the towns of the lowlands. La Fayette has very good hotel accommodations, but it must be remembered that very few places in the territory southwest of the Mississippi have first-class hotels, according to the Northern standard.

Lake Charles is located in southern Louisiana, at

the eastern end of the long-leaf pine region of western Louisiana and eastern Texas. It lies beside a small lake, is a well-built town, made up principally of Northern people, and affords excellent opportunities for the home-seeking invalid or for the tourist not too fastidious as to accommodations, although they are not below the average.

KANSAS.

Many consumptives have passed through one of the most favorable regions in the country for the climatic treatment of their disease to regions better known but no more favorable than southern and southwestern Kansas. The latter, especially, is a region which comes so near the point of aridity as to be uncertain for agricultural purposes except under irrigation, but one which combines with a medium altitude a very large percentage of sunshine, absence of severe weather, and entire freedom from malarial influences—conditions which have proven curative to hundreds of pulmonary invalids.

Wichita.—The city of Wichita is in central southern Kansas, not far from the southern line of the State. It is a city which outgrew itself, but has many metropolitan features which render it available as a health resort. Good hotels, abundant supply of good water, good drainage, and freedom from malaria are there. Mean annual temperature is 54° F.; rainfall, twenty-nine inches; relative humidity, 68.4 per cent., with two hundred and eighty-eight fair days in the year. The altitude is thirteen hundred and sixty-six feet.

Hutchinson is a substantial city of ten thousand people, the centre of the Kansas salt industry. It is on the Arkansas River, and has much to commend it as a winter resort for the pulmonary invalid, especially those with nervous or cardiac complications. The altitude is fifteen hundred and forty feet above the sea level. The general meteorological data are about the same as those of Wichita.

Garden City is a small place at present, but its boom left it good buildings, water works, and sewerage not often acquired by the small town away out on the plains. Its climate is especially adapted to the needs of the pulmonary invalid. It lies at an altitude of three thousand feet, the mean annual temperature is 53° F.; rainfall, 20.8 inches; and it averages sixty-three per cent. of sunshine.

ARKANSAS.

The eastern half of Arkansas is composed largely of swamp land, and has perhaps as unsavory a reputation as regards healthfulness as any portion of the United States. But the western or Ozark Mountain region is as exceptionally healthful as is the swamp region unhealthy, and the time is coming when this mountain region will become a favorite sanatorium, both on account of its healthfulness and of its accessibility.

Hot Springs.—The Arkansas Hot Springs are too well known to need more than a mention. Everything that money can add in the way of embellishment is being furnished to make the more available the many natural attractions. Situated among the southern foothills of the Ozark Mountains, the place is surrounded with the spurs of the mountains, giving it a topography both pleasing and healthful. The place is well supplied with hotels and bathhouses, which will sustain any standard of comparison. The altitude is six hundred and ten feet; mean annual temperature, 61° F.; mean for winter, 51.77° F.; annual precipitation, 72.26 inches.

Eureka Springs.—The altitude of Eureka Springs, which is twenty-one hundred feet, together with its

general meteorological and sanitary conditions, entitles it to consideration as a medium-altitude resort for pulmonary cases. While the precipitation is rather high, the exceptional facilities for drainage render the soil very dry, as shown by a relative humidity of 59.4 per cent. This is considerably below that of most of the popular low or medium altitude resorts. Annual mean temperature is 58.93° F.; mean for winter, 42.08° F.; rainfall, 32.79 inches; clear and fair days, two hundred and ninety-nine. Eureka Springs has excellent hotel and boarding accommodations.

Little Rock.—While not posing as a health resort, Little Rock offers good hotel facilities, good society, and a winter climate permitting much life out of doors. The city stands upon rolling ground, affording excellent natural drainage, and has all modern city improvements. Little Rock is three hundred and seventy-one feet above sea level, has a mean temperature of 63° F., annual rainfall of fifty-six inches, and a relative humidity of seventy-two per cent.

TEXAS.

To attempt to describe Texas, with all its altitudes, climates, and conditions, would require more space than is allotted to this article, for it includes almost every variety to be experienced in the entire country, from sea level with sixty inches of rainfall and roses in winter in the southwestern portion, to seven thousand feet elevation, fifteen inches of rainfall, and the winter of the temperate zone in the northwestern portion. Between these extremes are all gradations. The high altitudes of the northwest are cold and rigorous in winter, while the high altitudes of the south are mild and free from snow or ice.

Fort Worth.—Entering the State by the principal northern route, Fort Worth is the first city likely to be considered as an eligible health resort. The city is somewhat rolling in topography, has excellent hotel accommodations, and though in some seasons it experiences considerable winter, yet the average for that season is mild and pleasant.

Waco.—Following the central valley of the State southward, Waco, with its hot artesian wells rivalling those of Arkansas in valuable therapeutic effect, lies in the direct pathway of the tourist. Waco has one of the finest natatoriums with sanatorium combined to be found anywhere in the South. Waco has fair hotels, but they are the least of her resort attractions.

Austin.—The capital city has many natural advantages as a winter resort, though no especial effort has been made to attract tourists. Lake McDonald, formed by the great dam across the Colorado River, constitutes an attractive feature not to be found elsewhere in the State. Austin has one excellent hotel and a number of good ones. The mean annual temperature is 68° F.; that of January, 50° F.; February, 54° F.; March, 58° F. The annual precipitation is thirty-three inches, and the relative humidity sixty-eight per cent.

San Antonio.—There is probably no city in Texas or elsewhere in the Southwest so well known as a winter resort as San Antonio. Situated just on the edge of the arid region of southwest Texas, it partakes somewhat of the characteristics of the country north and east, which has ample rainfall for agricultural purposes, and of that of the south and west, where irrigation must be depended upon. The result of this location is a considerable rainfall in average years, yet a dry climate from the rapid absorption of the moisture by the atmosphere of the arid region just beyond. While San Antonio has not a tourist hotel proper, yet it has excellent hotel facilities and very numerous and good boarding-houses. The city is of varied topog-

raphy, well drained naturally, and has now a complete sewer system and an excellent water supply. Malarial influences are scarcely ever experienced. The altitude of San Antonio is six hundred feet; mean annual temperature, 68° F.; annual rainfall, 31.88 inches; relative humidity, sixty-eight per cent. With proper precaution in dress against an occasional "norther," San Antonio is a very desirable resort for the pulmonary invalid who has still a chance of recovery.

Kerrville is seventy miles north of San Antonio, at an altitude of seventeen hundred feet, and offers about the same general climatic conditions as that city, except as to altitude.

Boerne is forty miles from San Antonio and fourteen hundred feet above sea level. It has quite a reputation as a resort for consumptives, many of the San Antonio physicians sending their patients there for a change of scene and air.

Llano.—One hundred miles northwest of Austin, at an altitude of eleven hundred feet, is Llano, situated upon a granite formation, which insures the best of sanitary conditions. This place is worthy of consideration in looking up the Texas resorts.

Corpus Christi.—One hundred and sixty miles southeast of San Antonio, on the Gulf of Mexico, is Corpus Christi, a town of about six thousand inhabitants, with good society and considerable reputation as a winter resort. The region about Corpus Christi affords the best of winter fishing and hunting, and offers unlimited entertainment for the tourist or invalid. The climate of Corpus Christi and the Live Oak Peninsula adjacent is the driest coast region on the Gulf, and for mildness and dryness in winter can be compared only to the climate of San Diego, Cal. The hotel accommodations are not better than those of the ordinary type, and would not suit fastidious invalids.

Galveston has many attractions, the principal one being the magnificent beach, where bathing is frequently indulged in all winter. Roses, orange blossoms, and strawberries are abundant all through the ordinary winter. Galveston has a fine tourist hotel, and is a progressive modern city. The mean temperature is 70° F.; rainfall, fifty-three inches; and relative humidity, seventy-seven per cent. Galveston is not a favorable resort for pulmonary invalids, but is best adapted to those suffering from neurasthenia and the general run of nervous diseases.

Houston is one of the best cities of Texas, though as a health resort perhaps not so desirable as some others. Yet there are good hotels, and many would find it a pleasant and in every way desirable place to spend a season.

Sour Lake is a small place about forty miles out of Houston, toward the east, noted locally for its medicinal qualities in the treatment of rheumatism. While somewhat crude in its accommodations, many well-to-do patrons go there for treatment.

El Paso.—Next to San Antonio, El Paso is the best-patronized winter resort in Texas. The climate of El Paso is essentially that of New Mexico, as it is but a few miles from the southern border of that Territory. The city is substantially built upon a gently sloping site, and is naturally well drained. The city water supply is pure so far as regards contamination, but is not of the best quality for drinking, the best water for that purpose being procured from springs adjacent to the city. While the hotel accommodations are ordinary, there are many good private boarding-houses and a most excellent sanatorium, Hotel Dieu, where invalids can obtain the very best of care. The altitude at El Paso is thirty-seven hundred and sixty feet; mean annual temperature, 64° F.; rainfall, eleven inches; and relative humidity, forty-seven per cent.

NEW MEXICO.

New Mexico has for some years been gaining in favor with the medical profession as a winter resort for the pulmonary invalid. The portions of the Territory best adapted as winter resorts have thus far received the least attention, owing, very likely, to the less desirable accommodations than are obtainable at the northern resorts. With the development of irrigation so that available tracts of land can be brought under cultivation, more attention will be given to points in the southern part.

Las Vegas.—Entering the Territory from the north, the first place of any note is Las Vegas, near where is located the most pretentious resort hotel in the Territory. Las Vegas Hot Springs, six miles distant, have also gained quite a reputation for their medicinal qualities. These are two distinct towns, though rapidly growing together, and the distinction of race is also becoming less pronounced as the towns approach each other. Las Vegas is at an elevation of sixty-five hundred feet, has an annual temperature of 49° F., rainfall of fifteen inches, and relative humidity of forty-five per cent. Las Vegas has a winter, but the snow which occasionally falls lasts but a little while, the dry soil rapidly drinking it up.

Santa Fé.—Rising to an altitude of seven thousand and sixty-four feet at Santa Fé, the invalid will find the atmosphere a little light if he has come rapidly from the low altitudes of the north and east. But at this high altitude and in the very heart of the continent, he also finds the oldest civilization in the land. Santa Fé abounds in interesting features and offers many attractions to the tourist. The hotels are unique and interesting. Many invalids find the winters a little cooler than is agreeable, but there is no doubt that if persistent the invalid will do as well here as at the more southerly resorts. The mean temperature is 48° F.; rainfall, fourteen inches; and relative humidity, forty-five per cent.

Albuquerque is lower down the valley of the Rio Grande, at an altitude of five thousand feet. The winter is less severe here than in Santa Fé, but some snow and frosty weather will be encountered. Albuquerque has more of the characteristics of the modern city than any other place in the Territory; very fair hotels and boarding-houses afford accommodations.

Las Cruces.—Between Albuquerque and Las Cruces there are a number of towns of some importance, but they have but meagre accommodations. As they develop, Socorro and Rincon will become good towns. Las Cruces is in the centre of the Mesilla Valley, about forty miles north of El Paso. Las Cruces is one of the oldest settlements in the Territory. As a winter resort for the tuberculous invalid, its climate is unsurpassed. It is a land of almost constant sunshine, with very little rain, where the invalid can be out of doors from autumn until spring. The altitude of Las Cruces is thirty-eight hundred feet; annual mean temperature, 59° F.; annual rainfall, seven inches.

Deming.—About one hundred miles west of El Paso is Deming, at an altitude of forty-six hundred feet, and with general conditions very favorable to the tuberculous invalid, especially in the matter of pure water.

Silver City.—North of Deming some sixty miles, among the foothills, at an altitude of six thousand feet, is Silver City, one of the best of New Mexico's health resorts, as far as climate is concerned. With an altitude the same as that of Colorado Springs and Las Vegas, it is much milder in winter than either. Very fair hotel accommodations are obtainable.

SOUTHERN ARIZONA.

Southern Arizona comprises but little except mountains and desert, but for the pulmonary invalid offers

superb climatic conditions, and where water can be obtained for irrigation the pursuits of horticulture and agriculture are profitable.

Tucson has the characteristics of a medium altitude, twenty-four hundred feet, and, with fairly good hotels and good social advantages, is the best point for those who require more altitude than Phoenix affords.

Phoenix has, perhaps, the better climate for those cases a little farther advanced or for those complicated with nervous or cardiac symptoms. The altitude is eleven hundred and fifty feet; rainfall, eleven inches; mean temperature, 67.2° F.; relative humidity, forty per cent. This city has less wind—an average of less than three miles per hour—than any other resort known to the writer, and the winter climate is superb. Phoenix has exceptionally good hotels and other accommodations desired by the invalid.

Yuma.—At an altitude of one hundred and forty feet, situated on the Colorado River about one hundred miles from the Gulf of California, Yuma offers a mild and genial climate in winter; but, with the exception of the railroad hotel, which is very good, the accommodations are limited.

CALIFORNIA.

The first place to be noticed as a winter resort after crossing the Colorado River into California, is

Indio.—The place is situated on the northern border of the old bed of the Gulf of California, in what is known as the Colorado desert. This is the only place where the invalid can get the benefits of compressed air permanently, as it is forty feet below the level of the sea. Some most remarkable recoveries have been accredited to the very peculiar climate of Indio. Patients have been carried there on stretchers, pronounced to be in the last stage of consumption, and after a few months have gone back to business. It is an almost rainless region, but with a very productive soil where under irrigation. The place consists of a hotel and a few cottages for invalids.

Beaumont is situated on the edge of the desert also, but at an altitude of twenty-five hundred feet, being almost on the summit of the ridge between the Colorado desert and the Pacific slope. Beaumont has good hotels and excellent climatic conditions for the tuberculous invalid.

Riverside has an altitude of one thousand feet, is a town of several thousand population, and affords a desirable winter home, though not especially as a health resort.

Los Angeles is the typical climatic centre of southern California. It is the distributing point for invalids as well as merchandise. For all-the-year-round purposes, Los Angeles, with its immediate vicinity, which includes Pasadena, Mt. Lowe, Santa Monica, Long Beach, San Pedro, and Santa Catalina Island, comprises the finest combination of high and low altitudes, coast and inland resorts, to be found in this or any other country. At no other place can the invalid go from blooming roses and sea-bathing in January to snow-clad mountains and a moderate winter climate at five thousand feet elevation, in three and one-half hours by electric car. Los Angeles is well provided with everything to be found or desired in a first-class resort except a really first-class hotel. She has many good hotels, but not what tourists call a real first-class one. The altitude of Los Angeles is two hundred and seventy feet, topography very favorable for good drainage, and water supply good. The mean annual temperature is 62° F.; rainfall, seventeen inches; and relative humidity, sixty-nine per cent.

TWO MEXICAN HEALTH RESORTS.

From an unpublished article entitled "From Laredo to the City of Mexico, thence West to Morelia and Patzcuaro, over the Mexican National Railroad and Its Branches," by Dr. R. H. L. Bibb, chief surgeon of the road, who resided and practised for many years in Saltillo, and who is thoroughly familiar with health resorts in Mexico, the MEDICAL RECORD is permitted to copy the following description of Monterey and Saltillo.

"Stepping out of the sleeper," says Dr. Bibb, "one is confronted with one of the gentlest, balmiest breezes, one of the brightest, bluest skies, and one of the grandest, most picturesque outlooks that ever delighted the soul of man. In front and all around stands Monterey, sometimes written Monterrey, the 'Mountain King,' the capital of Nuevo Leon, at the foot of the Sierra Madre Mountains, one hundred and seventy miles away from the Texas frontier, and at an elevation of seventeen hundred feet, like a mighty sentinel guarding ingress into Mexico from the northeast. Northward from the gently sloping declivity on which the city is built the verdure of the plain beneath seems to mingle with the azure of the sky above. To the east the aerial head of the Saddle Mountain juts high aloft, the Garcia and the Mitre Mountains on the southwest, while the grand old 'Mother of Saws' to the south, with her jaggy summits looking upward into the vaulted canopy, majestically presides over the lovely panorama below.

"Monterey is a rich progressive city of sixty thousand inhabitants, who are rapidly absorbing American ideas and customs from hundreds of permanent American residents of the city, and from thousands of American tourists and invalids seeking health and a *dolce-far-niente* life in the Aztec republic, who annually find rest, repose, and restoration in the genial suns and balmy breezes of this great health resort.

"There are four American physicians in Monterey, an excellent German drug store, an Episcopal, a Baptist, a Methodist, a Presbyterian, and numerous Catholic churches and schools: five good American hotels: beautiful alamedas, plazas, drives, and promenades: delightful fruits and vegetables: excellent, tender juicy meats, game, and fish, and a supply of water from crystal spring and rippling mountain streams which is abundant, wholesome, pure, and sweet.

"From meteorological observations taken at the Civil College at Monterey for a series of years, the following figures are taken, viz.:

WINTER TEMPERATURE.

Maximum	73.2° F.
Minimum	46.2° F.
Average	57.1 F.

SUMMER TEMPERATURE.

Maximum.....	102.3° F.
Minimum.....	46.2° F.
Average	86.0° F.

BAROMETER.

Maximum	29.24 in.
Minimum	27.96 in.
Average.....	28.10 in.
Average relative humidity	66.3
Average yearly rainfall.....	38.22 in.
Avery yearly amount of clouds	4.5
Average yearly rainy days.....	50
Prevailing winds, northeast.	

"Four miles north of Monterey, to be reached by a tramway, are the renowned Topo Chico Hot Springs, the Baden-Baden of America, the virtues of whose waters, if Indian legends be worthy of belief, was known to the ancient Montezumas years before the Spanish conquest.

"Topo Chico waters—very similar to those of the Arkansas Hot Springs—with a temperature of 106° F. at the spring, 102° F. in the bathtub, and an output

of sixty-eight thousand gallons per hour, contain, according to the Mexican Pharmacopœia:

Hydro-sulphurous acid.....	0.010 per gallon.
Sodium chloride.....	0.296 "
Calcium chloride.....	0.040 "
Magnesium chloride.....	0.076 "
Calcium bicarbonate.....	0.100 "
Calcium sulphate.....	0.419 "
Aluminium silicate.....	0.165 "
Calcium silicate.....	0.350 "

"One may drink to repletion, for days and weeks, of these waters, and aside from the very copious perspiration which always follows, feel neither nausea nor other inconvenience; but when a mixture of the same ingredients in the same proportions is made and heated to a temperature of 106° F., a disgustingly nauseating compound results, thus proving that elements put together in nature's own laboratory, heated in her crucibles, and distilled in an alembic of her own choosing possess properties not imparted to them when compounded by the chemist, however expert or learned he may be.

"The waters of Topo Chico, when properly used, as the writer can attest after many years of experience with them, are of signal efficacy in the treatment of gout, rheumatism, syphilis, Bright's disease, hepatic and gastric troubles, uterine, nasal, and vesical catarrh, chronic malaria, and many forms of skin diseases.

"An excellent hotel—close to the capacious bath-house—constructed of black marble which is found in large quantities and of the best building qualities in the mountains north of Topo Chico Springs, furnishes a comfortable home for the many invalids and visitors to this northern Bethesda.

"Saltillo—a little jump—'Highlands of Many Waters,' 'the City of Roses,' the place where Hidalgo, the author of Mexican independence, on his way to the United States in quest of aid for the struggle for liberty he had inaugurated, was betrayed and captured; now the capital of the rich and prosperous state of Coahuila, on the Mexican National Railroad, two hundred and thirty-seven miles from the Rio Grande, with a population of twenty thousand people, is located fifty-five hundred feet above the sea, at the foot of the Buena Vista tablelands, five miles north of the memorable battlefield of Buena Vista, on a chalky, limestone plateau that gradually dips northward with a grade of six to eight feet per hundred, in a basin in the Sierra Madre Mountains, in latitude 55° 25' 15" N. and in longitude 100° 29' 33" west from Greenwich.

"The city, especially noted for the evenness of its temperature and its excellent water supply, has two good American hotels, American physicians and drug stores, a Baptist, a Methodist, a Presbyterian, and six Catholic churches, with their schools and other institutions of learning. Its water supply, slightly impregnated with lime, furnished by a bold and limpid stream which bursts forth from the mountain side high above the city, and far away from all contamination, is cool, refreshing, and inexhaustible. Its fruits and its flowers, its meats and its vegetables, its fish and its game, equal in savor, in wholesomeness, in variety, and in profusion those of any other town of equal size in America. Here it is that the fragrance of the rose mingles with the violet's sweet incense from January to December, and it is here where one's table may be supplied with the luscious strawberry from one's own garden the year round.

"Meteorological observations, carefully taken at Saltillo for the past ten years, show for that period:

Average barometrical reading.....	24.86 in.
Maximum.....	25.34 in.
Minimum.....	24.43 in.
Average relative humidity.....	59
Maximum.....	99
Minimum.....	11
Prevailing winds.....	North.
Average velocity of wind.....	3.93 miles.
Maximum velocity of wind.....	41.50 miles.
Clouds, average amount.....	4.3
Rainy days, average.....	66.10
Average rainfall.....	22.67 in.
Total rainfall.....	226.75 in.

"These observations also show that the average temperature at Saltillo in January, the coldest month of the year, for the past ten years has been 52° F., and that the average July temperature, the warmest, has been 72° F.

"Near Saltillo are several warm springs of high repute among the natives for the cure of skin diseases, gout, rheumatism, scrofula, malaria, and syphilis. The waters are strongly impregnated with sulphur, iodine, bromine, and arsenic.

"Taking these geographical, topographical, sociological, and meteorological facts into consideration, it will be easily seen that Saltillo, hidden away in its mountain fastnesses, with towering peaks and enchanting scenery on every side, high above the yellow-fever line and away from other epidemic influences, offers not only a safe and a pleasant refuge for the many overworked and worn, and the numberless victims to lung, throat, and bronchial troubles, fleeing from summer's heat and winter's cold, but also ideal facilities for a modern sanatorium—facilities not surpassed, hardly, if at all, equalled, on the American continent."

Diphtheria.—Dr. Ustler says: "Where a bacteriological examination cannot be made, the practitioner must regard as suspicious all forms of throat affection in children, and carry out measures of isolation and disinfection."

Bloody Stools.—Dr. Ullman (*Buffalo Medical Journal*, September, 1896) names the following disease processes which we should bear in mind: (1) Toxic inflammations and strong drastic cathartics. (2) Traumatism. (3) New growths, as carcinomata and polypi. (4) Circulatory diseases: (a) embolism of the superior mesenteric artery, a condition coming on in disease of the heart and general atheroma. It occurs in the feeble and the aged and is accompanied by all the symptoms of peritonitis, great pain, tense, rapid pulse, meteorism, and the passage of blood; (b) general venous hyperæmia; (c) congestion of the portal system; (d) small aneurisms of intestinal vessels; (e) venous varicosities, especially in the small intestine; (f) amyloid degeneration of the vessel walls. (5) Diseases of the blood: (a) pernicious anæmia and leukæmia; (b) grave intermittent fever; (c) hæmoglobinuria. (6) Diseases of the stomach: (a) carcinoma; (b) ulcerus ventriculi; (c) acute gastritis. (7) Diseases of the intestine: (a) acute enteritis; (b) amœbic dysentery; (c) ulcerations from typhoid fever; (d) carcinoma; (e) duodenal ulceration; (f) incarcerated hernia; (g) ankylostomum duodenale; (h) fissure and hemorrhoids. (8) Constitutional diseases: (a) scorbutus; (b) purpura hæmorrhagica; (c) phthisis; (d) diabetes mellitus. (9) Infectious diseases: (a) typhoid fever; (b) yellow fever.

Police Surgeons in Liverpool are paid \$350 a year and furnish their own medicines. The average number of men under the care of each surgeon is two hundred and eighty, and, deducting the cost of the drugs supplied, the surgeon receives about one dollar per annum per man.

Average temperature.....	62.6° F.
Maximum.....	96.5° F.
Minimum.....	32.8° F.

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Original Articles.

ON THE TREATMENT OF SOME FORMS OF ALBUMINURIA BY RENIPUNCTURE.¹

By REGINALD HARRISON, F.R.C.S.,

LONDON.

I PURPOSE offering you a few remarks bearing on the treatment of some forms of albuminuria by renipuncture as a contribution to the inaugural proceedings of our session that opens this evening.

Early this year, in connection with some observations I published² on kidney tension relative to albuminuria, I narrated the particulars of three cases in which albuminuria of some standing completely and, I believe, permanently disappeared after the digital exploration and puncture or division of the kidney capsule was practised. I will briefly refer again to these cases, together with some others to which my attention has since been called, as bearing upon the point to which I desire to direct your attention on this occasion.

It is, however, only right to state that my cases were all instances in which the kidney was explored and punctured, or incised, not with the intention of treating an albuminuria, but with the object of discovering some other coexisting morbid condition, which, though previously suspected, was not on exploration found to exist. I regret that only scanty notes were kept at the time of these and some other cases to which I might have referred, arising from the fact that, in the absence of what was more directly sought for, the existing conditions were insufficiently appreciated, while the good results accruing appeared at the time either unexplainable, or were referred to local states, such as the accidental fixation of a movable kidney, the division of a disordered nerve, or the moral effects of an operation. It was not until several instances had come under my notice in this way that I began to suspect that a different explanation, for the total disappearance of one symptom of disease at least, might with some degree of reason be offered. My cases are briefly as follows:

CASE I.—In 1878 I cut down on the kidney from the loin in a youth aged eighteen years, expecting to find a suppuration either within or around the organ. The patient was suspected to have had scarlet fever three weeks before this was done and had since suffered from intense lumbar pain. He had had a slight rash, some desquamation, a sore throat, and albuminous urine with casts. I undertook the operation with some hesitation and limited my incision so as just to enable me to put my finger on the kidney. It felt so tense that I extended my incision and opened it with confidence, expecting to find matter. This was not the case, and I closed the proceeding with the feeling that I had made an error in diagnosis. There was a full discharge of blood and urine from the wound for some days. The latter was lightly plugged with lint and in the course of ten days or so healed soundly. After the incision was made, the excretion of urine

became far more abundant, and the albumin gradually and completely disappeared.

CASE II.—In 1887 I operated upon a man, aged fifty years, who by nature of his occupation spent a large part of his time underground. Occasionally he suffered from hæmaturia in conjunction with colicky pains about the groins, and I came to the conclusion that he was suffering from renal calculus. As, however, the symptoms were neither urgent nor confined to one kidney, the consideration of operation was postponed. In the course of a few months after I first saw him, and while he was continuing his work underground, the urine became largely and constantly albuminous and there was some pain, referred to the right loin. I took him into the Royal Infirmary at Liverpool, where I was then residing, and explored the right kidney. The organ was found to be enlarged and tense. An incision of an inch in length was made through the cortex, and the pelvis was explored with the finger, but after careful examination no stone could be found. There was a considerable discharge of blood and urine, which continued for a fortnight or so, a drainage tube being retained in the wound; on the withdrawal of the latter healing followed, and the urine became quite normal. I heard some time afterward that the patient remained in excellent health and was able to resume his ordinary occupation.

CASE III.—The third case is one that came under my observation in 1893. It was that of a woman, aged forty-four years, who had suffered from slight hæmaturia at times for a year previously; occasionally the urine was albuminous. Shortly after I saw her she had a severe attack of influenza, which was followed by an aggravation of her renal symptoms. She complained of pain on pressure over the left kidney, and the albumin not only increased in quantity but was constantly present in the urine. As she believed she had passed a small calculus some months previously, I thought it a proper case for exploration, and this was accordingly made. The late Mr. Durham saw the patient in consultation with me. The left kidney was found to be swollen and very tense. It was opened and explored with the finger, but no calculus could be discovered. There was a free drain of urine with some blood, which continued for about a fortnight, when the wound closed. The patient is now quite well and the urine normal.

Looking at the three cases I have briefly related, I believe that the first was scarlatinal nephritis, the second nephritis from exposure to cold and damp, and the last subacute nephritis following most probably upon influenza. Among other features each case was characterized by the presence of albumin in the urine, which I am inclined to attribute to previous inflammation or its immediate effects.

Since these cases were published, Newman, of Glasgow, has recorded two others in which albuminuria ceased after the performance of an operation for fixation of the kidney. The cases are thus epitomized:¹

CASE A.—Right movable kidney, causing torsion of the ureter and leading to hydronephrosis, albuminuria, and tube casts in the urine. With the onset of the paroxysms of pain, hydronephrosis was sometimes

¹ Being the presidential address delivered before the Medical Society of London, October 12, 1896.

² *Lancet*, January 4, 1896.

¹ *Clinical Society of London, Lancet*, January 18, 1896.

present; sometimes it was absent or not observable, but was attended by high specific gravity of the urine and albuminuria, and tube casts always appeared in the urine at the same time as the pain. Since the operation no albumin or tube casts had been found.

CASE B.—Left movable kidney causing torsion of renal blood-vessels, albuminuria, tube casts, severe pain, and suppression of urine. There was no hydronephrosis, and operation was succeeded by recovery. The kidney was only freely movable, but no increase in size could at any time be made out.

Commenting on these cases Dr. Newman observes: "In the cases of occasional hydronephrosis the presence of albumin and tube casts was more difficult to explain. Why did the transient passive hyperæmia lead to the presence of tube casts, the occurrence of which physicians were in the habit of regarding as of grave import and an indication of inflammatory trouble?"

Both of these cases appear to me to have an important bearing both upon the pathology and treatment of albuminuria.

I am indebted to Dr. Hoeber, of Homburg, for the following particulars. He writes: "I have seen a case very similar to those you describe, about two months ago. A man of about thirty-six years of age, very strong and otherwise perfectly healthy, got, after an attack of influenza which did not appear very severe, most intense pain in the right lumbar region associated with slight albuminuria. As the pain lasted over a fortnight and yielded to no kind of treatment, I sent the patient to a surgeon, with the diagnosis of probable renal suppuration, particularly as there was slight feverishness. The incision brought a considerable discharge of blood but no pus. The patient became rather anæmic, but lost the feverishness and albuminuria at once, and has had no return since."

From a careful consideration of these cases I do not think it is possible to avoid arriving at the conclusion that the disappearance of albumin from the urine was directly connected with the surgical treatment to which in each instance one of the kidneys was submitted. That the organs were in a state of tension, in one class of cases as the result of inflammatory hyperæmia, while in the other from mechanical vascular obstruction, seems also to be a conclusion which is equally irresistible. Referring to the hyperæmia which exists in the initial stages of nephritis, Sir T. Grainger Stewart¹ observes: "Albuminuria is very often due to changes of an inflammatory character in the tubules and in the stroma of the organ, and in a very large proportion of the cases in which it occurs in practice it is dependent on this cause." That the changes which subsequently ensue as a consequence of nephritis, however commencing, by the substitution of a lower for a higher excretory tissue, as we see in the cirrhotic forms of Bright's disease, is due to the damage the organs received in the early and active stage of inflammation or congestion, seems by no means improbable. Sir Thomas Watson observed in his lectures: "The stress or congestion which befalls the kidney in cases of febrile anasarca may set on foot a morbid process that long works silently and unobserved, but at last declares its operation by symptoms."

Nor is there wanting demonstrable evidence as to the high state of tension which is sometimes present in the kidney. I have frequently called attention to this at the time of operation for exploration of one of these organs. In one instance the degree would resemble that of a ripe or almost bursting plum, while in another the kidney was comparatively flaccid and unresisting on pressure with the finger. Yet these differences were not always at the time explainable.

¹ "Lectures on Albuminuria," 1833.

That the relief of renal tension by direct surgical interference has been proved to be practical and is under certain conditions indicated, is also supported by the cases I have cited. Surgeons have long since learned to recognize the disastrous and far-reaching effects of tension as it occurs in the human body, whether arising from inflammation or otherwise, and do not hesitate to negate any evil effects it may give rise to by means which render this very unlikely to happen.

Possibly my surgical experience has led me to exaggerate the disastrous effects of tension on the tissues of the body, though for the most part it has been gained in regions which may be said to be less highly organized and delicate than the excreting apparatus of the kidney. It certainly seems somewhat remarkable at the present day that so many different views exist, or have been put forward, explanatory of the process by which albumin exudes so as to form a variable part of the urinary excretion. These various theories I shall not attempt to discuss in detail or to reconcile.

I may briefly remind you of two illustrations which seem to be analogous with the subject I am now discussing, both relative to the disastrous effects tension is capable of effecting in a part, and the relief that can be afforded on the pressure being removed by artificial means.

In the eye we have an example of a very highly developed and sensitive organ. Here one of the most disastrous effects of intra-ocular tension is seen in that condition to which the term "glaucoma" is applied. The recognition of the true pathology of this affection and the adoption of mechanical treatment by iridectomy or an allied operation, for the removal of tension and the prevention of the degenerative changes thus initiated, as first practised by Von Graefe, at once resulted in the saving of a large number of eyes which previous to this discovery would undoubtedly have been lost.

In the testicle when it becomes inflamed we have, not unfrequently, transient as well as permanent evidence of the damage that inflammation and tension are capable of bringing about in an organ which, relative to its secreting and investing structures, bears a resemblance to the kidney. It will be in the recollection of many that the late Mr. Henry Smith was the first to draw attention to certain advantages that followed puncture or limited incision through the capsule of the testicle in acute forms of orchitis. It was alleged, and I believe with a considerable amount of truth, that not only was the pain or tension in this way immediately relieved but that permanent damage to the secretory structure of the testis was averted. In fact sterility, so far as the organ involved was concerned, was by this means rendered unlikely to occur.

It may not be out of place here to remind you of the structural arrangements of the kidney relative to the influence that tension is likely to exercise upon it. It may be said to be a highly organized gland surrounded by a thin fibrous capsule and divided up into compartments or sections by barriers of a similar nature. It is capable of distention to almost any degree by a gradual force acting from within, as, for instance, the retrograde pressure proceeding from strictures which oppose the escape of its excretion, but from the nature of its structural constituents is incapable of adapting itself to sudden emergencies of this kind, as those usually arising in connection with the early stages of acute nephritis.

Assuming, however, that the means I have thus suggested for dealing with intrarenal tension, under circumstances to which I will presently refer, are applicable, it may be urged that as the kidney, as normally disposed, is a double organ, both glands must be directly submitted to the proceeding proposed,

inasmuch as in the ordinary forms of nephritis both kidneys are usually similarly involved. This, however, does not necessarily follow, as the sympathies existing between the two organs are such as to cause impressions exercised upon one to be reflected on the other. Relief afforded to one kidney, as my cases illustrate, usually assists the other, while, when the excretory power on one side is suspended or arrested, the opposite organ speedily takes up the whole of this work.

I might further illustrate this point in a variety of ways. The following case, however, seems to me to directly bear upon it. It was that of a man, aged thirty, whom I saw early in 1889, ten days after he had received an injury to his loins by falling down the hold of a ship and alighting on a case of goods. The right loin was ecchymosed and from the presence of a little blood in the urine, which continued for some days after the injury, it was concluded that either one or both kidneys had been severely contused. The daily amount of secretion was considerably diminished, and the day I saw him it had amounted to only sixteen ounces in the twenty-four hours. There was pain on pressure over the right loin, which remained swollen, discolored, and tender to the touch, and the temperature had risen and was variable. I thought it probable that perirenal suppuration had occurred. I therefore exposed the right kidney from the loin, and removed some extravasated blood in the course of the incision. The kidney was found very tense and congested. I believed that suppuration had taken place within it, and therefore a small exploring trocar was inserted in two or three places but without discovering pus. Further, at one point where it was very tense I made an incision into the cortex, but only blood and serum escaped. Considering that we had thus got rid of some of the products of the injury which were on the verge of suppuration, the wound was lightly packed with antiseptic lint and left open; there was a free discharge of blood and some urine for some days after, and all the symptoms which rendered the incision desirable were at once relieved and the patient made a good and complete recovery. It was interesting to notice that the excretion of urine was more than doubled in the twenty-four hours following the operation, and the daily amount now remained normal throughout. Here the tendency toward suppression of urine was evidently connected with the intense congestion resulting from the injury in which probably both organs were involved, a condition of the circulation which was at once removed by the treatment described.

We do not, I think, sufficiently recognize the high degree of vascular and tubular infarction that attends some grades of nephritis. Some years ago I saw a girl, aged seven years, who was suffering from scarlet fever of a malignant type. Almost complete suppression of urine was the leading feature in the case, and death took place in four days from the commencement of the illness. At the necropsy the kidneys were found to be so highly congested that I was not surprised at their being unable to excrete. I remember the passing impression arising in my mind that an incision into them appeared to be the only means that might have been effectual in restoring their function. In a recent paper on "Scarlatinal Nephritis and its Varieties," Dr. Meadows Turner¹ remarks: "Out of the five thousand one hundred and nine cases, fifty-five died with nephritis, either alone or complicated with other lesions. This number includes those who presented some symptoms during life, as well as some others in whom post mortem extensive disorganization of the kidney was found, though during life there were no sufficient symptoms for diagnosing such a complication."

¹ Guy's Hospital Reports, 1894.

I will now endeavor to indicate the kind of cases of nephritis in which it may seem desirable to adopt the practice I have illustrated. In resorting to such measures we cannot entirely, as I have already stated, lose sight of the fact in connection with the subject of albuminuria that its treatment, as it at present stands, cannot be regarded as entirely satisfactory or progressive. Commenting upon this point, Sir Grainger Stewart, one of our most modern writers on the subject, and with whom I had the advantage of conversing a short time ago in reference to the point that is now before us, observes: "Sir William Roberts and Professor Rosenstein have come to the same general conclusion as Dr. Saundby as regards the inefficacy of drugs in diminishing albuminuria, and I have satisfied myself by a long series of careful observations that we have no right to credit any drug with the power of directly diminishing the discharge of albumin."

The grounds upon which it may be desirable to give relief by surgical means directly applied to the kidney may be illustrated by some of those cases of nephritis which are seen as consequent on scarlet fever, though it seems to me that its application is not necessarily limited to these. In the larger proportion of cases of scarlatinal nephritis the kidney complication is only of a temporary character and the disappearance of albumin from the urine is both gradual and complete. Under such circumstances surgical interference could not be regarded as warrantable. On the other hand, there is a considerable number of cases met with in which this is not so. These may be ranged into two groups. The first includes those instances in which the kidney complication is, from the onset, of the gravest nature and death is imminent with more or less suppression of urine, as in the case I have previously referred to in which after death the kidneys were found in a condition of most intense vascular engorgement. In these cases a fatal issue usually ensues most rapidly, the duration of life being largely determined by the degree of suppression that is arrived at.

The second group of cases includes those in which after a limited time the tendency, so far as the renal symptoms are principally concerned, is not in the direction of recovery. The amount of albumin does not decrease, tube casts as well as other evidences of disorganization are found in the urine, and the latter in quantity is below that which may be regarded as an average. Though a physical examination of these organs, either from the loin or by abdominal manipulation, may fail to give any indication as to their condition, tenderness on pressure is often complained of. It is from among the cases represented in these two groups that instances will be found in which I believe the measures advocated may sometimes be advantageously practised. It is in these instances that death either rapidly occurs, or is brought about no less surely in the course of time by the more chronic forms of nephritis in conjunction with the cardiac complications which so frequently arise in connection with them.

That many cases of nephritis with high tension and subsequent structural deterioration must necessarily be attended by cardiac hypertrophy or enlarged powers of circulation, is at once obvious. Diminished capacity to excrete can only be compensated for by increase in the force of the blood current. In the restoration of function we have the only safeguard against the development of this complication.

In conclusion I will offer a few remarks on the precise nature of the surgical treatment of renal tension associated with albuminuria. It is hardly necessary to remind you that by anæsthetics, and the antiseptic treatment as developed by Sir Joseph Lister, we are now in the position not only to explore various organs of the body with perfect safety, but, further, we are

enabled by these means to study what I would speak of as living pathology. It would not be possible for me to illustrate the truth of this observation more vividly than in the case of renal disease. Here, by anesthetics in combination with antiseptics, a vast number of diseases have been brought not only within reach of surgery, but with a degree of success which previously would have been unattainable. The operation of exploring a kidney by an incision from the loin, so as to enable the operator to examine this organ carefully and deliberately with the finger, and, if found necessary, to proceed further, has now been so safeguarded as to remove from the mind of any careful surgeon undertaking it the feeling that he is exposing his patient to any undue risk, relative to the cause that is judged to demand it. I cannot say that I ever saw any ill result follow the exposure of the kidney by an incision from the loin for the purpose of its digital exploration. On the other hand we have seen in numerous directions the necessity for such a proceeding in many cases in which, though recovery followed, a correct diagnosis had not previously been arrived at. Such instances include the presence of pus or fluid within the kidney, morbid growths requiring the removal of the organ, stones, undue mobility, and other abnormal conditions.

In the class of cases I am now referring to, the kidney should be exposed by a moderate incision from the loin, so as to enable the operator to feel the organ distinctly both in front and behind, aided of course by pressure exercised on the kidney by the hand of an assistant from the front of the abdomen. If, in conjunction with the presence of albumin in the urine, the kidney is found in a state of tension, such as I have illustrated, three or four punctures may be made through the capsule in various directions, or should the organ be found in a state of higher tension, then a limited incision into the cortex may be practised. After one or other of these measures has been adopted, the wound should be lightly packed with gauze, or a drainage tube substituted. In either case the incision should be dressed in such a manner as to provide for the free escape of either blood or urine or whatever products may be exuded. For this practice I ventured to think some reason will be found in the illustrations which have formed the text for my observations this evening.

RECENT ADVANCES IN OUR KNOWLEDGE CONCERNING THE MALARIAL ORGANISM.

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It is now an almost undisputed fact among those who have investigated the subject that in the blood of patients suffering from the various forms of malarial fever there occurs the organism known as Laveran's plasmodium malariae. Sixteen years have elapsed since Laveran¹ discovered this organism, and during that time the subject has been continually worked upon, and a vast mass of literature has accumulated devoted entirely to it. As to the truth of this we have only to glance over the very complete bibliography of malaria compiled by Thayer and Hewetson,² of Baltimore, which comprises over three hundred and fifty-nine separate articles. Among the distinguished scientists who have added to our knowledge of this subject may be named Laveran and Carter, of India; Marchiafava, Celli, Golgi, Bignami, and Thommasi-Crudelli, of Italy; Mannaberg, of Austria; Manson,

Prout, and Thin, of England; and Osler, Sternberg, and Doch in our own country.

It is the purpose of this paper to bring together in a convenient form the advances in our knowledge concerning the malarial organism, especially those which have been made more recently. In the opinion of the author, such a *résumé* is of great use to the general practitioner, who, though anxious to keep abreast of the times in matter scientific, is greatly hampered by the lack of time to peruse and the inability to procure the scattered literature upon such subjects. It is for this reason that I have ventured to compile this paper presenting the recent observations concerning the malaria plasmodium, and containing necessarily but little original work.

I. Methods of Examining the Blood.—We have long since passed the time when any obscure fever, particularly if it prove fatal, can be called malarial, for, as Osler has stated,³ "the diagnosis of the malarial fevers can be made with certainty by the blood examination." All that is needed by any one to make such an examination is a good microscope, knowledge of the technique involved, and proper preliminary training.

Much has been written tending to make the searcher for the parasite believe that it is difficult to find, but if it be searched for in the right way nothing is easier to demonstrate. As to the frequency of its occurrence, it may be said to be always present in active malarial disease. Manson⁴ has never failed to find it in such cases, and Mannaberg⁵ states that he failed to find it only in three out of one hundred and thirty cases. In their recent monograph upon malaria, Thayer and Hewetson² say: "Excepting two or three instances where the patients entered the hospital during convalescence, the specific micro-organism was found in every case (616) of malarial fever treated in the wards." From his own limited experience the author would state that in all the cases which he has examined (24) he has never failed to find the organism.

As to the best time for examining the blood almost all authorities agree that the organisms are best seen about the end of pyrexia and the beginning of the fever, when they are pigmented and large. They are, however, most numerous during the fever, but are so small that they are apt to be overlooked by the beginner.

The blood can be examined fresh or staining methods may be used. I think that the examination of fresh blood is most satisfactory in diagnosis, although if permanent specimens are desired, staining is required.

Daniels⁶ claims for staining the following advantages: Ease with which the organisms can be seen, using one-fourth or one-eighth objective; one's own convenience can be followed by staining; whereas fresh blood has to be examined immediately; no danger of confusing the parasites with other appearances in the blood, as vacuoles, etc. On the other hand, many authorities believe that the organism should preferably be studied in its living condition in the fresh blood.

Method of Examining Fresh Blood.—Cover glasses and slides should be carefully washed in alcohol, just before using. The blood is generally taken from the finger, as follows: Wash the skin thoroughly with soap and water over the place to be punctured, and then with alcohol; then with a perfectly clean steel needle puncture the skin and allow a drop or two of blood to fall. Then take the glass slide and allow it gently to touch the tip of the drop of blood upon the finger, and immediately drop the cover glass upon it. If the slide be clean, the cover glass will instantly flatten the blood out, and the corpuscles may be seen lying side by side entirely unaltered. Be careful and get but a

very small drop of blood upon the slide. Such specimens remain in good condition for about an hour. Although, if desirable, a one-twelfth oil immersion may be used to examine with, I have always used in preference a one-eighth dry objective on account of the greater ease of manipulation. For diagnostic purposes the one-eighth objective is entirely sufficient.

Stained Preparation.—A staining method which is as good as any in results, and better than some in the ease of its application, is that devised by Chenzinsky.⁶ A watery concentrated methylene-blue solution, diluted one-half with water, is mixed with an equal volume of a one-half per cent. solution of eosin in sixty per cent. alcohol. The blood is collected, as described, upon cover glasses, and fixed by gently heating it over the alcohol lamp, after the blood has dried upon the slide. Place the slide in the staining solution and allow it to remain five minutes; then wash in water, and mount in balsam. The red corpuscles are seen to be stained with eosin, while the parasites are colored by the methylene blue.

There are many other staining methods, but the above secures as good result as any of them. Good stained specimens are not always secured with any of the methods, and disappointment is often the rule rather than the exception, in staining the plasmodium malariae.

In closing this section of our subject, I will give in full a method of preparing malarial-blood films recently devised by Manson,⁷ and which recommends itself to any who will take the slight labor of learning it. "Cleanse with ether as many microscope slides as are likely to be required, and place them on a table near the patient. Three or four oblong slips of very fine clean tissue paper one and a half inches by five-eighths of an inch are also prepared. The patient's finger is cleansed and pricked in the usual way. A droplet of blood is then expressed from the puncture and taken up by touching it with one of the papers, the blood being applied about one-half inch from the end of the paper. The charged surface of the end of the paper is then placed upon a glass slip toward one end. In a second or two the blood will have run out in a thin film between paper and slip. When this has taken place—not before—the paper is drawn along the surface of the glass. The same paper, without recharging, is placed in a similar way upon a second slip, and so on. When exhausted, the paper is recharged from the finger as many times as may be found necessary. In this way fifty or one hundred exquisitely fine films may be obtained in five or six minutes. Labels are then attached and the slides stowed away to await convenience. Before staining, a little absolute alcohol is dropped upon the films to fix them. In staining he uses borax (five per cent.) methylene blue (one-half per cent.) solution, for about half a minute; then washes in water, dries, and mounts in balsam.

II. Structure of the Organism.—If the blood from a case of tertian malaria be examined at various periods, the following appearances may be noted, which are slightly modified in the quartan and æstivo-autumnal forms.

Taking the blood during the chill, or just before the chill, a number of bodies, pale in color and spherical in shape, may be seen grouped around a central mass of pigment dark red or brown in color. The entire organism lies within the red blood corpuscle,

which may be distinguished as a pale yellow ring encircling it (Fig. 1). Besides this corpuscle-encircled body may be seen similar bodies unenclosed by the blood corpuscle, and we notice that the little spherical bodies do not constitute one body as before, but are separated (Fig. 2), and in some places may be seen single spherules scattered among the red corpuscles (Fig. 3). Besides the forms just noted may be seen small colorless bodies inside the blood corpuscles, possessing amœboid movements (Fig. 4). In blood examined during and after the fever stage, the only bodies to be seen are colorless amœboid bodies, inside the red blood corpuscle. These bodies are constantly changing their form, presenting sometimes very singular appearances (Fig. 5). In the course of two or three hours these bodies will be found to have enlarged, and scattered granules of dark pigment are now present (Fig. 6). These pigment granules have an exceedingly rapid trembling motion. If the blood be examined from this time on, at intervals, it will be found that the intra-corpuscular body enlarges so as to almost fill the corpuscle, the pigment congregates toward the centre, the hyaline body begins to show lines of cleavage, and at last, just before another rigor, we find the segmented masses described heretofore.

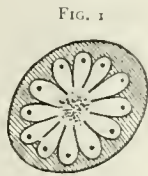


FIG. 1.

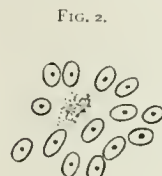


FIG. 2.

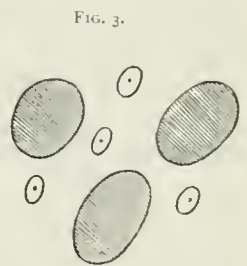


FIG. 3.

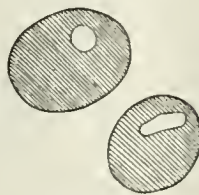


FIG. 4.

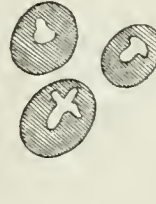


FIG. 5.



FIG. 6.

Now in order to find out the structure of these bodies, staining has to be resorted to, and various observers have added very interesting material to our knowledge on this subject.

The tertian parasite has been studied by Romanowsky.⁸ He has distinguished a nucleus containing a more deeply stained portion, which he believes to be the chromatic portion of the nucleus, lying within the nuclear fluid, and states that while the organism is segmenting, karyokinetic changes may be observed within this portion. Sacharow⁹ also distinguishes a nucleus and nucleolus in the æstivo-autumnal organism.

Mannaberg¹⁰ recognizes a nucleus and nucleolus, and states that, while the nucleus grows in common with the organism, it disappears before the organism undergoes segmentation, merging into the substance of the parasite. As the organism segments, each new spore or segment develops a nucleus of its own. The analogy here between the organism and ordinary cell division cannot but be noticed.

Thayer and Hewetson² thus admirably sum up the existing knowledge upon this subject as follows:

"In summary, then, the substance of the parasite has by careful study been shown to consist of a more deeply staining outer part, which contains the pigment granules, and an inner part which is pale and non-staining, excepting for a small, more deeply colorable

body, which is usually situated close at one side on the border line between this area and the more deeply staining outer layer. This colorless area is generally interpreted as a bladder-like nucleus, the dot on one side representing the chromatin substance or the nucleolus."

Romanowsky is the only observer who has described karyokinetic changes taking place within the nucleolus.

III. The Relation of the Organism to the Various Types of Malarial Fever.—It was not until 1885 that the subject of the relation of the malarial organism to the several forms of malaria was first approached, with the publication of the first work of Golgi¹¹ upon the organism of quartan fever.

From that time until now there have existed two main parties, differing in their views of the nature of the malarial organism.

Of these, Laveran and those who believe with him constitute one, their belief being that the malarial parasite is a single organism, and that there is no relation between the forms in which it appears and the fevers.

Laveran¹² thus states his belief: "This parasite is to be seen in a considerable variety of forms, which one can, however, resolve into the four following types: (1) spherical bodies; (2) flagella; (3) crescentic bodies; (4) segmenting bodies or rosette forms." Again he says: "I do not believe that there exists a constant relation between the forms under which the hæmatozoa appear in the blood and the clinical manifestations of paludism; one can only say that certain forms of the parasite are more often seen in certain cases. . . . The differences which one makes out in the evolution of the hæmatozoa of paludism are not sufficient to authorize one in admitting the existence of several distinct varieties of parasites."

In his latest contribution upon the subject¹³ he says that he does not believe that the malignant fevers of tropical latitudes are caused by an organism distinct in each, but that the fever germ becomes more virulent owing to its surroundings. He never yet has met with the varieties described by some authors as peculiar to tertian, quartan, and irregular fevers, and he adheres to the belief that the malarial germ is a morphological unit in all countries.

The belief of the second party, which includes the

As a *résumé* of this part of the subject, I will quote the results obtained by Thayer and Hewetson in an analysis of six hundred and sixteen cases of malaria in Baltimore. This is one of the latest and best contributions to our knowledge upon this matter, and states briefly the general views held by the majority of observers.

They say:²⁰ "We have distinguished three varieties of the malarial parasite:

"1. The tertian parasite.

"2. The quartan parasite.

"3. The æstivo-autumnal parasite.

"(1) The tertian parasite requires about forty-eight hours to accomplish its complete development, and is associated with relatively regular tertian paroxysms, lasting on an average between ten and twelve hours, associated almost always with the three classical stages—chill, fever, and sweating. Frequently, infection with two groups of tertian organisms gives rise to quotidian paroxysms; rarely, infection by multiple groups of organisms gives rise to more irregular sub-continuous fevers.

"(2) The quartan parasite is an organism requiring about seventy-two hours for its complete development. It is associated with a fever showing regular quartan paroxysms, similar in nature to those associated with the tertian organism. Infection by two groups of the parasite causes a double quartan fever, paroxysms on two days, intermission on the third. Infection with three groups is associated with daily paroxysms.

"(3) The æstivo-autumnal parasite passes through a cycle of development the exact length of which has not, as yet, been determined. It probably varies greatly from twenty-four hours or under to forty-eight hours or more. But few stages of development of the parasite are found ordinarily in the peripheral circulation, the main seat of infection being apparently in the spleen, bone marrow, and other internal organs. Infection with this organism is associated with fevers, varying greatly in their manifestations.

"Nothing in our experience has led us to believe that these varieties of the parasite are interchangeable. They are, we believe, distinct varieties, though closely allied to one another biologically."

IV. The Crescentic Bodies.—In the irregular or æstivo-autumnal fevers there occur in the blood, after a longer or shorter period, peculiar bodies known as the crescents or crescentic bodies. These bodies lie sometimes within the red blood corpuscle, sometimes partly without, and sometimes free in the blood plasma. Their structure and significance have always been matters of controversy between plasmodists, and it will be of interest to dwell briefly upon the more recent theories in regard to them.

Grassi and Feletti²¹ think that the crescents are a totally different variety from other forms occurring with them, and believe that sporulation takes place within them. They have given the name of *laverania* to them. They describe a surrounding membrane and crescents containing two nuclei.

Bignami,²² in 1889, states that this form of the parasite is possibly not a living organism but a degenerate body which does not proceed to reproduction, and neither does he think that they comprise a separate group of organisms.

Marchiafava and Celli²³ agree with his conclusions.

Mannaberg¹⁰ thinks that the crescents are formed by two of the small hyaline bodies joining together to form one, and that the process is one of conjunction or copulation. He bases his opinion upon the fact that several hyaline bodies are often seen within

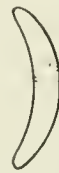
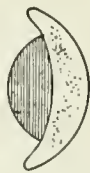
FIG. 7.

FIG. 8.

FIG. 9.

FIG. 10.

FIG. 11.



Crescent or Semilunar Shaped Organisms Occurring in Æstivo-Autumnal Fever. FIG. 7.—Crescent inside a red blood corpuscle. FIG. 8.—Crescent with the remains of a red corpuscle attached to it, pigment scattered. FIG. 9.—Crescent showing the pigment collected in the centre, attached to a red blood corpuscle. FIG. 10.—Crescent showing the remains of a red corpuscle attached to it, as a faintly marked ridge. FIG. 11.—Crescent lying free within the blood plasma.

majority of workers in this line, is that there may be distinguished different types of the malarial parasite, corresponding to and occurring with the chief varieties of malarial fever.

Golgi was the first to assert this theory and Marchiafava,¹⁴ Celli,¹⁵ Grassi, Feletti,¹⁵ Mannaberg,¹⁶ Romanowsky,¹⁷ Councilman,¹⁸ Doch,¹⁹ and Thayer and Hewetson²⁰ are among those who uphold it and have contributed valuable material regarding it.

They believe that there occur in the tertian, quartan, and irregular or æstivo-autumnal fevers distinct varieties of the malarial organism, associated with each form of fever, and that the variety of organism occurring in one never occurs in any other form of fever.

one corpuscle, and upon the formation of a membrane, peculiar arrangement of pigment, and segmentation.

Manson²⁴ believes that the crescent form of the parasite is a step in preparing the organism for its life outside the human body.

Laveran²⁵ in one of his latest works upon this subject, states his belief that the crescents are but ordinary parasites, which, developing under altered conditions in the blood of cachectic patients, become encysted.

Thayer and Hewetson say:² "From practical observations, then, we can say that the crescents represent a very resistant form of the organism; that their presence in the blood alone is often unassociated with fever; that in many instances where they have previously been seen without fever relapses have occurred, but always in association with small hyaline and ameboid forms; that in connection with these attacks of fever we have never seen reproductive forms; that it is clearly demonstrated that the crescents may change into the round bodies from which flagellation is frequently observed. We feel that our observations do not justify a definite conclusion with regard to the significance of these bodies."

In a recent contribution, Danilewsky²⁶ describes in protracted infections very large crescents, which he thinks might give rise to serious nervous troubles by plugging the vessels of the medulla. They were from two and a half to three times the length of a red blood corpuscle.

V. The Flagellate Bodies.—If a specimen of malarial blood be taken just before the paroxysm and placed under the microscope, in the course of from fifteen to twenty minutes certain bodies will make their appearance which are known as the flagellate bodies. These consist of a malarial organism, possessed of two or more actively moving prolongations or flagellæ, which are generally knobbed at their extremity. If these organisms be watched, the flagellæ will sometimes be seen to separate themselves from the parent body and, by means of their power of locomotion, shoot rapidly around among the blood corpuscles. As with the crescents, the nature and significance of these bodies is still an open question.

Golgi²⁷ thinks that they form a phase in the development of the crescents, and that they are degenerative forms of the parasite.

Grassi and Feletti²⁸ believe that they are involutive forms of the parasite, while Sacharoff²⁹ thinks that they develop only outside the body and are produced by the action of a low temperature upon the blood. He thus implies that they are degenerate parasites. Bastianelli and Bignami³⁰ also believe the flagellate bodies to be degenerative forms of the parasite. On the other hand, many observers tend to the opinion that the flagellate bodies are really the most highly developed organisms, and that instead of dying these are in fact reproducing new organisms.

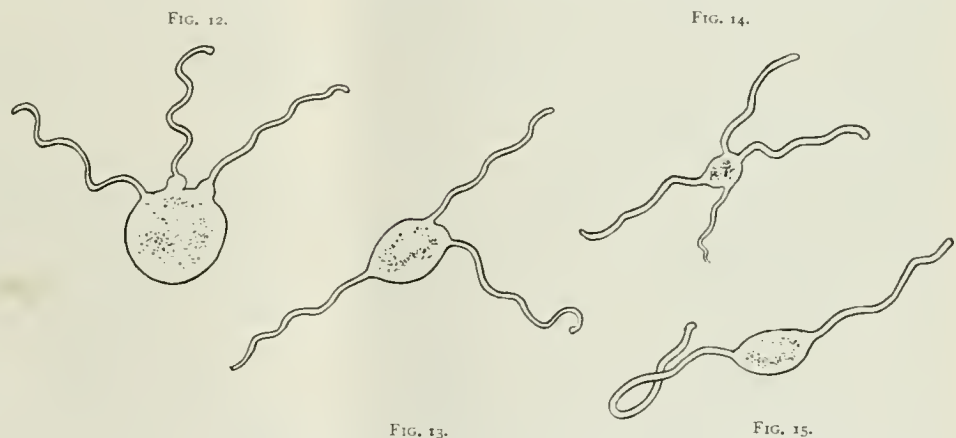
Laveran³¹ believes that they represent the most perfect stage of development of the parasite, and denies that they have anything in common with the sarcodic prolongations of the normal red corpuscle produced by heat.

Doch³² and Mannaberg¹⁰ also believe that the flagellate bodies are not degenerate forms of the parasite, and Mannaberg says: "I suspect that the flagellate bodies enter upon the first steps of a cycle of existence outside the human body." He remarks that they do not develop until the blood has been some time withdrawn from the body.

Thayer and Hewetson³³ conclude as follows: "While our observations concerning the time at which these bodies appear, their association with undoubted degenerative forms, their persistence after disappearance of the fever and after the administration of quinine, the manner in which they are engulfed by the phagocytes, are all, it seems to us, suggestive evidence that these bodies are degenerative in nature; on the other hand, the extreme regularity in the shape of the flagella, their extraordinary activity, their power of individual motion, cause us to hesitate seriously in accepting this view."

Great interest attaches to the views of Manson³⁴ upon this subject, and in a recent paper he announces his firm belief in the theory that the flagellate body is a form of the parasite calculated to maintain the life of the organism outside the human body.

He thus forcibly describes these bodies: "It is a strange, weird-looking, octopus-like creature, with long whirling, curling, lashing, tentacle-like arms attached to a central, somewhat spherical mass, in which are black melanin particles tumbling about in a state of continual agitation. If we keep on watching this body we sometimes see one or more of the tentacle-like arms break away and swim about in the liquor sanguinis with a spirillum-like movement."



Various Forms of Flagellate Bodies. FIG. 12.—Flagellate parasite from tertian fever. FIG. 13.—Flagellate parasite from quartan fever. FIG. 14.—Flagellate parasite from æstivo-autumnal fever. FIG. 15.—Flagellate parasite from æstivo-autumnal fever.

He then describes the development of the flagellate from the crescent bodies, and states his belief that it is not a "degenerative change in a dying or dead parasite" but a "vital evolutionary change—a normal step in the life of the parasite." His reasons for so thinking are the following:

1. The movements of the flagella when attached, and their individual power of locomotion when separated from the body of the parasite.
2. The fact that flagellation occurs in the majority of the organisms, if under natural conditions.
3. The similarity in the flagellated organisms as regards their form and movements.

Manson then concludes his paper by claiming that the flagellated plasmodia are the extracorporeal germs of malaria, as follows:

"I conclude then that the crescent body and the tertian and quartan spherical bodies which proceed to flagellation are the extracorporeal sporulating homologues of the intracorporeal sporulating bodies; that the flagellum is the extracorporeal homologue of the intracorporeal spore. Both types of sporulating plas-

modium have corresponding functions, both arise from the same source; one is the germ of the plasmodium inside the human body, the other is the germ of the plasmodium outside the human body; both function in the propagation of the parasite."

VI. Reproduction, Life Outside the Human Body, and the Mosquito Theory.—Reproduction takes place, according to the majority of observers, by sporulation, which was first satisfactorily described by Marchiafava and Celli,¹⁵ and the flagellate bodies are believed to be another form of reproduction by Laveran,²¹ Mannaberg,¹⁰ and Manson.³⁰

Our knowledge concerning the life of the malarial organism outside the human body is very limited; indeed, it may be said that until the very recent appearance of Manson's³¹ papers upon the subject, our knowledge was *nil*. In these papers, which comprise a series of lectures given before the Royal College of Physicians of London, Manson states his theory of the extracorporeal life of the organism and the relation in which mosquitoes stand to malaria. As has been heretofore noted, Manson believes that the flagellate bodies are in reality the first stage in the extracorporeal cycle of the organism. Not developing until the blood is withdrawn from the body, he thinks that suctorial insects, such as the mosquito, taking blood from malarial subjects, the flagellate bodies develop in such blood within the stomach of the insect. He says: "Casting about for an agent that would meet the requirements of the case, it occurred to me as it had already occurred to Laveran, that, as the plasmodium is a passive blood parasite, its escape from the human body might be effected on the same principle as that by which the escape of the passive blood parasite is effected. As the latter obtain their opportunity by being swallowed by some flesh eater—some carnivorous animal—I thought the former might get its chance of development by being swallowed by some blood eater—some suctorial animal, such as the flea, the bug, the louse, the leech, the sandfly, or the mosquito."

He believes that the blood corpuscle in which the plasmodium is encased acts as a protective sheath from the phagocytes, while in the human body, but when the organism reaches the stomach of the mosquito the flagellate body is developed and bursts through the enveloping corpuscle into the stomach; and then, as Manson believes, by means of their active movements the flagella pierce the wall of the stomach and thus reach a suitable soil for the organism to develop. Just where this evolutionary process takes place within the mosquito is not known, probably in the blood cells. The malarial organism may then by means of the exuviae of the insect be scattered over the country, in stagnant pools especially, and, as these infected pools are the breeding-places of mosquitoes, it can be easily seen how the larvæ can in turn become infected. Man may become infected by swallowing such polluted water containing the mosquito-bred plasmodium or by inhaling the plasmodia in dust from dried-up pools. He thinks that the plasmodium upon entering man may develop into a flagellated spore and so penetrate the mucous surfaces and reach the human blood cell.

That the plasmodia upon reaching the stomach of the mosquito do develop into flagellated bodies, has been proven by Surgeon-Major Ross, who undertook experiments in this line for Manson.

Ross placed a native suffering from malarial cachexia, and whose blood contained numerous crescents, under a mosquito net, introduced mosquitoes which he had reared from the egg, and collected the insects after they had filled themselves with the patient's blood. He then examined carefully the blood in these mosquitoes' stomachs with the following results: "(a) Practically all crescents become spheres a few

minutes after being taken into the mosquito's stomach. (b) From thirty to forty per cent. of the spheres die after one to two hours, the rest having given out flagella, been eaten by phagocytes, or having simply broken up."

I have given here only a brief outline of Manson's ingenious and, it must be acknowledged, probable theory regarding the life history of the malarial plasmodium outside the body, and the reader is referred to his most interesting paper for further particulars.

VII. Phagocytosis, and the Action of Quinine upon the Organisms.—The colorless blood corpuscles act in malaria, as in various other diseases, as safeguards to the health of the body by destroying the plasmodium. This process is called phagocytosis and takes place in the blood-vessels of the spleen and liver chiefly, but also in the general circulation. If malarial blood be examined it will often be noticed that the colorless corpuscles contain within their substance malarial germs in various stages of evolution, and also isolated clumps and granules of melanin or pigment. These phagocytes are most numerous in cases of pernicious malaria, in the vessels of the spleen and liver, but may also be often observed in the tertian and quartan varieties in blood drawn from the circulation. It is not my purpose here to enter into a detailed description of the process known as phagocytosis, but simply to define it as the engulfing and destruction of hurtful organisms by the colorless corpuscles or leucocytes.

The process, as it occurs in malaria, has been carefully studied by many observers recently.

Bignami³² describes the process in pernicious malaria, and states that he has seen the leucocytes engulf not only free plasmodia but also red corpuscles containing them. He thinks that it is largely due to the protecting action of the phagocytes that all cases of malaria do not become pernicious.

Bastianelli³³ found that in tertian, quartan, and æstivo-autumnal fevers phagocytosis occurred periodically, beginning at the time of the paroxysm, and states that the bodies occurring within the phagocytes are the following, in order of frequency: (a) pigment; (b) sporulating forms and spores; (c) red corpuscles containing sporulating forms or pigmented bodies; (d) red corpuscles containing parasites; (e) free bodies with central pigment clumps; (f) red corpuscles containing free amœboid bodies; (g) crescentic bodies. He does not believe that the phagocytosis is the chief factor in hindering the development of simple into pernicious malaria, but thinks that the important element in spontaneous recovery is the oscillation in the virulence of the plasmodium itself.

Mannaberg³⁰ makes the following statement upon this subject: "The spontaneous cure of malaria depends upon three factors, namely: the activity of the macrophages of the spleen and bone marrow; on the circumstance that many parasites remain sterile; finally, on the destructive action of the febrile paroxysm which is manifested by the fragmentation of numerous half-grown and full-grown parasites."

Manson³⁰ notes the fact of the very rare occurrence (which he himself has never witnessed) of intracorpuseular parasites within the leucocytes. He says: "I have seen a phagocyte move up to one of these crescent bodies (enclosed by the red corpuscle), touch it with its pseudopodia, first at one point, then at another, move round about it—feeling, as it were, if all were right within, suspicious apparently that things were not quite as they should be. But the corpuscular capsule seemed to deceive the phagocyte: for, after a time, the vigilant watchman would leave the masked parasite and move away, satisfied apparently, to some other part of the field. Should, however, the crescent proceed to development in the direction of becoming

a flagellated body, to attain which state it has to burst and leave the sheltering blood corpuscle, it is then, being no longer protected by its corpuscular sheathing, exceedingly liable to be set on and devoured by the phagocytes." He uses this liability of the flagellated organism to be devoured by phagocytes as an argument that it does not pre-exist in the blood as such, and that it is a distinctly extracorporeal phase of the plasmodium, the ensheathing red corpuscle protecting the crescentic body, from which the flagellate body develops, from the phagocytes while in the circulation.

Regarding the action of quinine upon the malarial organisms not much has been added recently to our knowledge. All observers agree that in the tertian and quartan fevers quinine markedly affects the parasite, while its influence is not so marked in the æstivo-autumnal fevers.

Romanowsky⁴¹ and Mannaberg,⁴⁰ in stained preparations, note the loss of staining properties in the chromatin substance in the nucleus and believe the change to be due to necrosis when quinine is administered, and also that the spores show no nucleoli.

Golgi⁴² found that in tertian and quartan fever quinine destroyed the young free spores most easily.

Quinine is best given just before a paroxysm, when, although it will not destroy or hinder segmentation, it will almost entirely destroy the young spores. Given at any time during a paroxysm in sufficient dosage (gr. v. to x.), quinine will delay or even prevent the next chill, but the parasites will not be wholly destroyed. In either case continued doses should be used for a week or so entirely to drive the disease from the system. Quinine, to secure the best results, should be in solution in the blood when segmentation takes place and the young spores are liberated, and accordingly should be given several hours before the chill.

VIII. Modes of Infection and Experimental Infection.—Though we know much of the evolution of the malarial parasite within the body, we know but very little of the manner in which it enters into the human organism. Various observers have differed in their theories regarding the mode of infection, but the following, as given by Thayer and Hewetson² are the most important: By the respiratory tract; by the digestive tract; by the skin (insect bites, etc.).

It is but reasonable to suppose that infection may occur through inspiring air containing the malarial germ. Anderson,⁴³ in a recent discussion before the Royal Medical and Chirurgical Society upon this subject, noted numerous examples in which malaria occurred in houses which were exposed to wind passing over newly turned earth. We must, however, admit that we have no positive proof of malaria caused by infected air.

The question of the rôle of the digestive tract in malarial infection has received much attention, and many authorities believe that infection is often introduced in this way. Anderson⁴³ (quoted above) believes that water, either inhaled as vapor or swallowed, is the vehicle of infection, and Manson⁴⁴ thinks that the ingestion of water may be productive of infection. On the other hand the negative evidence of infection through the digestive tract is very strong, many investigators having proven that water from ponds and marshes in malarial localities may be swallowed without danger. Curnow,⁴⁴ in support of the theory of infection through water, states that sailors often contract malaria after water has been taken in at ports where they have not landed, and that at the Panama canal ships which took in water became infected, while vessels that condensed their drinking-water escaped. He also quoted an observation where one hundred and twenty soldiers partook of water from a

malarious locality and one hundred and three of them had malaria, while sailors under similar conditions, but drinking water from another source, escaped without a case.

I have already given in some detail Manson's theory of infection through mosquitoes, and as inoculation of malaria through the skin has been proven easily possible, his theory is not without many staunch adherents.

No one as yet (save Coronado, who asserts that he has cultivated organisms from water) claims successfully to have cultivated the malarial plasmodium, but many have produced the disease artificially, and so proven the relation of the organism to it.

Marchiafava and Celli⁴⁵ in 1884 inoculated five patients with malarial blood and secured results in three.

Antolisei and Angelini,⁴⁶ having inoculated two patients with blood from a case of tertian malaria, found eleven days afterward that malaria was present in both cases and tertian organisms were found in the blood.

Sacharoff⁴⁷ obtained blood from leeches used in a case of pernicious malaria and inoculated himself in the arm with one centimetre of it. In twelve days chills and fever came on, there being two paroxysms on successive days, and the organisms were found in the blood.

Di Mattei⁴⁸ inoculated four patients with blood from a case of quartan fever, and in two of them, after incubation of seventeen and eleven days respectively, typical quartan ague developed with organisms. He also inoculated one case with organisms from æstivo-autumnal fever, which was followed by irregular fever after a period of fifteen days, and the characteristic organisms were found in the blood.

An interesting experiment, cited by Manson⁴⁹ as supporting his mosquito theory, was made by Surgeon-Major Ross. He administered to a perfectly healthy native a certain quantity of water in which a couple of malarial mosquitoes had died after depositing their eggs. The remains of the insects had been removed, but the eggs and grubs were swallowed. Eleven days afterward the man had fever, headache, etc., but no chill. This fever lasted three days. In the blood the ring form of the plasmodium was found. Ross states that there could be no doubt of the malarial nature of the disease.

The above are a very few of the more recent experiments showing the relation of the plasmodium to the disease and the fact that it can be inoculated.

IX. Identity of Malaria in Man and in the Lower Animals.—Hæmatozoa, as is well known, occur both in cold and warm blooded animals, and in many instances closely resemble the malarial parasite. Especially in birds is this so, and they are subject to a disease very much like malaria as it occurs in man. Grassi and Feletti⁵⁰ claim that the organisms found in the blood of birds suffering from malaria are the same as those found in man.

Dambewsky⁵¹ has devoted much study to the malarial blood of birds and distinguishes two varieties, one producing acute malaria and going through the same stages as the parasite in man, and the other causing a chronic malaria. In his latest work⁵² he affirms his belief that the malaria of birds and man is caused by identical organisms.

In closing this paper the author wishes to express his indebtedness to the splendid work of Thayer and Hewetson upon "The Malarial Fevers of Baltimore," and to acknowledge his free use of many data therein.

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PRIMARY MUSCULAR DYSTROPHY IN TWO BROTHERS.¹

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THE term muscular dystrophy is now generally employed to designate those forms of progressive muscular weakness, attended with atrophy or pseudo-hypertrophy, in which the seat of the disease is in the muscles themselves and not in the cord or nerve trunks. The dystrophies include pseudo-muscular hypertrophy, characterized by enlargement of muscles, on the one hand; and simple idiopathic muscular atrophy (Gowers), characterized by muscular atrophy, on the other hand. This latter form of muscular dystrophy is subdivided into two types, distinguished by the muscles chiefly involved in the atrophy, viz.: the juvenile form or Erb's type, characterized by atrophy of shoulder girdle, upper arms, and thighs; and the infantile or Landouzy-Déjerine type, characterized by involvement of the face. This last-named type is, as pointed out by Sachs,² nothing more than the Erb type

plus involvement of the facial muscles, which atrophy is usually first to appear.

It is now well established that pseudo-muscular hypertrophy is, like the two types of simple idiopathic muscular atrophy, due to disease in the muscle itself, and is not dependent upon a spinal lesion at all. There is in this disease, as in the atrophic forms of muscular dystrophy, a progressive muscular weakness, in spite of the hypertrophy which is due to fatty and connective-tissue deposits. "There is practically no other distinction between these various types of myopathies than the mere distribution of atrophy or hypertrophy."³

These primary muscular dystrophies are distinguished clinically from progressive muscular atrophy of spinal origin by their onset in childhood or youth; by the presence of the disease in more than one member of a family (heredity); by the absence of qualitative electrical changes and of fibrillary twitching; and by the fact that the atrophy does not begin in the small muscles of the hand.

While the three types of muscular dystrophy are closely associated and many atypical forms have been described, showing the gradation of one type into another or the presence of different types in several members of a family, yet they are, by the points just given, sharply distinguished from progressive spinal muscular atrophy. This is certainly true for the most part, but it is well to bear in mind that the neuron with its axis-cylinder process (the nerve) and the muscle constitute a trophic unit. Erb has, indeed, concluded that these dystrophies are tropho-neuroses, and may result from disturbances of trophic centres.

It is not surprising that this trophic unit should at times be involved in more than one of its component parts, and a symptom-complex result which should represent a blending of muscular dystrophy and progressive spinal muscular atrophy. As a matter of fact, Strümpell⁴ has reported just such a case, in which atrophy began in the hand muscles. The autopsy disclosed muscular, nerve, and spinal-cord lesions. He believed that the disease originated in the muscles and ascended the nerve trunks to the neurons in the cord.

The hereditary feature of the muscular dystrophies strongly points to their being due to developmental defects; and this heredity, as has been pointed out, is one of the chief clinical characteristics of the muscular dystrophies. But Hoffman⁵ has reported two brothers in two families (four children) affected with spinal atrophy. Autopsies on one child in each of these families revealed neuron, nerve, and muscle degeneration, most advanced in the cord and diminishing toward the periphery—thus forming the exact counterpart of Strümpell's case.

Just why one part rather than another of this trophic unit should be involved, we possess no means of knowing; and while the disease may, in the great majority of instances, confine itself to one part of the trophic unit, cases like those of Strümpell and Hoffman show that parts other than the one first attacked may be subsequently involved. So, while the clinical and pathologic features of the spinal atrophies and muscular dystrophies are, for the most part, quite distinct, they do occasionally merge into each other, as one might, from *a priori* reasoning, expect.

With these brief considerations, I wish to report the cases of two brothers affected with progressive muscular dystrophy. The parents are healthy and besides these two boys have one other child (a girl), who is a twin of the elder boy and who seems to be quite healthy.

¹ Paper read before the Pittsburg Academy of Medicine, October 26, 1896.

² "Nervous Diseases of Children," p. 422.

³ Sachs, *op. cit.*

⁴ Deutsch. Zeit. für Nervenheilkunde, vol. iii., No. 6.

⁵ "Brain," Winter, 1893.

CASE I. (Fig. 1).—Referred to me by Dr. McGrew, of Alleghany. L. S—, boy, aged thirteen years. There was no trouble at birth and he was quite healthy up to the age of three years. He learned to walk as



FIG. 1.—Erb's Type of Progressive Muscular Dystrophy.

soon as infants usually do. At three years he contracted measles and was in impaired health for several weeks afterward; but he ultimately recovered his usual health and strength. When he was about five years of age some muscular weakness began to be noticed, but its beginning was so insidious that the exact time is not certain. This muscular weakness has steadily progressed up to the present time. There was no pain or other sensory symptom at any time. At about the age of eight, the boy began to stumble, and from this time up to the age of twelve his legs frequently

gave way in walking, so that he often fell; and during this time, in rising from the floor, he would climb up his own body, supporting hands on thighs, in the manner described by Gowers.

By November, 1895, the weakness had increased so much that he was unable to stand, and about this time contractures of knees, thighs, and ankles were noticed, which have progressively increased up to the present.

Soon after the muscular weakness was noticed, the parents observed that the upper arms and thighs were disproportionately thin; they state there has been a progressive wasting in these parts ever since it was first noted. There has never been fibrillary twitching at any time. Mentally the boy is quite bright. It was not thought that the calves were enlarged at any time.

Examination, May 20, 1896: The boy is of quite large frame for his age. There are no mental symptoms. The lower jaw protrudes, and the front teeth do not come in contact, because of the fact that the molars strike first. He is quite helpless, unable to stand; but he can make some progress about the room by the use of his hands on the floor. There are marked contractures of legs and thighs; marked wasting of thighs and upper arms. The calves seem to be about normal in size. There is some atrophy of the forearms, but much less than of the upper arms. Pronation is much stronger than supination. There is marked atrophy of shoulder and hip girdles. The deltoids stand out prominently, being either actually or apparently much hypertrophied. Knee jerks absent. No fibrillary twitching.

MEASUREMENTS.

	Right.	Left.
Thigh	11½ in.	11½ in.
Calf	10½ "	10½ "
Upper arm	6 "	6¼ "

In calling upon me to examine his brother, the mother at first stated that her other son (Case II.) was healthy. Only upon examination and direct inquiry was I enabled to obtain the following history and examination. Then the mother stated that her younger

son did not seem to be so strong as he ought to be, and that he was pretty clumsy at times; that he always held to the railing in going up-stairs. She said that several of the neighbors, observing these points, had predicted that he would be like his brother—helpless in time. But she had not laid these fears to heart, for she had noted large calf muscles in the boy.

CASE II. (Fig. 2).—Boy, aged seven; bright, intelligent looking. For about two years past it has been noted that he does not seem to have as much strength as other boys of his age; that he is somewhat clumsy in his movements. Other boys of his age outstrip him easily in running and in various games. He holds on to various objects to assist himself, e.g., to the rail in going up-stairs.

Examination reveals weakness in various movements. For example, when told to run up-stairs as rapidly as possible, he is able to go up only in a slow, labored manner. In walking he has a slow, waddling gait. There is considerable weakness in arms and forearms; more in the latter than the former. Supination is much weaker than pronation.

Inspection reveals atrophy of upper arms and shoulder girdle. The deltoids are, in contrast with other arm and shoulder muscles, enlarged. (This is not nearly so marked as in Case I., and is not well shown in the photograph.) There is moderate atrophy of the thighs and of the pelvic girdle, while the calves are quite distinctly hypertrophied. There is marked lordosis. The knee jerks are absent. There are no fibrillary twitching and no sensory symptoms. The forearms and arms on both sides each measure six and one-half inches; each thigh, twelve and one-half inches; each leg, ten and one-half inches. All measurements were taken at widest circumference and at corresponding points.

Remarks.—The diagnosis of progressive muscular dystrophy in both these cases can, I think, scarcely be questioned. The slow onset in childhood and the progressive features; the atrophy affecting chiefly the shoulder girdle, upper arms, and thighs; the presence of the disease in two brothers with non-involvement of the face in both cases and the absence of fibrillary twitchings taken together make this diagnosis certain. The contractures in Case I. exclude the Landouzy-Déjerine type.

Case I., with atrophy of upper arms, shoulder girdle, and thighs, and with deltoid hypertrophy, makes it conform quite closely to Erb's type.

Case II., with the very considerable hypertrophy of the calves, suggests pseudo-muscular hypertrophy. The lordosis and waddling gait present are also features belonging to this form of dystrophy. But the marked atrophy of upper arms and shoulder girdle, with apparent moderate hypertrophy of deltoids and

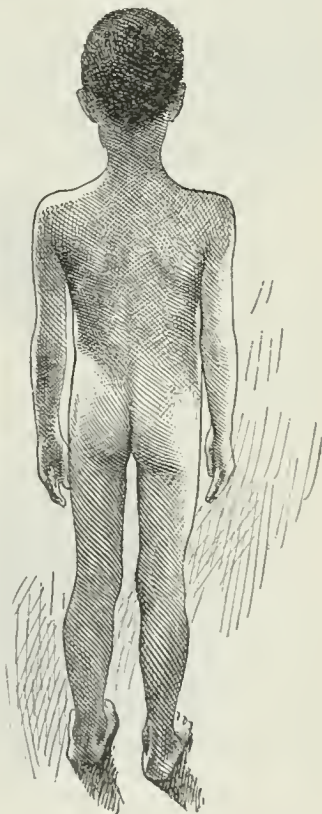


FIG. 2 (Brother to Fig. 1).—Progressive Muscular Dystrophy, representing a mixed type—one between muscular pseudo-hypertrophy and Erb's type.

slight atrophy of thighs, are features distinguishing Erb's type.

The enlargement of the infraspinati, according to Gowers¹ and Jacobi² a distinguishing feature of pseudo-muscular hypertrophy, is absent.

On the whole, I am inclined to regard this second



FIG. 3.—A Case of Progressive Spinal Muscular Atrophy, showing wasting of hands, forearms, upper arms, and shoulders; more marked in right arm.

case as one representing an atypical or mixed type of muscular dystrophy—one possessing features belonging to Erb's type and to muscular pseudo-hypertrophy.

These two cases together afford another illustration of what has been insisted upon by Erb, Gowers, Sachs, Jacobi, Dana, and other recent writers upon this sub-

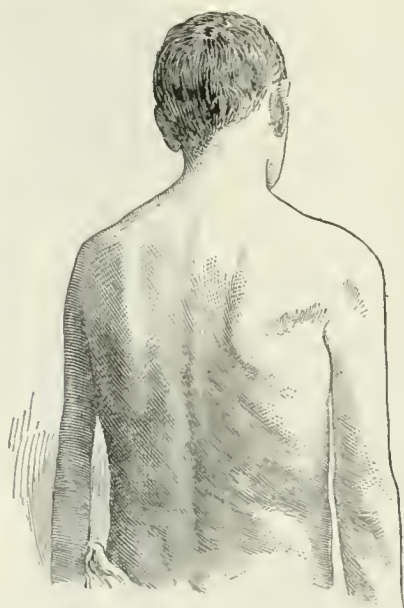


FIG. 4.—Posterior View of Patient represented in Fig. 3, showing very marked atrophy of scapular muscles and of deltoids.

may be seen in a single individual. They afford support, too, to the view that the different types of muscular dystrophy are only forms of the same disease.

There can be little doubt that the muscular dystrophies attack boys very much more frequently than girls. The exemption of only one of the three children of the family in which my cases occurred, and that child a girl, a twin of the elder boy, affords a curious and interesting support (so far as it goes) to this rule.

As a sort of appendix to this paper, I wish to call attention to the photographs (Figs. 3 and 4) of a case of progressive spinal muscular atrophy, an account of which was recently published.¹ Although the case was atypical (having begun suddenly), it will serve well to bring into relief certain features distinguishing this form of atrophy from the progressive muscular dystrophies.

The patient, a man aged forty-eight years, suffered palsy of the right arm three years ago, soon followed by atrophy affecting a group of radial muscles, those of the thenar eminence and of the deltoid and biceps and scapular muscles. Some months later, loss of power and atrophy in corresponding muscles of the left arm set in and progressed slowly. The muscles of the neck have recently become involved. Although for a time the progress of the disease seemed to have been checked by treatment (strychnine), the loss of power and atrophy in the hands, arms, shoulders, and neck are now progressing. There is no involvement of the lower limbs.

WESTINGHOUSE BUILDING.

A BRIEF NOTE AND REMARKS UPON A CASE OF EMPYEMA OF THE VERMIFORM APPENDIX.

By GEORGE R. FOWLER, M.D.,

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THERE is scarcely room for doubt in the minds of those who have been brought much in contact with the disease appendicitis that surgical measures, and these alone, are competent to deal effectually with the disease when the latter is progressive in character. In mild cases of catarrhal appendix or endo-appendicitis, with but slight interference with the blood supply, and in the absence of virulent infection, the inflammatory action may not extend beyond simple thickening of the mucosa and submucosa, or at the most involve but slightly destructive alterations in the organ; hence these cases should quickly clear up under saline purgation and rest in the recumbent position. One condition is occasionally found, however, as a result of these so-called "catarrhal" attacks (which, by the way, are not catarrhal in the true sense, since they almost invariably involve at least the submucosa), and that is the occurrence of narrowing or even complete obliteration of the lumen of the appendix at one or more points. If the inflammatory action is of a sufficiently high grade and extensive enough to involve the entire length of the organ alike, the subsequent dangers to the patient are not nearly so great, since under these circumstances obliteration of the entire lumen may take place, as when this is limited to one or more points, particularly at its base or point of attachment to the cæcum, the site of the appendiculo-cæcal orifice. Occlusion at this point constitutes a source of danger not heretofore sufficiently dwelt upon by writers upon the subject, and which is illustrated by the following case:

¹ "Pseudo-Hypertrophic Muscular Paralysis," London, 1879. Also, "Diseases of the Nervous System," vol. i., p. 519.

² "Nervous Diseases by American Authors," p. 865.

¹ New York Medical Journal, June 6, 1896.

J. E. S.—, Jr., aged twenty-one years, was taken suddenly ill at about 1:30 A.M. while on a visit to Shelter Island. His hostess administered a dose of so-called cholera mixture which contained a liberal quantity of opium. Dr. W. E. Butler, of this city, saw him a few hours later and found him quite comfortable, with a practically normal pulse rate and temperature. The entire abdominal wall was relaxed and absolutely without tenderness upon pressure, save at a point which could be covered with the end of the finger, somewhat below the centre of the right iliac region.

I saw the patient at 7 P.M. of the same day, and found him entirely free from pain; the local tenderness had also decreased, both of which conditions were probably due to the opium taken. The temperature by the rectum was 100.6° F. and pulse 80. He expressed a general feeling of well-being, and was cheerful and unconcerned about himself. The following points were related to me by Dr. Butler as a part of his previous history: Two years before he had suffered from an attack commencing in the same manner, and one year later from another, for both of which he had been treated by a physician for "cold in the bowels." The last attack necessitated a week in bed.

In view of this portion of his history I decided to have him removed to the city at once for operation, in spite of the fact that the then present attack appeared to be already upon the wane. Accordingly he was carefully transferred to an easy mattress and cot and transported by special train to Brooklyn and taken in an invalid coach to the Methodist Episcopal Hospital. Preparations were made for immediate operation, and at 12:30, just twenty-three hours after the first acute symptoms, the abdomen was opened and the appendix removed. The latter lay in the S. E. position (downward and inward), crossing the brim of the pelvis and lying upon the peritoneal covering of the iliac vessels. No adhesions were at first apparent. The organ was uniformly enlarged to about one and a half times its normal size, but in other respects presented a normal appearance. The walls of the organ fluctuated upon palpation, and the enlargement was evidently due to a distention of the organ by fluid, and extended from its base to the distal extremity.

With proper precautions to protect the peritoneal cavity from infection, by thoroughly walling off with gauze compresses, the cæcum with its attached appendix was brought into the wound. The meso-appendix was ligated *en masse* close to the base of the appendix, the latter separated, a purse-string suture passed upon the cæcal wall about half an inch from the base of the organ, and the latter amputated, after the precaution of encircling it near its proximal extremity with a ligature to prevent its contents from escaping had been taken. As the section was made there welled out from the short stump a purulent fluid. An attempt was now made to pass a small probe into the cavity of the cæcum, when it was found that the orifice leading to the latter was wanting; the communication was entirely shut off by a stricture, the result of one of the previous attacks, probably the last.

Subsequent examination of the organ revealed the following: The appendix was unusually long. Upon opening it lengthwise it was found to be filled with purulent fluid, the result of hypersecretion from its living mucous membrane; this was undergoing suppurative changes. Its mucous membrane was thickened and at the extreme tip the latter was ulcerated for an area slightly larger than a pin's head. At this point the submucosa, as well as the wall of the organ, had taken part in the ulcerative action, only the serosa remaining intact. Upon the serous covering opposite this point of ulceration the remains of an adhesion were found, which had evidently given way with the

slight traction exercised in bringing the organ into the wound.

The significance of the location in which the appendix was found, as well as that of the infection of its wall and serosa at the tip, became apparent later on. The case pursued an uneventful after-course until the eighth day, when a left femoral phlebitis made its appearance, which in all probability commenced as an infectious iliac paraphlebitis and finally resulted in a phlebitis, the infection having its origin in the tip of the appendix at the point where the ulcerative action was in progress. This infectious process extended to the right iliac vein finally, as evinced by a subsequent right femoral phlebitis. These complications delayed the patient's convalescence to at least double the length of time required for recovery from an average uncomplicated operative case of appendicitis.

The case related is one in which all the symptoms of a mild endo-appendicitis, with its promising favorable termination under nature's efforts, disclosed upon operation an astonishingly dangerous condition of affairs. The lumen was shut off from the cavity of the cæcum by the presence of a stricture, the result of a previous attack. The infectious agents thus imprisoned had remained in an innocuous quietude for a time, when finally an irritation emanating from these micro-organisms, and with the predisposition furnished by some casual interference with the blood supply to the organ, such as probably results from changes in position in the organ when freely movable in the peritoneal cavity—an attack of so-called "catarrhal" inflammation, followed by increase of secretion—furnished the pabulum for the proliferation of the micro-organisms present. This proliferation initiated suppurative changes in the exudate, and pressure and infection combined to set up the ulcerative changes in the tip of the organ, where the vital resistance is reduced to the minimum by the absence of proper blood supply in an organ whose vestigial character and evident final fate through evolutionary changes stamp it as the most dangerous of that class of which it and the tonsils and the wisdom teeth are the types.

The fact that the appendix lay across the brim of the pelvis and rested with its point, at which perforation threatened, lying upon the left iliac vein furnishes the explanation of the subsequent occurrence of the femoral phlebitis. The infection extended from the serosa of the organ to the posterior layer of the peritoneum and thence to the connective-tissue layer surrounding the iliac vein. The infectious paraphlebitis and subsequent phlebitis thus set up extended first in the direction of the left, and finally to the right, femoral vein.

The case scarcely requires further comment. It is published with the hope of attracting attention to a class of cases not frequently alluded to, and to show the fallacy of relying upon the train of fortuitous circumstances which are believed to hedge in these so-called "catarrhal" cases and lead to a favorable termination in apparently mild attacks of appendicitis, particularly when the history of the case includes a statement of previous attacks of the disease. The links in the pathological chain are so unmistakably and uninterruptedly connected that it would certainly seem as if "he who runs may read."

Warts.—Dr. Laubenburg has discovered that if a spot is touched with fuming nitric acid, and then immediately afterward with pure liquid carbolic acid, there is a strong chemical action, the effects of which penetrate deep into the tissues, and completely and permanently cure warts, condyloma, angioma, etc.—*Centralblatt für Chirurgie*, August 8th.

SOME THOUGHTS ON DISORDERED MEMORY AND KINDRED CONDITIONS.

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It is held by some physiologists whom we honor that all healthy ganglionic nerve cells have memory; *i. e.*, are subject to permanent impressions by every temporarily acting stimulus. In this sense, memory is conceived of as possible independent of consciousness; the idea being that memory consists of the impressions registered on the ganglionic cells of the cerebral cortex, irrespective of whether those impressions are recognized and correctly interpreted by the individual consciousness or not. If we conceive of memory as the recognition by consciousness of impressions made on the ganglionic cells by external stimuli, our conception will harmonize with the general idea of that intellectual function commonly recognized as memory; not complete nor entitled to the name, divorced from consciousness.

Whether we conceive of memory as commonly recognized, or in a modified or broader sense, we naturally associate a good memory with healthy well-nourished nerve cell of the cerebral cortex. It is believed that the assumption of such a relation, as a rule, will be supported by the observation of every medico-psychological student. As a rule, I say, because there are some notable exceptions that add much to the interest as well as to the difficulty of solving the problem and fixing the relationship between ganglionic integrity, and consciousness.

It is interesting to note that certain specialized memories are represented by different cerebral convolutions. We know that a more or less complete loss of memory for articulation, motor aphasia, almost surely follows any considerable lesion of the posterior part of the third frontal convolution; and that a condition known as "word deafness," the subject of which can understand written but not spoken words,

while expressing himself freely by both written and oral speech, commonly follows a circumscribed lesion of the superior left temporal convolution. Again, it has been demonstrated that a circumscribed lesion of the superior occipital and angular gyri is followed by a condition known as "word blindness," in which the individual cannot recall the name of a printed or written word nor associate it with its object, although he can express himself correctly and has no trouble in understanding oral speech. "In right-handed people all the memory centres are in the left cerebral hemisphere; in left-handed people they are in the right hemisphere."

We know that these functional disturbances from pathological conditions are compatible with so much mental integrity that the subject may not be considered insane; but we also consider complete loss of any specialized memory as strongly indicating circumscribed organic brain disease.

A partial failure of any form of memory may be reasonably considered physiological, and, perhaps, explained on the hypothesis that excessive action of the ganglionic cells of one convolution would naturally cause anamia and decreased functional activity of other convolutions, representing different faculties of mind. He who can turn quickly from intense exercise of concentration of attention and the reasoning faculty, supposed to depend on functional activity of the anterior portions of the frontal convolutions of the brain, to recall without hesitation the name of an individual not frequently met, or a technical term foreign to the subject on which the mind has been dwelling, may congratulate himself that the vasomotor

mechanism of his brain is nicely adjusted and quickly responsive indeed.

It is highly probable that the energizing functions of certain cortical areas are practically quiescent while faculties represented by a distant brain area are especially active; and this serves at once as a rational guide for mental therapeutics and indicates the danger to mental health from the mind dwelling unremittingly on one thought or closely related thoughts.

Besides the disorders of memory belonging to well-recognized forms of mental derangement, those rare anomalies of mind function known as "loss of personal identity," "double personality," and "double consciousness" are especially interesting. Frequently the news columns of our dailies have accounts of some man, perhaps not manifestly insane nor delirious from fever or toxic agents of any kind, who cannot, or claims he cannot, give any clew to who he is or where he came from. It is highly probable that some of these persons are dissemblers, individuals hungry for notoriety; and yet it is a fact, well established, that through some obscure pathology not well understood an individual's mind may become as a blank from which all the impressions have been erased. It is believed that the impressions which have been potent in the evolution of that man's mentality are still indelibly impressed on that brain cortex, to last while that brain retains its structural integrity; yet the connecting link binding past to present has in some way been broken. "The light of consciousness" is no longer able to illuminate those myriad images hidden among the tortuous cerebral sulci.

Among the cases of lost personal identity recorded by members of our own profession, H. C. Wood¹ tells of a man who was brought to the hospital suffering from sunstroke, from which he recovered promptly and was entirely rational, but for several days could not tell his name nor give the slightest clew to his own identity or where he came from. "Double consciousness" is a periodic failure of memory, sometimes associated with a coincident change of disposition. A typical case is quoted by Dr. Wood from Dr. Mitchell, of New York, from which I cannot do better than to quote. A highly educated young woman fell, without warning, into a deep sleep lasting several hours. On waking she had lost all former knowledge. "It was necessary for her to relearn everything—the alphabet, to read, write, and reckon. Some months later she again fell into a deep sleep and woke in the normal state. Then she remembered all that she had learned in her original condition but remembered nothing that had occurred in her abnormal state. For many years after this she alternated between the first and second condition, in each state knowing only what she had learned in previous periods of the same state. When she made acquaintances she recognized them only when she was in the state in which she had been at the time of their first meeting. Her handwriting, which was good in the first condition, was very bad in the second state."

Each case of "double consciousness" will present some atypical features and individual peculiarity. It is common for a deep sleep and intense headache to usher in the abnormal state; although the duration of the sleep may not be more than a few minutes. It is a rule for all the experience of the abnormal period to be utterly forgotten when the subject passes again into the natural state. There is great variation in the comparative memory and activity of the intellectual faculties of different individuals while in the unnatural state; some, like Dr. Mitchell's subject, are conscious only of impressions made during former similar abnormal conditions, while others remember, with an exalted acuteness, not only the experiences of former

¹ "Nervous Diseases," C. L. Dana, p. 320.¹ "Nervous Diseases," H. C. Wood, p. 372.

like attacks, but all the events of the normal life as well.

Along with a changed consciousness, comes a changed personality in many cases. One naturally of a melancholy temperament, passing into a mental world of new memories, may take on a vivacious, light-hearted, thoughtless disposition. The moral qualities may also be equally changed for the worse, or possibly, for the better.

When we say that "double consciousness" is a periodic failure of memory, we state only part of the truth; because, while memory for the past is obliterated, new impressions are "registered and reproduced in sufficient number and intensity to serve as a guide to rational action," as is evidenced by the fact that eminent members of our profession have not classed individuals manifesting pure double consciousness as insane.

While pure cases of well-authenticated double consciousness are rare, every large hospital for the insane will furnish incomplete mixed cases.

The conditions known as "double personality," in which the subject believes himself to be two distinct individuals, to have "a double," which may follow him about constantly talking to him, is so identified with delusional insanity that we may safely class these subjects as having passed the border land of sanity into the domain of mental aberration.

We know the border line between sanity and insanity is very indefinite and shadowy, and that there are many psychological phenomena which, so far, have puzzled progressive experimental physiologists and pathological microscopists.

When tottering reason and failing memory come to us in a cracked and weakened vessel; and, after a time the pathologist reports a shrunken, waterlogged brain, gummatous tumors, or congested gray substance with milky arachnoid; or obliterated lumina of important cerebral arteries; or ganglionic cells with softened walls minus processes and nuclei, then we feel a satisfied congratulatory thrill; our theories are so far vindicated. The mental condition was consistent with a demonstrated cause. The organ of mind was diseased—corresponding dementia was natural and inevitable.

Mental confusion with emotional depressions, and memory almost *nil*, may come to us in a body weak from inanition. We naturally expect its brain cells to be also starved. The mental attitude precludes a fair quantity of nourishment being taken. A heavily coated tongue, foul breath, and parched lips tell of wanting normal secretion, with probable toxic products, in the place of needed peptones in the digestive tract. A saline purge, perhaps an irrigation of that mucus-coated stomach, a pint of beaten milk and eggs twice or thrice daily through a stomach-tube, and in a few weeks apparently almost a miracle is wrought. Mind and memory come again when toxic products are eliminated and nutriment is furnished those starving cells of the central nervous system. We congratulate ourselves again and mentally say, brain is the organ of mind; see that metabolic debris does not obstruct and poison the life current from which those brain cells drink constantly, supply the needed pabulum, and mind with memory will not desert the intellectual throne. True, we acknowledge that every mechanism has its limitations, and we realize how frail some nervous mechanisms are. We also insist that for long service no one part of the mental machinery shall be in constant use.

We can understand why all organic diseases of the brain should cause dementia with loss of memory. We explain the almost entire loss of memory for recent events with good memory for the experiences of early life, by saying that the softened ganglionic cells

have lost their power to register impressions, while the power to reproduce impressions made when the brain was at its best is still retained.

It is not uncommon for one with acute mania or confusional insanity to wake from a sleep entirely rational, to ask where he is, how long he has been in the hospital, etc.; he may remember the events of his delirious period as one remembers a bad dream, or all the impressions of his abnormal period may be lost to rational consciousness. After remaining rational a few hours, he may pass again into a maniacal state, to be dominated by the same irrational ideas, begotten of his morbid fancy. Indeed, according to the writer's observation, one passing suddenly from the utter incoherence of acute insanity to perfect rationality is very apt to relapse; while it is a good omen for the mental cloud to lift gradually.

These alternating rational and irrational periods of the insane seem to be closely analogous to "double consciousness." It is another witness to the shadowy line of demarcation between the sane man with a neuropathic constitution and the man who is mildly but legally insane.

Occasionally we are confronted by psychological phenomena seeming to throw doubt on the entire dependence of memory on healthy well-nourished cells of the cerebral cortex. There is a popular belief that before the mind of a drowning man, whose nerve centres must be suffering for want of oxygen, at least, the minutest events of his life pass in rapid panorama. However this may be, there is authentic evidence that, under certain conditions, memory is uncommonly active when the body is weakened by disease, and there are individual cases of insanity with memory exalted above the normal.

When the higher faculties of judgment and volition are paralyzed by the hypnotic state, the individual frequently manifests a phenomenal memory, reciting poems without an error, speaking in a language entirely lost to memory in the subject's normal state, etc.

These exceptional and apparently paradoxical cases have been made the most of to support many kinds of occult psychological theories. One of the recent and most interesting attempts at solution of these extraordinary manifestations of mind is by T. J. Hudson under the title of "The Law of Psychic Phenomena." It being, in the language of the sub-title, "a working hypothesis for the systematic study of hypnotism, spiritism, mental therapeutics, etc."

The basal proposition of this unique and well-written book is that man's mind is dual, in function at least, and may be considered, for purposes of study, as consisting of two distinct entities, which for convenience and in harmony with carefully observed phenomena, he designates the subjective and objective minds. The former is identical with the soul of man, it is constantly amenable to control by suggestion, and is incapable of inductive reasoning. But when dominating the individual, as it does in the hypnotic state, trance, and certain conditions of insanity, it accepts as verity any suggestion from without or any disordered sensation from within, and may reason deductively, from a false premise, with unerring accuracy.

In the language of the author: "The objective mind takes cognizance of the objective world. Its media of observation are the five physical senses. It is the outgrowth of man's physical necessities. It is his guide in the struggle with his material environments. Its highest function is that of reasoning.

The subjective mind takes cognizance of its environments by means independent of the physical senses. It perceives by intuition. It is the seat of the emotions and the storehouse of memory. It performs its highest functions when the objective senses are in

abeyance. In a word, it is that intelligence which makes itself manifest in a hypnotic subject when in a state of somnambulism."

Belonging to the subjective and objective minds are subjective and objective memories, between which there is a wide and distinctive difference. The objective memory, being a function of the brain, "has an absolute localization in the cerebral cortex." And the different varieties of memory, such as visual memory, auditory memory, memory for speech, etc., can be destroyed by localized disease or by surgical operation.

"Subjective memory, on the other hand, appears to be an inherent power and free from anatomical relations. At least, it does not depend upon the healthy condition of the brain for its manifestation."

It is foreign to my purpose to defend Mr. Hudson's position, nor do I wish to attack it. One cannot help feeling that there is much doubt of the reliability of many of the alleged facts on which his clever hypothesis is based. But I deem his theories sufficiently interesting to be considered in relation to phenomena which many will recognize, and few, if any, attempt to explain.

The tendency of modern thought, particularly in our profession, is toward a strictly materialistic explanation of all the phenomena of mind.

In an excellent paper on "The Treatment of Insanity,"¹ Dr. Hornibrook voices the belief of a vast majority of the most progressive in our profession, when he says: "I informed him that the immaterial mind was 'beyond my ken,' and that, with my limited capacity, it was impossible to conceive of an insane mind in a perfectly healthy and properly developed physical organization."

It is certainly true that the history of mental disease is a history of brain disease or nervous derangement. We note the coincident evolution of mind with cerebral development. We observe that the mental states of well-being, depression, joy, or misery are dependent on or are modified by the condition of the different organisms, and that many of the intense pleasures of the highly gifted intellects come through the agency of the material organs of special sense.

It is possible to err by giving attention only to one class of evidence; and we are all the more likely to throw out competent evidence tending to prove an immaterial or spiritual element in the human intellect because it is so mixed with the chaff of duplicity and pretension offered by so-called spiritualistic mediums and the like.

That the brain is the organ of the mind or soul is not questioned. That the mind cannot manifest any of its higher capacities under normal conditions, except through the material nervous organization, is not doubted. It is observed, however, that the plausible explanations of mentalization on the hypothesis of ganglionic reaction to external and auto-stimulation assumes consciousness as an endowment, "latent in the new-born infant." And to assume the highest and most distinctive attribute of mind, "without which," in the language of Dr. Cowles,² "there can be no mental action," seems like begging the whole question. And there are many thoughtful observers of intellectual phenomena who will not assent to the proposition, growing logically out of the position taken by some psychologists, that the mind or soul of man is but a convenient term for the product of physical and chemical action; and that all the manifestations of mind—hopes and fears, love and aspirations—are products of the brain alone, as bile is the product of the liver.

"Attraction plus repulsion of molecules," says Maudsley, "constitutes our conception of matter; and, in observation of its mode of energy, attraction is rec-

ognized in gravitation, cohesion, magnetism, affinity, love; while repulsion is found in centrifugal force, heat, electricity, antipathy, and hate."

This gifted writer sees no contrast between vital action and the kind of action exhibited by inorganic nature.

From a different standpoint Noah Porter writes: "The excitement of a nervous organism does not and never can be made to signify the same thing as to know, to feel, or to will. Its excitement a second time can never be the equivalent of to remember. The partial excitement of many nerves or nerve products, limiting or helping one another, can never signify to reason." . . . These are psychic activities, and no amount of research will ever elucidate anything further than that certain corporal organs take a certain parallel action when the soul externalizes its own activities."³

To the question, What is mind? science gives a very imperfect answer; and this is true, whether the explanation follows the teaching of the ancient Aristotelian philosophy—includes the more modern metaphysical idea of immaterial "primitive forces," modified and organized to form the faculties of mind, coincident with the growth and evolution of the nervous organism, or accepts the propositions of the strictly materialistic psychologist, who holds that, by the expenditure of a sufficient amount of energy, inorganic may be raised to organic, and the lowest organic to the highest organic matter.⁴

It is natural for physicians to give most weight to the conclusions of those who reason from a purely physiological standpoint. Indeed, the very terms used by those who begin the study of mind by an analytical examination of their own consciousness seem to most of us but the introduction to a "meaningless metaphysical haze." This may, however, be due largely to the fact that our education has been along entirely different lines of thought, and it is to be regretted that there are physicians, having a very limited knowledge of the writings of Spencer, Bain, and Maudsley, who use these names as a justification for shallow and offensive ridicule of those who believe in the theological idea of an immortal soul and a future life beyond death, etc.; and it would not lessen the prestige of our profession if ridicule of a religious faith was delegated to those alone who have weighed all the evidence for and against such a faith.

Inasmuch as Maudsley is an authority often quoted by those who believe all the phenomena of mind are adequately explained on the hypothesis of nervous ganglia reacting to external stimuli, and that the idea of an immaterial soul is a ghost of superstition—laid beyond peradventure—the following, from the pen of Maudsley, is quoted:

"Without speculating at all concerning the nature of mind—which, let me distinctly declare at the outset, is a question science cannot touch, and I do not dream of attempting to touch—I do not shrink from saying that we shall make no progress toward a mental science if we begin by depreciating the body. . . . The portion of the universe with which man is brought into relation by his existing sentiency is but a fragment; and to measure the possibilities of the infinite unknown by what he knows is very much as if an oyster, judging all nature by the experience gained within his shell, should deny the existence on earth of a human being, because its intelligence cannot conceive his nature or recognize his works. Encompassing us and transcending our ken is a universe of energies. How, then, can man, the feeble atom of an hour, pre-

¹ "Theory of Vitality," p. 226.

² "The Human Intellect," p. 55.

³ *Ibid.*, p. 472.

⁴ "Theory of Vitality," p. 243.

¹ Iowa Med. Jour., October, 1895.

² "The Mental Symptoms of Fatigue," p. 10.

sume to affirm whose glory the heavens declare, whose handiwork the firmament showeth! Certainly true science does not so dogmatize."

POSTURE IN LABOR.¹

By THOMAS W. HARVEY, M.D.,

ORANGE, N. J.

IN every field of muscular effort we find that there has been a careful and scientific study of the best and most efficient methods for making the effort tell for the greatest results. We seek for a maximum of effect from a minimum of effort. The oarsman, the soldier, the cyclist, the boxer, the athlete generally, the workman lifting or carrying burdens, have all been studied and their muscular movements analyzed. They have been taught how to stand, how to hold the body, when to put forth the greatest exertion so as to apply the muscles in the most efficient way.

When we come to the most necessary muscular effort of all, the one for which women were created, without which all things human end—the labor of parturition—we do not find that any effort is made to train the young woman how to use her natural forces; and while in savage and semi-civilized nations continuation of the species is thought of such importance that the young girls are taught in their childish dances the proper feminine posturing and movements that make sexual congress most successful, there has been no training for the important function of motherhood—the idea being that instinct should direct the method of putting forth her strength most efficiently. But many young women seek a posture that will relieve them of their pain, and do not seek, but rather avoid, a posture that will allow them to use their voluntary muscles most efficiently. The whole subject of childbirth is still obscured by the cloud of traditions and old wives' tales, and the darkness of superstition of the "wise woman," who has either forgotten her own experience or who dropped her babies like kittens, without special effort. Under her advice, a woman is prevented from assuming such postures as nature indicates, but must have her baby in the traditional posture of her particular *gens*.

If we review the history of obstetrics, we find that here, as in other matters, fashion reigns, and a woman is put in one or another posture to suit the fad. To any one who has attempted to introduce the forceps with the woman lying on her side, it will ever be a mystery why our English brethren continue that position for operative work. In all other gynecological work the English operator recognizes the value of the dorsal position, but when the forceps are to be applied over the patient goes on her side—and only the conservatism of fashion can account for it.

If we study the postures assumed by the women of different lands, it is surprising to learn how many and various, and often how artificial and complicated, are the observances and postures that they assume. In civilized nations, where medicine is more scientific, tradition may not govern, but fashion does; among the semicivilized, where the midwife reigns supreme, we have the inflexible laws of her craft, founded only on ignorance and superstition. If we go among the wild women, we find still that the same influences are active.

It seems that the most natural position for the mother during the expulsion stage would be squatting on the feet, with a firm hold on a post or tree in front of her. This is the attitude assumed by the women of many of our Indian tribes. Many of us have found the rude peasant woman of continental Europe in the same position.

Among the Africans and also among American tribes this is often modified to a kneeling position; but if we put a woman in a semi-recumbent position, with her knees flexed, the feet firmly implanted on the bed against a box or the foot of the bed, and something that she can take hold of with her hands to steady the body, we place her in a position to use her muscular powers to the utmost degree, for the one purpose of forcing out the child.

This position was prevalent in the days of the obstetric chair, and is found modified in many ways among different people. The Japanese woman is confined reclining on a wicker framework covered with matting. The French Canadian turns a chair back down, and on this inclined plane lays a mattress, on which she reclines. The South American is confined in her hammock. Many women of many lands work the husband into their service, and use his lap for a couch. Often another woman assumes this position; and again, with arms encircling her abdomen, the hands pressing on the fundus, an auxiliary force of much effect is brought to the assistance of the parturient.¹

The posture of general flexion is the most effective. You will often see a woman straining in her labor—her legs extended, her head thrown back, and the body arched forward. If you make an examination during a pain, you will find very little descent of the child. This is a trick that the woman has learned during the first stage of labor, to keep the child from pressing too hard upon the undilated cervix, and during that stage is of value and assistance to her; but if the time has arrived for the descent of the child, then such posture is harmful and delays the labor. And if you will have her change her position to one of general flexion, chin on the chest, back bent, legs and thighs flexed, an examination during a pain will show a descent of the head.

This is to be borne in mind when the head reaches the perineum in a primipara. If there is danger of rupture of that part of the canal from the violence of the labor, the woman may be turned over to her side with benefit, with the effect of prolonging her labor and giving the parts a chance to dilate.

This last suggestion brings us to a part of our subject which will bear careful study and which presents many unsolved problems, viz., the effects of posture upon the mechanism of labor.

The factors of our problem are the pelvic inclined planes and the leverage that may be brought to bear upon the foetal head through the long axis of the foetal ovoid.

If you have a certain inclination of the long axis of the foetal ovoid to the plane of the brim, you certainly can change the relation of the foetal head to the pelvis by changing such inclination, *i.e.*, by rolling the woman over. And you can effect such a change up to the time when the head becomes tightly fitted to the pelvic planes, and when, by the escape of the waters and the moulding that takes place as labor progresses, the influence of posture is diminished. Then it is easier to bend the foetus on itself than it is to turn the head. It is, therefore, in the early stages that we can affect the mechanism of labor.

The knee-chest position, in the early treatment of prolapse of the cord, is classical.

There is a class of cases in which labor is tedious, without there being any very apparent reason why it should be delayed. In these we shall find the following condition of affairs: A multipara is having weak, inefficient, and infrequent pains; the os is well dilated, but not retracted; the membranes may be intact or not, but the head remains at the brim. Examination shows deflexion of the long axis of the foetal

¹ Paper read before the Orange Mountain Medical Society.

¹ Engelmann: "Labor among Primitive Peoples."

ovoid, very much exaggerated, either laterally or in front. Now, if the woman be placed on her back in a semi-recumbent position, the uterus straightened up, and pressure with the hands made upon the fundus, assisting the pain, the child will be found to descend very rapidly.

In occiput-anterior labors, it will often be found that a change of position of the mother, thus changing the inclination of the fetal axis to the pelvic planes, will facilitate labor. This is a wrinkle that it is well to remember in cases of labor with delayed first stage, when we often find the cervix driven down before the advancing fetal head, which condition is one of danger, because of the thinning of the uterus wall just above the internal os. The body retracts, the cervix is held down by the head, and this point in the uterus wall becomes thin and frail.

When we find the os in this condition, labor may be facilitated by observing which lip is being pushed before the head and turning the mother accordingly. If she is on her back and the anterior lip is the one in trouble—a very common condition, by the way—she should be turned on that side which frees the lip most completely. If it is a lateral lip and she is on her side, a turning on to the back or other side will often free the lip.

When we try to apply the effects of change of posture in occiput-posterior cases, we are confronted with a class of cases many of which I have always considered should be treated by manual interference as early as possible—those cases in which the os is not well dilated and the cervix is not retracted. Associated with this there is very little descent of the child's head. This condition may be recognized very early, and in such cases the introduction of the hand, with or without ether, will enable one often to change the position of the head, either by rotation or by flexion. With a little care in changing the posture of the mother, in such a way as to counteract the influence of the position of the child, the difficulty of retaining the head in a proper position may be overcome.

In all positions of the head there is a deviation of the long axis of the fetus from the vertical axis of the brim of the pelvis, and consequently a deflexion of the head—the finger touches the parietal bone instead of the sagittal suture in the median line of the pelvis. Now, if the mother's posture be shifted to the other side, and the uterus and its contents shifted to the other side, the relations of the fetal and pelvic axes must be changed also; and the relation of the head to the pelvis must be appreciably affected.

In advanced cases, when the os is well dilated and retracted over the head and the head is well down in the pelvis, it is not so easy to affect the relations of the head to the pelvis by changing the relations of the fetal and pelvic axes, the body of the fetus bending too easily.

Reynolds recommends the knee-chest posture in occiput-posterior cases, if seen early, even recommending the posture before labor begins, as a prophylactic measure when occiput posture has been diagnosed. We have the influence of gravity, the head recedes, and as the head recedes there is a tendency for the heavier posterior half of the child to rotate forward. After rotation has taken place, the patient should lie in the latero-prone position, upon the side to which the occiput is directed, and should remain in that position until the head is firmly engaged in the new position.

In breach or footling cases, changes of posture of the mother will often facilitate labor when delay is due to deviation of the long axis of the fetus.

In shoulder and arm cases, the proper posture is of very great importance. You can facilitate the bringing down of the head or of the feet very materially

by making the woman lie on the side toward which you wish the other extremity to go. The knee-chest position has been advised for version, and I can recall cases in which that position would have been of assistance in introducing the hand; but ordinarily I think that the dorsal posture is the best for the introduction of the hand and for reaching the feet, to be changed to the lateral with advantage when the feet have been seized.

Theories are useful, but their application at the bedside is the crucial test. In abnormal labors there are so many factors that may be causing the unusual condition that we must study each case by itself; but the recognition of the effects of maternal posture upon the position of the fetus will often help us out of a serious complication. I have two cases of midwifery which illustrate the value of such a means of assisting nature, which I will detail.

The first was a brow presentation, which is one of the most serious forms of malposition of the head, and which, if not remedied early, will certainly end in the death of the child.

The second was a face presentation, with chin backward, which has an equally serious prognosis for the child.

Mrs. B—, aged thirty-seven, American, a multipara, sent for me about 1 P.M. She felt that labor had begun, but she was having little pain. The os was about half-dilated. Mrs. B—'s previous labors had all been of a very easy character and of short duration. Examination, at three o'clock, showed the os well dilated, and the membranes ruptured, but that there was very little pain. The head was presenting, but was at the brim. A further examination showed that the presenting part was the brow, with the chin directed backward and toward the right sacro-iliac synchondrosis. The woman was lying on her left side. The examination stimulated the pains, so that they began to appear about once in fifteen minutes. The right hand was introduced into the vagina, and the child's head rotated so that its chin pointed toward the right thyroid foramen of the mother's pelvis. When the pain came on, the head was twisted back to its previous position. This was repeated three times. I then took the head of the child in my hand and rotated the chin as before; and while I held the head in that position I had the woman roll over on to her right side, and held the head in position until the next pain came on, when I had the satisfaction to feel the chin slip down to the lower edge of the symphysis pubis, where it remained. The labor made good progress until the forehead reached the perineum, when, the force of pains becoming inefficient (they had never been very strong during the labor), I put on the forceps and delivered her quickly. A healthy living child was born about five o'clock. The manipulation of the head was done without anæsthesia, and did not cause much distress; the forceps operation was done under chloroform. The woman made a rapid and an afebrile recovery.

The second case was that of an Irish woman, of thirty, with her third child. The first labor had been very long, ending in instrumental delivery; the second was tedious but normal. She had been in labor for about two hours when I arrived; the membranes had ruptured early; there was now good dilatation; the head was at the brim, the face presenting with chin directed toward the left sacro-iliac synchondrosis. Examination was made while the woman was lying on her right side. When she had a pain, the chin of the child was pushed down into the hollow of the sacrum, fortunately returning to its first position between pains. Birth is impossible in face presentations with the chin backward. Accordingly, the woman was placed upon her back and the uterus straightened up.

The mere change in posture rotated the child, so that the long axis of the face was transverse, the chin pointing to the left. During the next pain the chin slipped down toward the symphysis pubis, and with a little encouragement of the hand was held there until well engaged. The delivery after this was rapid, and a healthy child was born, the mother making a good recovery. The labor was over in less than an hour. I think that in both of these cases the effect of changing the posture of the mother was of the greatest value in determining speedy delivery of the mothers and the birth of living children.

Progress of Medical Science.

Physiology of the Cervix Uteri.—Dr. Keiffer (*Medical Week*) discusses the question as to whether the cervix uteri is similar in structure and functional activity to other sphincters, and the results of his researches are that: 1. The cervix uteri is a genuine sphincter with circular and radiating fibres: that is to say, composed of a constricting and a dilating muscle. 2. The tonus of the cervix uteri is maintained by the reflex activity of the lumbar spinal cord. 3. The tonic centre of the uterine sphincter is situated at the level of the fifth lumbar vertebra in dogs. 4. Experimentally, contraction and dilatation of the cervix uteri may be determined by excitation of the spinal cord and of certain peripheral sensory nerves, more particularly the crural nerve. 5. The pneumogastric is not a direct motor nerve of the muscles of the cervix uteri, its action being purely reflex. 6. Acute anaemia determines complete relaxation of the cervix, while transfusion of blood results in its constriction and in that of the entire body of the uterus. 7. Asphyxia exerts a marked constrictive action on the body and neck of the uterus, followed by an inhibitory effect on the entire organ. 8. In co-ordination of the muscular actions on the body and of the neck, opposite effects may be produced.

Congenital Narrowing of the Mitral Orifices as a Cause of Dwarfed Lives and Irritable Heart.—Dr. Curtin's reasons (*Boston Medical and Surgical Journal*, September 3, 1896) for considering the disease due to constriction of the mitral orifice, are: 1. The chronic congestive lung trouble found associated with this condition. 2. The chronic lung disease almost always found on the left side. 3. The venous stasis and weak arterial circulation. 4. The character of the murmur. It is presystolic, mitral, or with the early part of the first sound. 5. The location over the left border of the heart. 6. The loudness of the murmur would indicate that it required the force of the blood current found only in the left side of the heart. 7. It is a short, sharp, whiffy murmur, which sounds quite near to the chest wall. 8. It is never transmitted except when the lung is consolidated. 9. The symptoms generally tally with those of cases having acquired mitral stenosis of a mild character. 10. The hypertrophy of the left auricle, which almost always accompanies mitral obstructive disease. 11. The accentuation of the pulmonary second sound; for, if we have constriction of the mitral orifice, the stopping of the current of the blood, when hurried, dams the blood backward, causing a sudden shutting down of the pulmonary valve and causing the pulmonary second sound to be accentuated.

Injections of Guaiacol and Iodoform in Sterilized Olive Oil for Tuberculosis.—Dr. Breton (*Journal des Praticiens*, No. 9, 1896) has used this method for fourteen months, having under his observation thirteen patients, who received in all one hundred and fifty

injections. Five of these patients, being in the last stage of the disease, died. The injections are made into the abdomen or flank, with all antiseptic precautions. The formula is: Guaiacol, five parts; iodoform, one part; sterilized olive oil, one hundred parts. The amount is gradually increased from fifteen drops to three or four times that amount. The injection is repeated every eight or ten days. The inconvenience is a persistent, burning pain. During congestive attacks, when there is fever or hæmoptysis, or even when there are small masses of blood in the expectoration, then there is intolerance or momentary saturation; or when albuminuria supervenes, this treatment is contraindicated. The results are a diminution and, later, disappearance of the thoracic pain; the dyspnoea is relieved, the cough becomes less frequent and less painful; the expectoration is less abundant, less discolored, but the bacilli are not diminished in number: the appetite is reawakened, and the general condition improves. The sweats are less abundant, and, finally, auscultation shows that real progress is being made.

Clinical Significance of the Hand.—Dr. Wohlman (*Bristol Medico-Chirurgical Journal*) remarks that the diagnosis between gout, rheumatism, and rheumatoid arthritis is often one of extreme difficulty, and that the observation of the hands is of the greatest utility. The hand affected by chronic rheumatism may be distorted into all sorts of curious shapes, partly due to pressure of bony outgrowths, or to changes in ligaments and atrophy of supporting muscles. In rheumatoid arthritis the same lesions may be exhibited, due to the same forces at work; but, above all, the original deformity is generally to be seen—the characteristic swellings, once soft and impressible, now hard, calcareous, and fixed. Tuberculous dactylitis may at first sight closely simulate rheumatoid disease in children; but the spindle swelling is caused by bone expansion and is accompanied by suppuration, in both of which points it differs essentially from the latter disease.

Examination of Unmarried Women.—The *Philadelphia Polyclinic* remarks that in supposed pelvic disease in young unmarried women, a pelvic examination is too often proposed and carried out. It should be remembered in this connection that the large majority of diseases peculiar to women are sequences of coition and its results, either pregnancy or specific infection. Neoplasms are, of course, excepted. Consequently it can usually be predicted that a pelvic examination will result negatively, and is consequently unnecessary. Dr. Baldy finds this to be true in the majority of cases, and urges the advisability of paying more attention to the patient's general health and antecedents. This is the more important, as an hysteric or neurotic girl's attention being once pointedly directed to her pelvis as the seat of her trouble, she often becomes a chronic pelvic sufferer. As is the case with opium eaters and chronic alcoholics, the medical profession is also responsible for making a large class of pelvic sufferers.

Neuritis.—Dr. Bondurant (*Medical News*, October 3, 1896) says the causes of neuritis are many and varied, and, used as a basis of classification, give rise to a number of more or less easily recognizable clinical varieties of the disease, some of them being: 1. The neuritis occurring as a result of direct injury to the nerve trunk—wounds, blows, pressure, as from sleeping on the arm, from dislocation of bones, from tumors. 2. That form resulting from exposure to cold. When the trunk of the seventh cranial nerve is involved, as is often the case, we have a familiar form of facial paralysis. 3. The forms resulting from direct extension to adjacent nerves of the infection of

bacterial diseases, as pneumonia, diphtheria, tuberculosis. 4. Those forms due to the presence in the blood of the poisons of these infectious diseases, especially syphilis, diphtheria, typhoid fever, malaria, variola, and tuberculosis. 5. The varieties resulting from introduction into the blood of toxic agents from without, as alcohol, arsenic, lead, opium. 6. The endemic or epidemic forms frequent in Asia and the islands of the Pacific, as the kakke of the Japanese and the beriberi of the Malay peninsula. 7. Certain forms affecting especially the cutaneous nerves, and accompanied by trophic disorders of the skin in the areas supplied by the diseased nerves, of which herpes zoster is a familiar example.

Marriage of Epileptics.—Connecticut has enacted a law which provides that no man and woman, either of whom is epileptic, imbecile, or feeble-minded, shall intermarry or live together as man and wife, when the woman is under forty-five years of age. The penalty is not less than three years' imprisonment.—*Southwestern Medical Record*.

Angina Pectoris.—Sir Benjamin Ward Richardson (*The Asclepiad*) concludes, from a study of forty-three cases, that the affection is a sympathetic neurosis, bearing much the same relation to the sympathetic nervous system as epilepsy does to the brain. Heart lesions and coronary disease are often absent, and when present are probably merely coincidental.

Unconsciousness from Constipation.—Very stout women have suddenly become unconscious from a long-continued constipation. A physician relates a case in which unconsciousness, with stertorous breathing in the night, simulated an apoplectic attack. By the aid of mustard to the feet and abdomen, with ice to the head, and a large enema of soap, water, and castor oil, a large evacuation was procured, with speedy return to consciousness. The slow poison from the retained faecal matter probably brought on unconsciousness.—*Health Magazine*.

Etiology of Serous Pleuritic Effusion.—Dr. Aschoff, in the *Zeitschrift für klinische Medizin*, discusses this subject, and considers the following three questions: 1. Is every idiopathic pleurisy, i.e., a serous pleuritis without known cause, tuberculous in its nature? 2. Is there such a thing as an acute isolated rheumatic pleurisy, which is to be looked upon as equivalent to a preceding attack of acute rheumatic arthritis? 3. Do serous pleuritic effusions ever contain pyrogenic organisms, without the latter becoming purulent? Bacteriological examinations of two hundred serous exudates gave the following results: Serous effusions are nearly always free from pus-producing micro-organisms. If the latter are present, the exudate will become purulent, except, possibly, when pneumococci are present. Purulent pleuritic effusions sometimes heal completely without operation. The occurrence of isolated rheumatic pleuritis is questionable—at least, it is very rare. Pleuritic effusions occurring in rheumatism are usually the result of a cardiac lesion. The administration of salicylic acid has given no special benefit. The so-called idiopathic effusions are almost always tuberculous. They may, however, disappear entirely.

Phthisis.—Dr. Tidey (*British Medical Journal*) advises: 1. In early phthisis (catarrhal stage) to give comparative rest and relaxation to affected lung tissue. 2. In the stage of consolidation, to secure the same results, thereby limiting the risk of extension, and to promote elimination of the disease products by improving the circulation in and about the diseased area, and to facilitate expectoration. 3. In the stage of cavitation, to promote closing of cavi-

ties by directing healthy lung to encroach on the diseased area, instead of relying on natural processes of cicatrization. 4. Diminished tendency to hemorrhage by reduced tension on vessels and cicatricial traction on vessel walls. 5. The ultimate object is to obtain a smaller thoracic cavity filled with healthy lung, instead of an enlarged thoracic cavity partly filled with diseased lung.

Thyroid Therapy.—Dr. Herrick (*Medicine*, vol. ii., No. 8) reaches the following conclusions concerning thyroid extract: 1. It is curative in myxedema (idiopathic, cretinism, operative). 2. Many cases of obesity are cured by it. 3. Simple hyperplastic struma, particularly if in the young, is frequently cured or improved. 4. In 1, 2, and 3 the remedy has to be continued for an indefinite time to prevent relapse. 5. It may prove of value in some cases of tetany. 6. In skin diseases it is of doubtful value, to say the least. 7. The same is true of mental and nervous diseases. 8. In exophthalmic goitre it is contraindicated. 9. The results are practically the same, whether fresh glands, extracts, or dried glands are employed. 10. This is probably true also of the thyroiodine of Baumann.

Diet in Bright's Disease.—Dr. Elliot (*North American Practitioner*, June, 1896, p. 248) says: "It is agreed that the most rational diet is a mixed one. The estimate commonly given is that meat should constitute one-fourth and vegetable food three-fourths. This is often overstepped, and the proportion brought to two to four. Such indulgence throws into the circulation a large amount of nitrogenous waste, which it is the office of the kidneys to remove from the system. An increased amount of organic excretives, continually demanding removal, throws a considerable tax upon these organs, which is frequently rendered more severe by a hyperacid concentrated condition of the urine, as these subjects seldom drink an adequate amount of water. This irritation, if long continued, eventually leads to functional and, finally, organic impairment of the kidneys. To these sources of irritation must be added the deleterious effects upon the renal structure of the excretion of the by-products of faulty gastric and intestinal digestion, frequently present from the dyspepsia so common among those who overindulge at table."

New Method of Diagnosis in Typhoid Fever.—Dr. Widau (*La Presse Médicale*, July 29, 1896) describes his method of testing the diagnosis of typhoid fever, which has not failed in eighty cases examined. The test is based upon the action of the serum of a typhoid patient upon young cultures of coli bacilli growing in bouillon. It is performed in several ways. From a finger tip, carefully sterilized by bichloride-of-mercury solution and ether, a small quantity of blood is drawn into a glass receptacle and allowed to clot. If a few drops of the serum (one to every ten drops of bouillon) are introduced into a young bouillon culture of coli bacilli, they will in a short time gather themselves together into little balls, sometimes visible to the naked eye, easily seen by the aid of the microscope. The reaction may be seen in a few minutes, but is more evident in a few hours. The culture used should be only a day or so old, but if no fresh one is at hand another method may be used. A tube of bouillon is sowed with some of the old coli bacilli culture and the typhoid serum is added, in the proportion of one drop of serum to three cubic centimetres of bouillon. After twenty-four or forty-eight hours at 37° C., the same reaction described above is seen. A control tube is recommended, the coli bacilli being omitted, as the blood serum may not be sterile.

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THE LEPER COLONY.

AT length New York can boast of being one of the leper centres of the country. At least the public press has within the last fortnight mentioned this city as one of the three locations of leper colonies in the United States. From the frequency with which cases are reported as having been presented to medical societies, the number of lepers must at least be decidedly upon the increase. A discussion took place at the last meeting of the County Medical Society upon whether the commissioners of health should be upheld in their determination to turn out the few patients in their charge. For five years this body has taken care of such cases as other institutions wished to turn over to it, but now for some reason it wishes to cease such responsibility. The matter is an important one and we agree with a correspondent, whose letter will be found in another column, that the County Medical Society would assume grave responsibility in taking the step proposed. The public idea of the leprosy question is erroneous, in spite of the oft-repeated assurance that there is little or no danger in sitting beside a leper in a street car or from shaking him by the hand. We are not, however, in a position to say that infection does not take place under much the same conditions as those in which syphilis is disseminated. This being the case, the leper must be looked upon as a source of danger, aside from his being an undesirable neighbor and an unappetizing cook, as our correspondent puts it. We regret that the board of health did not act upon the suggestion which we threw out in our editorial comments upon "The American Leper" in the *MEDICAL RECORD* of March 14th, and send its little colony down to the new Louisiana Leper Hospital, which was anxious for inmates. By the way, what has become of the resolutions passed at the last meeting of the congress of American physicians and surgeons in Washington and entrusted to Surgeon-General Wyman of the Marine Hospital service to bring to the attention of President Cleveland and lay before Congress? Would it not be well to have a national leprosy commission appointed to determine what is to be done with the leper here at home before we send delegates to an international leprosy congress in London to decide upon what to do with the lepers of the entire world? It might be proper for those here who continually

preach the safety of this country from invasion to remember that New Orleans is located within the confines of our possessions, and that the spread thereabouts among natives of Louisiana is sufficient to occasion comment if not alarm. It might also be well for these gentlemen to remember that the Baltic provinces of Russia considered themselves free and safe from invasion until recently four hundred cases of leprosy were found to have originated there, necessitating the opening of three leproseries. No one can tell what the future may have in store for this country if we continue our present attitude of hospitality toward foreign lepers. One of the speakers is reported to have said at the meeting that within a week he had seen a leprosy patient who had just arrived in New York from a foreign port. What of our laws covering such cases? What of our quarantine inspection?

IMMORALITY IN CANADA.

WE have been distressed and shocked beyond measure to learn that large and increasing numbers of women in Canada are giving themselves up to the vilest form of immoral practices. The report that comes to us, indeed, is such that, were it credible, we should be led to despair of the future of the country, for, compared to Canada, or at least to Toronto, Sodom and Gomorrah were as pure as Salvation Army shelters. It appears that cycling, which with us is adding so much to the health and the beauty and the charm of our women, is in Canada, or at least in Toronto, merely a means of gratifying unholy and bestial desire. We hesitate to believe such a report, but we have it on the authority of the editor of the *Dominion Medical Monthly*, and he is on the spot and speaks as one with absolute knowledge of the facts.

After referring to the advantages claimed for the bicycle, which he refutes by the statement that the average woman gets about all the exercise she wants in looking after her home, our esteemed contemporary says that "the consensus of opinion is increasing overwhelmingly day by day that bicycle riding produces in the female a distinct orgasm . . . and even if an orgasm is not produced the continued erethism is decidedly more injurious and tends to the production of nervous diseases and the general breaking down of the system. The only contention that can be made is that the orgasm or erethism is not produced. This we know to be absolutely untrue." The writer adds more of the same kind, and pictures the mothers, wives, and daughters of his neighbors as scorching through the country, stooping low over the handle bars, and "subjected to continued erethism as well as an occasional orgasm."

There is but one of two conclusions to be drawn from this statement. Either the wheelwomen of Toronto are the vilest of their sex, or they are the victims of a contemptible slander. Unless our contemporary has a mass of facts sufficient to establish beyond doubt the sweeping generalization contained in the article from which we have quoted, he has smirched the fair name of his countrywomen in a

reckless fashion that calls for the strongest condemnation. The question of the healthfulness of cycling, for men as well as for women, is one that still admits of discussion; but the man who can assert or even suggest that the thousands, perhaps millions, of women throughout the world, who ride the wheel, are giving themselves over to self-abuse, puts himself beyond the reach of argument.

POLITICS AND MEDICINE IN RUSSIA.

THE organization of the Moscow Congress has met with many trials during the past year. First it offered what was by many regarded as a deliberate insult to the English-speaking physicians of the world by excluding the use of their language in the scientific meetings. Then this was hardly settled by the restoration of English to its proper place, when Virchow presented an ultimatum to the officers of the congress, giving out that he would have nothing to do with it unless Russia abandoned her discrimination against Jews who wanted to enter the country. This danger was averted by the publication of an order that all physicians should be admitted to the country on equal terms, no discrimination being made on account of race or religion. Now the most serious blow of all has come in the enforced resignation of Professor Erismann from the position of secretary-general of the congress. This is more of disaster than might be supposed by those unacquainted with Dr. Erismann's unusual ability as an organizer and executive officer. His resignation has followed his dismissal from the chair of hygiene in the University of Moscow. It appears, from the account given by the St. Petersburg correspondent of *The Lancet*, that Professor Erismann was tainted with liberalism. He was one of forty-two Moscow professors who, two years ago, signed a petition to the Russian government in which relief was asked for certain wrongs under which the students of the university were suffering. The result was the usual one of such appeals in Russia. All the signers were formally censured and four, including Professor Erismann, were severely reprimanded. The reasons of Professor Erismann's enforced resignation of his chair are not at present publicly known, *The Lancet* correspondent says, but there is little cause to doubt that the incident just narrated—or, rather, the "liberal" leanings of Professor Erismann, of which the incident was, perhaps, one out of many proofs—were the real reasons. This explanation, which is the one most generally accepted, is further supported by the rumor that two of the other three professors who were reprimanded at that time have also been requested to resign their chairs. The circumstances of Professor Erismann's resignation were the following: It is the custom of the Russian government every summer to send a certain number of professors to foreign countries to study foreign methods and systems and so to keep in touch with the progress made in other countries. Among those sent this summer was Professor Erismann. He visited Berlin and then went to Switzerland. While there he was officially informed that

his services in the chair of hygiene were no longer needed, the retirement to date from July 1st. No reasons were given, but three days were allowed during which a voluntary resignation would be accepted. The loss is Russia's and not the deposed professor's, for the latter's abilities will make him welcome anywhere; but the University of Moscow and the International Congress can with difficulty supply his place.

DON'T DIE IN THE HOTEL.

THE expense attending the misfortune of dying in a foreign hostelry is such that it should be avoided whenever practicable. In commenting upon this item in the bill presented by a continental landlord, and the difficulties encountered by the English consul in securing its reduction to reasonable proportions, the editor of the *Press and Circular* suggests that the guide books insert a schedule rate by which travellers could be governed. This seems eminently fitting. Plain deaths, so many pounds and so many shillings. Complicated, ditto, etc. Or would it not be better: death of a plain person, so and so much; of a person of title, *pro re nata* (the *re* of course referring to the title)? The *Press* puts the matter in a very apt and practical manner. It says if the editors of guide books took the matter up, "then travellers would only have themselves to thank if they deliberately placed themselves within the clutches of unscrupulous and overreaching landlords." This is quite right. Any man who would deliberately pick out a hotel for this purpose where the death rates, so to speak, were exorbitant, would have only his surviving friends to thank him accordingly. His only safety would be in finding the rate actually prohibitory.

News of the Week.

Obituary Notes.—DR. W. W. PALMER, of Keansburg, N. J., was instantly killed on October 27th, the carriage in which he was driving with his daughter and granddaughter and a friend having been run into by a train as it was crossing the track. Dr. Palmer was a graduate of the Albany Medical College in the class of 1855.—DR. GEORGE HARLEY, of London, died on October 27th, at the age of sixty-seven years. He was M.D. Edinburgh in 1850, and was elected a member of the Royal College of Surgeons, London, in 1850, and a fellow of the Royal College of Physicians in 1864. He was well known for his writings on diseases of the kidneys and of the liver.—DR. GEORGE W. MARTIN, of Augusta, Me., died at his home in that city, on October 26th. Dr. Martin, who was born in 1830, was graduated from the University of New York in 1858. At the breaking out of the war he went to the front as assistant surgeon of the Sixth Maine Regiment. He subsequently served as surgeon of the Fourth Maine and the Second Maine Cavalry. Later he became government medical inspector. In 1873 he was made medical director of the military forces in Maine, serving until 1879.—DR. JAMES B. MURDOCK, late dean of the Western Pennsylvania Medical Col-

lege of Pittsburg, and one of the best-known physicians in Pennsylvania, died October 27th. He leaves a widow and five children. He was born in Glasgow, Scotland, in 1830. He graduated from the College of Physicians and Surgeons, New York City, in 1854. For a time Dr. Murdock practised medicine in Oswego, N. Y. He settled in Pittsburg in 1877, and had amassed a fortune.—DR. HARRIET W. SMITH died at Galveston, Tex., on October 27th, at the age of thirty-two years. She was a graduate of the Woman's Medical College of Pennsylvania, and the wife of Dr. Allen J. Smith, professor of pathology in the University of Texas. Both were formerly residents of Philadelphia, and they had been also resident physicians in the Philadelphia Hospital.—DR. LEVI H. THOMPSON died on October 23d, at Reading, Pa., at the age of seventy-three years, in the sequence of a carbuncle upon the neck. He was a graduate of Jefferson Medical College. After practising at Fleetwood and Lyons, Dr. Thompson removed to Reading, where he had lived for more than twenty years.

September's Death Rate in the State.—The bulletin of the State board of health for the month of September shows that there were five hundred fewer deaths reported than in the corresponding month of last year. The mortality from all diseases of the digestive organs is diminished. There were eight hundred fewer deaths under five years of age. Compared with the preceding month of August, the total reported mortality is decreased by three thousand. The death rate from all causes was 17.50, against 18.50 in September last year. The September prevalence of typhoid fever is excessive in the Hudson and Mohawk Valley districts, and in the southern tier and east central districts. Diphtheria caused fewer deaths than in September of any year for ten years.

The "Divine Healer."—He has come again. The last glimpse the public had of August Schlatter, he appeared scantily clad, mounted upon a snow-white steed, and going toward the great Southwest. Now he has turned up in Philadelphia, whose citizens were not slow in recognizing his abilities, and by the constant sending of handkerchiefs to be blessed and importunities to renounce his seclusion finally induced him to make this city of brotherly love his abiding-place and field of labor. A chair of "spiritual therapeutics" is likely to be established for him in one of the medical schools. His advent was unostentatious and unobserved. Indeed, the modesty of the healer is such that it is announced no one besides his landlady knew of his presence until he had been in the city for a considerable time. Were it anywhere but Philadelphia, there would arise a supposition that he had entered by night. After his miraculous cures sufficiently aroused Philadelphians, he distributed his benedictions in Bayonne, N. J., and has now struck us here. We trust he will not draw heavily on the clinics.

Photography of the Larynx was the subject of a paper read by Dr. Thomas R. French before the section on laryngology of the Academy of Medicine, October 28th. The author demonstrated apparatus for

this kind of work, and gave a lantern exhibition of photographs of the larynx in health and disease. Among the cases shown was one of tuberculous tumor of one vocal cord; also one of papillomatous tumor, one of unilateral, and one of bilateral paralysis of the cords; further, some photographs of the posterior nares, representing hypertrophic and atrophic rhinitis. The demonstration proved conclusively the value of photography in studying the pathology of the larynx.

"Dr." Walter May Rew, who was exposed some time ago by the *Herald* as a manufacturer of physicians' and nurses' diplomas, has just been convicted of bigamy. He is said to have enjoyed the blessings of having been five times wed.

Pyrantin is the newest antipyretic. Piutti obtained it by melting together hydrochlorate of phenacetin and succinic acid. It is extracted with boiling alcohol, from which it crystallizes in colorless prismatic needles. It is soluble in 1,317 parts of cold water and in 86.6 parts of hot water, but insoluble in ether.—*La Méd. Mod.*, October 14th.

County Medical Society.—In the election which took place on the evening of October 26th, Dr. Landon Carter Gray was elected *President*. The only other candidate was Dr. Jacobus; Drs. Chapin, Peterson, Garrigues, and Van Santvoord having withdrawn. Dr. Robert A. Murray was elected *Vice-President*; Dr. Nathan E. Brill, *Second Vice-President*; Dr. Charles H. Avery, *Secretary*; Dr. William E. Bullard, *Assistant Secretary*; Dr. John S. Warren, *Treasurer*.

The Pan-American Medical Congress.—It is estimated that from three hundred to four hundred physicians from the United States will take part in the congress to be held in Mexico City, November 16–19, 1896. Dr. H. L. E. Johnson, of the committee on transportation, has obtained an offer from the railroads throughout the country, except in certain parts of the East, of a one-fare rate for the round trip to Mexico and return. From New York City to Mexico and return direct the entire cost will be: Fare, \$78.50; berths in sleeping-car, \$46; meals, \$32; total cost, \$156.50. Living in Mexico, \$2.50 per day extra. A special train has been arranged for through the American Tourist Association, with Reau Campbell, manager, to leave Cincinnati on Tuesday, November 10th, 9 A.M., via St. Louis and Eagle Pass, and make a twenty-one day tour from there through Mexico and return for \$189; from Chicago and return, \$190; from St. Louis and return, \$183.55. This will include railroad fares and all necessary expenses of the trip. The Baltimore and Ohio railway will carry the delegates from the North and East to meet the special train at Cincinnati. From New York the trip can be made by sea, in the boats of the Ward line, the total cost of which will be, including meals and stateroom, \$78. Nine days are required each way for this trip. The journey can be made by rail from this city to Mexico in five days. The registration fee, \$5, should be sent to Dr. Francisco Bustillos, Calle de Tabuco, No. 7, Mexico City, Mexico.

The New York State Association of Railway Surgeons will hold its sixth annual meeting at the New York Academy of Medicine, on Tuesday, November 17, 1896. Several very interesting and practical papers are promised.

Small-Pox in Marseilles.—The *Presse Médicale* reports that from January 1st to July 30th there were four hundred and sixty-eight deaths from variola in the city of Marseilles.

The Pittsburg Dental College, a newly organized department of the Western University of Pennsylvania, opened its doors in September last, with one hundred and twelve students enrolled. A three years' graded course of instruction is offered.

Vaccination against Serpent Bites.—A gentleman by the name of Oleta is reported to have arrived in Paris from Guiana, with a vaccine against serpent bites. The remedy has been known by the native negroes, it would appear, for many years, but has only of late received scientific study.

Pellotine is one of the latest hypnotics, an active principle obtained from a Mexican cactus. The hydrochlorate is employed by the mouth or subcutaneously in dose of from four to six centigrams. It is thought that it may occasionally replace other hypnotics with advantage.

The Hartford Medical Society.—The fiftieth anniversary of the Hartford Medical Society was most appropriately celebrated in Hartford, Conn., October 26, 1896 (having been postponed from the anniversary day, September 15th), by an afternoon meeting, at which addresses were made by Dr. Gurdon W. Russell, one of the original fifteen members, of an historical character with incidents and reminiscences; Dr. Horace S. Fuller, upon "Our Deceased Members and Incidents Connected with the Later Years of the Society;" Dr. Henry P. Stearns, upon "Esprit de Corps;" and the president, Dr. Melancthon Storrs, upon "The Present and Future of the Hartford Medical Society." The present active membership is seventy, and over sixty present and past members partook of a banquet at Hotel Hartford in the evening. Dr. P. H. Ingalls was toastmaster, and Drs. Russell, Hudson, Mayer, Jarvis, Page, Law, St. John, Cook, and Storrs responded to the toasts. An improvised glee club of twelve members varied the proceedings by selections sung, some of which were original and arranged for the occasion. It is purposed to have the proceedings published, marking as they do an important epoch in the history of this flourishing society.

An Unwise Charity.—The Salvation Army has announced its intention to establish a number of shelters in New York for homeless persons, and has thereby aroused the fears of those who think it unwise to make this city more attractive to tramps than it is at present. The army proposed to provide not only beds and a bath, but also a meal to the lodgers before letting them go forth in the morning. The commander of the army was recently waited upon by the committee on vagrancy of the conference of charities, and was urged to recede from this plan, which was so cer-

tain to promote vagrancy, if not to spread disease. The conference of charities has been working to rid the city of vagrants, and one of its steps was to suppress those provisions for homeless persons where there was no methodical scrutiny of the applicants. They did succeed in having the police-station lodging-houses abolished, and were just getting the city in a state unattractive to tramps, when the Salvation Army started this scheme. The leader of the Salvationists promised to weigh the arguments presented to him by Mrs. Josephine Shaw Lowell, but gave little hope that he would act in accordance with them, for he said that the Lord, who was with him, wanted shelters for the homeless.

Dr. Tanner, for whom starvation had no terrors, has perished by flame, according to a dispatch from Akron, O., he having been burned to death in a conflagration in that city on the 21st instant.

Cremation in England is gaining ground. As we have noted, Mr. George Du Maurier was cremated at Woking, on October 10th, and during the past few weeks the remains of Dr. J. L. H. Langdon Down and of Surgeon-General Sir William George Moore have also been cremated.

Yellow Fever in Sugar.—In the latest issued report of the Marine Hospital service, Dr. D. M. Burgess, sanitary inspector at Havana, writes, under date of October 17th: "I am informed that the government here has appropriated, and is already using for hospital purposes, the extensive 'almacenes' or sugar store-houses of Regia, which structures are situated contiguous to the wharf on the opposite side of the harbor from this city. This measure, of course, will infect these buildings and probably such sugar as may or will be stored in them." Dr. Burgess adds that yellow fever in Havana continues with all its malignancy, and perhaps is increasing among the Spanish soldiers. Passengers recently arrived from Havana say that both yellow fever and small-pox are increasing in that wretched city, and the Spanish authorities are absolutely supine in the face of the spreading pestilences.

Maternal Impressions.—A hen in Vermont, after looking at a three-pound potato grown by a neighbor of her owner, went to the barn and laid an egg measuring eight and one-half by six and one-half inches.

Another Office Fraud.—A young, middle-sized man, with dark moustache, calls at the office, sends in his card as "Dr." Morton, informs the doctor in waiting that he has recommended a case to him, that the patient is a good one, pays promptly, and needs an operation or other special treatment, and that said patient will call on the morrow. The fraud then informs the doctor that he is about to take a vacation in the Maine woods, and would like to purchase some medicines. He asks the doctor to give him an introduction to some neighboring druggist, which being done, the said stranger passes a bogus check and gets surplus change. We have received several complaints from friends in this city who have been victimized, and publish this notice accordingly.

Centennial Commemoration of the Paris Medical School.—Dr. A. Corlieu, assistant librarian of the Paris Faculty of Medicine, has just completed a history of the faculty during the century of its existence from 1794 to 1894. The work was published free of expense to the faculty by a committee of the medical publishers of Paris. It contains one hundred and thirty portraits of eminent medical men who have been connected with the medical school.

The Ship Captain as a Diagnostician.—A bill has been introduced into the New Zealand legislature, the object of which is to exclude all persons suffering from tuberculosis. The bill provides that on the arrival of any ship in a port of New Zealand, the master of the ship shall deliver to the health officer a true list of all passengers and a declaration as to whether any of them are suffering from tuberculosis, the penalty for a false declaration being \$250. No passenger suffering from that disease is to be allowed to land, and should any such person do so both he and the master of the vessel are liable to a penalty of \$50. If within three months of landing in New Zealand any passenger is found to be suffering from tuberculosis, he shall, until the contrary is proved, be deemed to have been suffering from that disease when he landed in New Zealand, and the penalty will be enforced accordingly. The master of a ship is liable to a penalty of \$250 if he allows a tuberculous patient to occupy the same cabin as another passenger.

Hospital Management in Chili.—In an extract from a letter from an English physician in Santiago de Chile, published in the *British Medical Journal*, the writer says, speaking of the local profession: "Their notions of hospital management are the queerest in the world, though most of the professors have been trained in Europe. The largest and most up-to-date hospital in the republic, St. Vincent de Paul (about one thousand beds), contains neither bathroom nor watercloset. The bath is known only as an antipyretic, and patients are brought into the operation theatres (the one reserved for abdominal surgery, by-the-by, is next to the erysipelas ward) in all their native dirt, though they are placed on the brass table without any covering whatever, because blankets are too septic to come into the room. Stools, etc., are kept for twenty-four hours in the locker at the head of the patient's bed, together with his food and wine. After the physician's visit they are all emptied into the open 'asequias,' which run through the hospital 'patios.'"

Pasteur Celebration at Alais.—A series of *fêtes* have been celebrated at Alais, in the centre of the great mulberry and silkworm district of France, in commemoration of the services rendered by Pasteur to sericulture. The silk industry covers an enormous area, and its extension is owing to the studies conducted by Pasteur at Alais, in 1865 and the following years, into the diseases of silkworms and the method of eliminating them. The *fêtes* lasted from September 25th to September 28th. The unveiling of a statue of Pasteur took place on September 26th. Monuments

to Florian and the Abbé de Sauvage were also unveiled. On Saturday a solemn service was celebrated in the cathedral, in commemoration of the first anniversary of Pasteur's death, which occurred on September 28, 1895.—*British Medical Journal*.

Dr. Montalvo, who has recently been arrested in Havana as an insurgent suspect, has been hitherto considered one of the most prominent members of the Cuban autonomist party.

A Cardiac Tonic.—Dr. M. C. Jennings, of Chicago, writes to the *New York Medical Journal*, of October 10th, that he has employed a fluid extract of *Crataegus oxyacantha*, or hawthorn fruit, in over forty cases of failing heart from various causes, and always with gratifying result. The force of the cardiac contractions is increased and the pulse rate is reduced in frequency. The dose employed was from ten to fifteen drops after meals.

Experiments on School Children.—The filter in the Chicago public schools has been a burning question for the past few months between the health commissioner and the board of education. These latter gentlemen have exercised an amount of discretion unworthy of a four-year-old, and, in view of the fact that they probably all took precautions with the drinking-water used in their own households, have knowingly subjected the hundreds of thousands of school children to the danger of intestinal disease, including typhoid. They have finally permitted various filter manufacturers to place their filters in some of the schools on a sixty days' test. We trust that the children who are made the unfortunate victims of these tests may look upon it in a purely scientific spirit, and that their parents may feel fully repaid for their loss.—*Chicago Medical Recorder*.

The Late Dr. William Muir McLaury.—*Whereas*, It has pleased divine Providence to take from us one of our oldest members, a former president of this society; and

Whereas, We, the members of the Northwestern Medical and Surgical Society, desire to place upon record our appreciation of the character of our deceased brother; be it

Resolved, That in the death of William Muir McLaury this society has lost a devoted, able, and faithful colleague, whose earnestness of purpose and loftiness of motive peculiarly fitted him for the profession which he adorned.

Resolved, That the loss, which we thus mourn, is not limited to our society, or even to our city.

Resolved, That we most respectfully and sincerely extend our heartfelt sympathy to his family, wishing for them that consolation which is the outcome of his noble life.

Resolved, That a draft of these resolutions be spread upon the minutes of this society, and that duplicates be sent to the medical press, and that a copy be transmitted to the family of our deceased friend.

HENRY LING TAYLOR, M.D., *President*.

JOSEPH COLLINS, M.D., *Secretary*.

One Physician Shoots Another.—Dr. Alfred Holt, of Hayes, Miss., on October 16th shot and killed Dr. P. S. Rhett, of Jonesville, La., at Natchez, Miss.

Philadelphia Polyclinic.—The faculty of the Philadelphia Polyclinic and College for Graduates in Medicine has established a lectureship on defects of speech and Dr. G. Hudson Makuen has been elected to the position. Dr. A. O. J. Kelly has been elected adjunct professor of pathology.

In Russia there are 18,334 physicians or 1 to about every 6,000 inhabitants, while in Germany there is 1 to each 3,000, in France 1 to 1,800, and in England 1 to 1,600. In America they have not been accurately counted of late, but there is a strong belief among New York physicians just now that the proportion must be somewhere in the neighborhood of 1 to 16.

Pathological Society of Philadelphia.—At a meeting of the Pathological Society of Philadelphia, held on October 22d, Dr. H. W. Cattell read the report of a case of "Internal Strangulated Hernia of the Small Intestine through the Omentum." Dr. John M. Swan presented "Specimens from a Case of Arthritis Deformans." By special invitation, Dr. Joshua M. Van Cott, of Brooklyn, read a paper on "Malignant Endometritis." Dr. J. P. Arnold presented "Tuberculous Suprarenal Glands from a Case of Addison's Disease." Dr. A. E. Taylor exhibited a specimen of conglomerate neoplastic involvement of the stomach and omentum, of epithelial character but of obscure origin. Dr. James H. McKee presented fragments of a macerated four-months' fetus, the product of a criminal abortion. Dr. A. Hand, Jr., demonstrated ulceration of Peyer's patches in the small intestine from a young child. Dr. J. Dutton Steele exhibited specimens of carcinoma of the stomach and omentum. Dr. Alfred Stengel presented a specimen of mitral stenosis with pulmonary infarction; and one of primary carcinoma of the head of the pancreas with secondary involvement of the stomach, biliary obstruction, and gall stones.

The Colony Treatment of Epileptics.—At the annual meeting of the board of managers of the Craig Colony, held at the colony on October 13th, some interesting facts were stated in the report of the medical superintendent, Dr. William P. Spratling, bearing on results obtained in the treatment of the patients and the economy of the colony plan in caring for this class of patients. The first fifty patients who were under treatment five months and over before the close of the fiscal year had collectively, during the first month of their residence at the colony, seven hundred and eight seizures. The same fifty cases, after five months' treatment, had collectively, during the fifth month, three hundred and fifteen seizures—a reduction of 55 $\frac{3}{4}$ per cent. During the first month each case averaged fourteen attacks; during the fifth month, each case averaged six attacks. The cost for maintenance was more than half met in the value of the products of the farm and garden and miscellaneous earnings, the value of such articles being \$14,230.20. The managers will ask a large appropriation of the coming leg-

islature, in order that they may meet, in a measure, the demands made upon the colony for the admission of hundreds of indigent epileptics in the State. There are at present one hundred and thirty-five patients in the colony. Dr. Frederick Peterson was re-elected president of the board of managers, and Mr. H. E. Brown secretary.

Diphtheria Spread by Rabbits.—A report comes from Webster City, Iowa, that an epidemic of diphtheria has been spread by rabbits in that neighborhood. The disease is said to have recurred annually in a school house in which the rabbits hibernated and whence the disease was disseminated. The wise decision was reached to destroy the building by fire.

Physicians Victimized.—A young and prepossessing woman has been soliciting contributions, and receiving them as well, from susceptible and unsuspecting Brooklyn physicians for a hypothetic home or some other charity. The lady has so far called herself Mary Cole, but it is probable that if she comes across the bridge she may change her name as well as that of the institution she claims to benefit.

Philadelphia County Medical Society.—At a business meeting of the Philadelphia County Medical Society, on October 21st, Dr. John Lindsay was elected secretary, to succeed Dr. T. B. Schneideman, who had resigned; and Dr. Elwood Kirby was elected assistant secretary, succeeding Dr. Lindsay. Eleven new members were elected, and nominations were made for officers for the ensuing year, as well as for delegates to the American Medical Association and the Medical Society of the State of Pennsylvania.

College of Physicians of Philadelphia.—At a meeting of the section on ophthalmology on October 20th, Dr. John T. Carpenter, Jr., read the report of "A Case of Recovery from Unilateral Optic Neuritis," and exhibited the patient. Dr. H. F. Hansell read for Dr. Charles A. Oliver the report of "A Case of Probable Intra-ocular Growth in the First Stage of Development." Dr. Edward Jackson read a paper on "The Corneal Reflex." Dr. B. A. Randall read a paper entitled "Rhinitis as a Factor in Phlyctenular Ophthalmia, with its Therapeutic Consequences." Dr. S. D. Risley made a brief communication upon "Defective Coquille Glasses," pointing out that many of these exert disturbing refractive effects.

Cumberland County (N. J.) Medical Society.—The Cumberland County Medical Society convened at Hotel Cumberland, Tuesday, October 13th, with President Dr. D. H. Oliver in the chair. Dr. G. E. Day, of Millville, was elected to active membership, after which a very interesting address was delivered by Dr. Theophilus Parvin, of Philadelphia. Addresses were also made by Dr. O. H. Adams, of Vineland, on "Eye Strains;" and Dr. A. W. Sullivan, of Shiloh, on "Dysentery." After the report of Dr. S. M. Wilson, as delegate to the American Medical Association, and the election of Dr. J. C. Applegate as reporter to the State society, the society adjourned, to meet at Hotel Cumberland, the second Tuesday in January, 1897.

An Association of Urologists has been established in France among the physicians interested in this branch of medicine. Among the originators are Albarran, Audry, Chevalier, Desnos, and Malherbe of Nantes.

International Exposition of Hygiene, of alimentation, and of industrial arts will take place at Lille in the months of March and April, 1897, under the auspices of the municipality. The Rameau palace has been placed at the disposal of the committee on organization.

The Graefe Gold Medal of the German Ophthalmological Society has been awarded to Prof. Theodore Leber, of Heidelberg, in recognition of his work on inflammation. This medal is given every ten years, in recognition of the greatest advance made in ophthalmological science during that time. The first one to receive the medal was von Helmholtz, for his discovery of the ophthalmoscope.

Yellow Fever has appeared at the New York quarantine. A patient, removed from the steamship *Yucatan* on the 21st, died the same night. All passengers from Havana and other infected ports will be carefully inspected. Dr. Doty reports that cold weather is too near to admit of any fear of the disease gaining a foothold here. It is said that four hundred new cases were reported in Havana two weeks ago. Small-pox was also prevalent.

The Green Cross.—In addition to the Red Cross Society and the White Cross, which gives aid to sick or convalescent soldiers, there has just been established at Vienna a new order which will be known as that of the "Green Cross." Its object and aim is to give succor to Alp climbers and excursionists in mountain regions. It originated in the Austrian Alpine club. The intention is to establish huts upon high mountains and to keep supplies and relief stores, or boxes containing articles apt to be required in emergencies at conveniently located points. Besides this guides are to be instructed in first aid to the injured and trained in the application of splints and antiseptic dressings. We wish the society with its new-colored cross all success in its humane undertaking.

Antivenin.—Dr. Fraser, of Edinburgh, has attempted to render animals immune to the bite of serpents by making injections of one-tenth the fatal dose and gradually increasing the quantity of venom. The serum of animals thus immunized is antitoxic and is named antivenin. In case of poisoning by serpent bite, he says, first shut off the circulation as much as possible by ligature; increase the size of the open wound; suck out with the mouth or better still with an aspirating pump; inject antivenin into and about the wound beneath the skin, and do not remove the ligature for at least half an hour. To save a man's life three hundred and thirty cubic centimetres of antivenin are required, provided it can be injected within half an hour of the accident. The treatment has as yet, so far as we know, not been tried on man.

A Chair of Massage has been established in the University of Berlin with Dr. Zabloudovsky as professor. This is, we believe, the first instance in which a great university has given such recognition to this branch.

The Loomis Sanatorium for Consumptives, at Liberty, Sullivan County, N. Y., is now open for the reception of patients. The institution, which is a memorial to the late Dr. A. L. Loomis, is intended for patients in the early stage of pulmonary tuberculosis, who cannot afford to sustain themselves and pay for medical attention at expensive resorts. The sanatorium is at an elevation of about twenty-two hundred feet, and the buildings are substantially constructed and beautifully located. Patients are received at a nominal rate for board and medicines, but there is no charge for medical attendance. There are no free beds. Before patients can be admitted they must be examined by either Dr. H. P. Loomis, 58 East Thirty-fourth Street, or Dr. Charles E. Quimby, 44 West Thirty-sixth Street, New York; or by Dr. J. E. Stubbart, at the sanatorium. There are at present twenty-seven patients in the institution. The public dedication will take place in November.

Pruritus Vulvæ.—The editor of *The Medical Press* has been struck with the apparent frequency of this complaint among American women, and says that one hardly ever glances through an American medical journal without coming across the most harrowing accounts of its severity and refractoriness to treatment. Every-day gynecological practice in England, he continues, does not reveal pruritus vulvæ as a common or intractable affection, so that an explanation of its greater incidence on this side of the Atlantic "must be sought in ethnological or climatological peculiarities, unless, indeed, there are more individual reasons associated with the prevalence of a highly strung, quasi-neurotic temperament." He throws out the suggestion that this would be a profitable subject of study by American gynecologists.

The Dispensary Abuse in London appears to be as aggravated and aggravating as it is here, if we may judge from the plaint of a correspondent of the *Medical Times and Hospital Gazette*. He writes: "A patient of mine, who holds a good position, was thrown from a trap when out driving recently, and received a severe scalp wound. He was taken to the nearest hospital and his injuries were attended to, and when sufficiently recovered he was sent home in a cab. Instead, however, of being told to send for his regular medical attendant as soon as he reached home, as he would have been told when I was a hospital dresser, he was requested to return to the hospital on the following morning. He has continued to attend the hospital almost daily since, being driven to the institution in a cab, which waits to take him back to his place of business. In order that he may not be kept waiting for any length of time, he has, I believe, to tip the porters, and it may be that he tips every one all round, as he is mightily generous and liberal to every one but his poor outraged doctor."

Therapeutic Hints.

Treatment of Constipation.—1. With regard to the prophylaxis of constipation, we should abstain from administering cathartics in slight transient disturbances of digestion; rather let nature take its own course. Never put a patient on a one-sided diet for too long a time; the exclusion of vegetables, fruits, and starchy foods in general, from the diet is frequently the cause of marked constipation. A hygienic mode of living, regular habits, less business strain and worry, and more out-door life and exercise are of greatest importance to prevent constipation. 2. The treatment of habitual constipation will be composed of the following factors: (a) Of the just mentioned hygienic mode of living. (b) Of correcting a faulty diet; increasing the amount of vegetables, fruits, starchy food, and also fats (butter). (c) Of impressing the patient with the importance of not worrying and not bothering much about his bowels. (d) Of training the patient to have an evacuation once a day at a certain time, either giving no drugs whatever, or administering a very slight cathartic for a short period, then gradually diminishing and ultimately discontinuing its use.—DR. MAX EINHORN, *Post-Graduate*.

Elixir of Peptonate of Iron.—

R Chloro-peptonate of iron.....	100 gm.
Alcohol, 90%.....	150 "
Simple syrup.....	450 "
Distilled water to make one litre.	
Aromatize at discretion.	

—*Rev. Intern. de Méd. et de Chir.*, September 25, 1896.

Tellurate of Sodium ten to twenty centigrams, and alcohol fifty grams, makes a solution of which a teaspoonful may be given in sweetened water morning and night in the night sweats of phthisis. Dr. Joguet says it was successful in sixteen out of twenty cases.—*Lyon Méd.*, September 13, 1896.

Typhoid Fever.—Dr. Bignami employed phenacetin to the exclusion of all other treatment in two hundred cases of typhoid fever, out of which number there occurred but six deaths. In the first week three grams per diem were administered in six doses. In infants and old persons the dose was reduced to two grams. He considers that by this treatment the symptoms were reduced to those of a simple gastric fever.—*Gaz. d. Osped.*, No. 35, 1896.

Régime During Pregnancy.—Dr. Eichholz (*La Rev. Méd.*, May 16, 1896) believes many complications accompanying and following pregnancy are due to errors of régime. While pregnant the woman should avoid excesses of water and albumin; the one causing excessive development of the fœtus, the other giving rise to an excessive secretion of liquor amnii. Based upon twenty-five observations he prescribes the following régime: Fresh meat once daily in small quantity; green vegetables, salad, potatoes, bread and butter. Avoid eggs as much as possible, peas and beans. Wine, beer, and alcohol are forbidden, and only enough liquids should be taken to allay thirst. The advantages are: 1. Activity is preserved up to time of delivery; sensations of fulness, fatigue, thirst, and constipation disappear early. 2. Rapidity and facility of deliverance even in cases in which previously it has been difficult. 3. A limited quantity of amniotic fluid. 4. Possibility of nursing offspring, the milk being of good quality and quantity. The medium weight of the children was six pounds and the circumference of the head thirty-three to thirty-four centimetres.

Anal Pruritus, pure and simple, is treated by Brocq in the following manner: 1. An alimentary regimen of the most strict order and avoidance so far as at all possible of all overexertion. 2. Regulate the passages, and before going to stool cover over the margins of the anus with pure vaseline or cold cream. 3. Wash the painful points morning and night with a decoction of coca leaves as hot as can be borne and to which has been added a solution of phenic acid in glycerin. 4. Keep the anus constantly powdered with a mixture of talcum and oxide of zinc. 5. Every third day apply a five-per-cent. solution of nitrate of silver. 6. In case of very severe attacks, take at dinner time and on retiring fifty centigrams of antipyrin. 7. Give hot sedative douches or apply static electricity.—*Journal des Praticiens*, March 21, 1896.

Obesity.—An obese patient consulted his physician in reference to the treatment of his obesity, and was given the following advice: "Eat three francs' worth a day; but earn the money, and you will get thin."—*Lyon Médicale*.

[An American physician of note gave similar advice to a dyspeptic: to saw wood for a living, and live on the proceeds.—ED.]

Bromoform, in dose of half a gram in capsule, four or six times daily, is found efficacious in chronic bronchitis, pneumonia, and especially in emphysema and the attacks of asthma associated with this condition.—STEPP.

Vomiting of Pregnancy, in three cases in which it was severe and persistent, was quickly relieved by ichthyol tampon applied against the neck of the uterus.—DE LA TORRE.

Pharyngeal Diphtheria.—

R Atropine sulphate.....	0.045
Cocaine hydrochlorate.....	0.75
Bitter-almond water	300.00
M. S. One drop every hour for each year of the child's age.	

For adults, according to the patient's constitution and the severity of the disease, from ten to fifteen drops every hour. The frequency of administration is important, and at first it should be kept up even at night; consequently great care is necessary on the part of the nurse.—ELSAESSER, *Therapeutische Monatshefte*.

Nervousness and General Malaise.—Especially recommended at the period of the menopause:

R Ammonii bromidi	3 ij.
Sodii bromidi	3 iv.
Spt. ammonii aromat.....	3 vi.
Aque camph.....	3 vi.
M. S. Tablespoonful every four hours.	

—PARVIN.

Balsamics should not be used in the acute stage of bronchitis, as they can at this period only irritate the already inflamed mucous membranes. Congestion of the respiratory passages has often been seen to follow a too free administration of syrup of tolu.—GINGEOT.

Phthysical Sweatings may be treated by crystallized acetate of lead, of which one decigram is given in pill form twice daily. This may succeed after atropine, white agaric, tribasic phosphate of lime, camphoric acid, and hydrastis canadensis have failed.—*Journ. des Praticiens*.

Hydriodate of the Iodate of Quinine has been found by Assaky (*La Presse Médicale*, September 12, 1896) beneficially to influence in a brief period the local condition and cause prompt disappearance of the lesions in fourteen cases of syphilis associated with paludism. The author does not know if it would be prudent to subject such patients to a lengthy exclusive

course of this drug, but that it is capable, probably by reason of the iodide, of causing the secondary and secundo-tertiary lesions to disappear seems positive. It is administered in pills containing twenty-five centigrams, of which from eight to twelve are given daily.

Thyroid in Middle-Ear Disease has given Dr. Vulpius (*Le Scalpel*, September 27th) such encouraging results as to lead him to continue its use. He was led to employ it by the favorable results upon the hearing in myxœdema patients with sclerosis of the middle ear, in whom the thyroid was being employed.

Gall-Stone Colic.—In one case nitroglycerin had a promptly beneficial effect attributed to the paralyzing action upon unstripped muscular fibre.—TURNBULL, *Lancet*, February 8th.

Methylene Blue, in daily divided dose of ten or twenty centigrams, relieves, after three or four days, hyperchlorhydria and other nervous troubles of the stomach, such as gastralgia and hyperæsthesia of the mucous membrane.—BERTHIER.

Arterio-Sclerosis is itself improved by tepid baths, as well as the affections which accompany it, such as gout, chronic rheumatism of the muscles and joints, arthritis deformans, and neurasthenia.—GROEDEL, *Gaz. hebdom. de Méd. et de Chir.*, September 13, 1896.

Paralysis Agitans.—

R Strychnine sulphat. gr. i.
Acid. arseniosi gr. ij.
Ext. belladonnæ gr. v.
Quinine sulphat. ℥ij.
Pil. ferri carbonat. ℥ij.
Ext. taraxaci ℥i.
M. et ft. pil. No. xc. S. One pill three times a day.
—S. W. GROSS.

Sick Headache.—

R Sparteine sulphate. 0.02 gm. ($\frac{1}{2}$ gr.).
Caffeine. 0.1 gm. ($1\frac{1}{2}$ gr.).
Antipyrin 0.5 gm. ($7\frac{1}{2}$ gr.).

Taken at intervals of two hours until four have been taken, even though the pain has disappeared.—ARTZMAN, *Presse Médicale*.

Antipyrin and Calomel.—Dr. J. Schuh, of Munich, claims that the mixture of antipyrin and calomel in the quantities usually prescribed causes in the stomach juice the formation of corrosive sublimate in sufficient quantity materially to exceed the maximum dose of this chemical.

Chronic Diarrhœa and Dysentery.—

R Sulphate of copper. gr. i.
Sulphate of morphine gr. i.
Sulphate of quinine. gr. xxiv.
Fl. pil. No. xii. S. One t. i. d.
—*Atlantic Medical Weekly*.

Chronic Pharyngitis.—

R Sodii. gr. vi.
Potassii iodidi. gr. xii.
Mentholi, ...
Glycerini. āā q.s. ad ℥i.
M. S. Locally t. i. d.

Chronic Pyelitis.—Dr. A. Robin uses the following when pain is present:

R Venice turpentine ℥ iss.
Powdered camphor. ℥ iss.
Extract of opium gr. v.
Extract of aconite root. gr. iij.
Mix and make into twenty pills. S. One pill to be taken every eight hours, and at the same time a small glassful of infusion of uva ursi, slightly sweetened.
—*Le Progrès Médical*.

Ointment for Rheumatic Joints.—

R Salicylic acid,
Oil of turpentine,
Lanolin. āā ℥ iiss.
Lard. ℥ iij.
—*Journal des Praticiens*.

Citric Acid in Diphtheria.—Ten-per-cent. solutions are given every two hours in dose of teaspoonful to dessertspoonful. Within twenty-four hours in slight cases the false membranes cease spreading and begin to detach themselves. In one hundred and fourteen cases, thirty-one of which were severe, the mortality was 9.6 per cent. Of the eleven patients who died, five had been brought into the hospital from four to seven days after the début of the affection.—BLOCH, *Deutsche med. Zeit.*

Heart Disease.—

R Ferri redacti,
Pulv. digitalis fol. (English),
Quinine sulphatis. āā gr. i.
Pulv. scillæ. gr. x.
M. ft. massa et in pil. No. xx. div. S. A pill three or four times daily. (In fatty heart, dilatation of cavities, and mitral regurgitation with anæmia.)
—BARTHOLOW.

Epistaxis.—

R Hydrarg. chloridi corros. gr. i.
Acid. hydrochloric. dil.,
Tr. cannabis ind. āā ℥ ij.
Ergotin ℥ ss.
Syrup. simp. ℥ i.
Infus. quassie amar. ℥ vij.
M. S. Three teaspoonfuls a day in a glassful of water.
—*El Siglo Médico*.

Dysmenorrhœa.—

R Arsenite of copper. gr. i. 60.
Tincture of pulsatilla. gtt. 15.
Tincture of nux vomica gtt. 8.
Distilled water ℥ iij.
M. One tablespoonful every hour or half-hour until the uterine pain is relieved.
—W. BLAIR STEWART.

Bromoform in Phthisical Coughs.—

R Bromoform 30 gtt.
Alcohol 10 gm.
Syrup ipecac compound. 100 gm.
Syrup opium. 100 gm.
Syrup cherry-laurel 190 gm.
Mix in the order indicated to obtain a clear mixture. Dose, three or four tablespoonfuls daily, between meals.
—ROLLAND.

Vaginitis.—The following combination is made use of at the Vanderbilt Clinic:

R Pulv. alum,
Zinci sulphatis,
Sodii biboratis,
Acidi carbolic. āā ℥ i.
Aq. ℥ vi.
M. S. A tablespoonful to a quart of lukewarm water as a vaginal injection, twice daily.

Iodoform and Diiodoform are after all found to be much more active than any succedaneum of the many so far proposed, none of which can replace iodoform completely.—STOKVIS.

Borax does not seem sufficiently efficacious in epilepsy to warrant its use, especially since, if long continued, it has an injurious action upon the kidneys.—CLAUS, *Belgique Méd.*

Simple Goitre.—In a case showing no improvement from the iodine treatment a rapid cure was effected in a man of forty-four years by the use of glycerin extract of the thyroid body. From one to one and a half teaspoonfuls were given daily, each teaspoonful representing thirty centigrams of the fresh organ.—SABRAZES ET CABANNES, *Gaz. Hebdom.*, No. 28.

Syphilis Cured by Thyroid.—In a patient whose condition did not improve under mercurial treatment, but in whom ecthymatous and ulcerating lesions appeared in the early secondary stage, destroying the alæ nasi and portions of the ear, Dr. Gouladsé (*Pratch*, No. 30, 1895) administered two grams of beef thyroid cut into small pieces and triturated, subsequently increasing the daily dose to as much as fourteen grams.

After the third day improvement was noted, and at the end of five months all the phenomena had disappeared. During the first days of administration there were nausea, palpitation, trembling of the upper extremities, and pulse running up to 120 beats. Just how the thyroid is supposed to exert its beneficial action in such a case is not stated.

Lichen.—In a girl of ten years thyroid tablets in dose of two daily caused at first an increase in the pruritus and desquamation, but the plaques became paler. When four tablets per day were given, headache and vomiting supervened. When six tablets were given the eruption became less marked and finally disappeared entirely. The urine contained some sugar but no albumin.—KISSEL, *Gaz. Hebdomadaire*, October 8th.

Gelsemium in combination with belladonna or morphine, or both, greatly increases their anodyne powers. As a relaxant, in rigidity of the os uteri and sphincter perinaei, and in puerperal convulsions, dysmenorrhœa, and nausea and vomiting in pregnancy, it will be found of great value. In after-pains it will be found a valuable substitute when opium is not tolerated.—ROOP.

Hæmoptysis.—When blood is vomited it is important to discover its source, but if large quantities are being lost we may treat the symptom first and make an accurate diagnosis afterward. Place the patient in a quiet position and forbid movement. Raise the head and place mustard plasters upon the lower extremities. Give pieces of ice to suck, and if it is possible let the patient take a teaspoonful of ether in a little sweetened water. Above all give a hypodermic injection, deep into the muscle by preference, of the following solution:

R Ergotin (Yvon)	5 gm.
Morphine chlorohydr.	0.04 cgm.
Antipyrin	1.50 gm.
Sparteine sulph	0.20 cgm.
Atropine sulph	0.002 mgm.
Aq. dest.	q.s. ut ft. sol. 10 c.c.

This injection may be repeated, giving a syringe-ful every half or quarter hour until four or five have been given. If the patient can drink he may be given every hour or every half-hour a soup-spoonful of the following potion:

R Ergotin (Bonjean)	2. gm.
Acidi gallici.	0.5 gm.
Syr. terebinthinæ	120 gm.

—CAPITAN, *La France Méd.*, September 25, 1896.

Pilocarpine in Bright's Disease.—It has been established, and cannot be controverted, that pilocarpine is a marked cardiac depressant and a dangerous remedy to administer in uræmia; that its sphere of usefulness is but a limited one; that it should be banished from our therapeutics of Bright's disease, and that its application should be relegated to another sphere.—PROBEN, *New York Medical Journal*, July 18, 1896.

Ringworm in Institutions.—Strict isolation of actual and suspected cases is called for. Clippers should not be used for cutting the hair of any inmates. Ringworm patients should have the hair cut close or the scalp shaved at frequent intervals. Scissors should be sterilized after use. Epilation should be done only in limited patches and then done thoroughly by a trained assistant. Bichloride solution, 1 to 500 up to 1 to 100, can be used for washing the scalp when it is free from open lesions. The best anti-parasitic remedy employed in this affection is chrysarobin, which gives an efficient and prompt result. Care must be exercised that the face and eyes do not become irritated. A caoutchouc cap can be worn or the drug

can be incorporated in collodion or traumaticin. Occlusive dressings have the advantage of shutting out air, which would seem to favor the growth of the fungus. Another formula used was nitrate of mercury and ichthyol, each one drachm, and collodion, one ounce. When seemingly well the patient must be kept under surveillance for a time before being allowed to mingle with the other children. Close cutting of the hair and careful examination is recommended upon admission to hospitals, asylums, etc.—ALLEN, *Pediatrics*, August 15, 1896.

Xeroform is a tribromphenol bismuth and is intended to replace iodoform. It is not toxic, has neither taste nor odor, and does not irritate skin or mucous membranes. It unites in itself the properties of phenol and bismuth, being bactericidal, antipruritic, and a moderator of secretions. It is not only an intestinal antiseptic of great value but also a topical dressing for wounds inducing cicatrization. Not decomposing at 120° F., it may readily be sterilized.—HEUSS, *Therapeutische Monatshefte*, No. 4, 1896.

Lupus Erythematosus.—Good results were obtained by the local application twice daily of Fowler's solution diluted four to six times. After six days there was local reaction in the form of tumefaction, in which case it is well to apply an indifferent ointment. In nine cases thus treated cure was effected within the space of eleven weeks.—SCHULTZ, *Gaz. Hebdomadaire*, October 8th.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 19, 1896.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

The Treatment of Follicular Abscess of the Fossa Navicularis with Attendant Fistula.—DR. CHARLES H. CHETWOOD read the first paper of the evening. He said the condition of which it treated was not infrequent, and was difficult to cure. The cases of follicular abscess of the fossa navicularis could be divided into three classes: 1, those with abscess and blind internal fistula; 2, those with abscess and blind external fistula; 3, those with abscess and complete fistula.

The etiology of all these varieties was the same, being an extension of inflammation during an acute urethritis or traumatism. There was a certain amount of purulent discharge, especially on pressure upon the meatus, the fluid escaping internally or externally according to whether the fistulous opening leading to the abscess was internal or external. The treatment commonly resorted to or recommended was surgical, opening the fistula, packing, or scraping and suturing. But this did not always effect a cure, and might make a complete fistula which was difficult to heal. The method which the author employed in all cases had failed in none. It consisted of injecting a little of a twenty-five-per-cent. ethereal solution of peroxide of hydrogen, called pyrozone, into the abscess at intervals of a few days several times until the secreting surface healed. The injection was made with a glass pipette having a bent and very fine opening. Cocaine was used for local anæsthesia at the first and possibly subsequent sittings. Six to eight weeks was long enough to effect a cure of the most obstinate case.

DR. H. F. NORDEMAN had seen all sorts of follicular abscess of the fossa navicularis, had found it rarely

necessary to slit it up, and had been able to cure the cases by what he regarded as a simpler method than that described in the paper. It was to curette the follicle.

Cardiac Disturbances from Gastric Irritation.—DR. HENRY ILLOWAY read the histories of three patients, two women and one man, who had suffered one or more attacks of cardiac embarrassment which he suspected to be due to gastric irritation, the treatment confirming his diagnosis. One of the women had attacks of despondency, was pregnant five months, and had been told by her physician that she had heart disease. The apex was somewhat pushed up; at times there was a blowing sound, which, however, he believed to be extracardiac, or at least not valvular and not the ordinary anæmic murmur. Like the other two patients, she abused her stomach. On relief of gastric irritation her symptoms disappeared, she had an easy labor, and subsequently no signs of cardiac trouble could be discovered. In the case of the man it took longer to overcome the gastric irritation and control his faulty methods of eating, but after a time all symptoms attributed by another physician to heart disease disappeared. The explanation suggested was irritation of the gastric fibres of the pneumogastric transmitted centrally and back through the cardiac fibres, the effect on the heart being the same as if there were originally a central irritation.

DR. ROBERT NEWMAN was reminded by the paper of some post-mortem examinations which he had made in coroner cases as far back as 1867. They were four in number, all had died suddenly, with a feeling of uneasiness and the development of cyanosis. No disease of the heart nor of the brain could be found—nothing but a stomach filled with a large amount of debris of recent ingestion. If they had been given an emetic and the stomach relieved of its contents they might not have died.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, October 20, 1896.

REYNOLD W. WILCOX, M.D., CHAIRMAN.

Effects of Treatment of Enteric Fever with Cold Tub Baths.—DR. W. GILMAN THOMPSON read a paper on this subject, based on a personal experience with the bath in some two hundred and fifty cases. Every three hours, if the patient's rectal temperature rose over 102.5° F., he was lowered, covered with a cloth, into water of a temperature of 72° F., was rubbed while in the water, removed after fifteen minutes, covered with a blanket immediately, dried, and rubbed. It was sometimes best to omit the bath in the early morning hours to avoid possibility of exhaustion. The object of the rubbing was to apply friction over a large cutaneous surface, stimulate the nerves, and diminish the shivering and discomfort. It also served to pass the patient's time and divert his attention from the cold. Dr. Thompson said he had been familiar with the old method of applying cold and was prejudiced against the new or Brandt method until Dr. Peabody had taught him to carry it out systematically, since which time he had been its advocate and had submitted to it himself when he had typhoid fever. The bath should be preceded half an hour by half an ounce of whiskey. No time should be lost in drying the patient on removing him from the bath, and the limbs, back, and chest should be rubbed immediately. He should then be allowed to sleep. Usually he micturated after the bath, for the treatment induced diuresis.

The bath was in nowise curative in the sense that medicines were. It was a strong stimulant, mechanical and thermic, to the nervous system, and, as was well known, enteric fever was pre-eminently characterized by depression of the central nervous system. It was not a question of reducing the temperature, for there were many cases in which the temperature did not fall more than half a degree after the bath, yet delirium disappeared, the tongue became clean, the pulse improved, the action of the kidneys and bowels became more nearly normal—all in striking contrast with what was seen when the expectant plan was pursued. The average reduction of the temperature while the patient was in the bath was from two to two and a half degrees.

While in this country we did not get as good results from the Brandt treatment as were claimed for it in Europe, still they were very gratifying. Our patients did not enter the hospital as soon as those did abroad. The average death rate given by Osler, Wilson, and others in this country was about 7.25 per cent. At the Presbyterian Hospital in this city there had been two hundred and eighty-four cases treated by different methods since 1892, only one hundred and ninety-three of them by the Brandt method. But many of these were severe cases, and the death rate was nearly as great as from other methods. But if the cases were analyzed as they should be, then the death rate from the Brandt treatment in the Presbyterian Hospital would be about 7.25 per cent., corresponding with that in other hospitals in this country. There had been relapses in 13.5 per cent. of the cases, somewhat more than under the other methods of treatment. It had been objected that the bath tended to nephritis, but he had seen nephritis as often when the bath was not employed. One of his patients was put into the tub one hundred and thirty-nine times, but the average number of times was fifteen to twenty-five. Pregnancy was not a contraindication. Dr. Thompson stated in his conclusions that the cold-bath treatment caused enteric fever to run a shorter and a milder course, reduced the mortality by one-half, and did not interfere with other modes of treatment. It did not prevent relapses nor the occurrence of ordinary complications.

Treatment of Typhoid Fever by Antitoxin and by Antiseptics.—DR. MORRIS MANGES was announced to read on other methods of treating typhoid fever, but for want of time confined his paper to the so-called specific or antitoxin treatment and the antiseptic treatment. Were we, he asked, in a position to pass final judgment upon any treatment of this disease, whether hydrotherapy, antiseptic, or antitoxin? He thought not. While it was generally believed that the cause of typhoid was a bacillus, yet it was not settled whether it was due to the typhoid bacillus alone or what part might be taken by the colon bacillus, whether it was a local effect or whether toxic. One must distinguish between the bactericidal and immunizing power of the blood. It had been shown that the blood serum of persons who had had typhoid fever retained immunizing properties a long time, but not beyond ten years. Experiments had been made on animals with sterilized cultures of typhoid bacilli and with the serum of immunized animals and persons, but little had yet come from it clinically. As to intestinal antiseptics, Stern and others had shown that they were not effectual even on micro-organisms less resistant than the typhoid bacillus. Among those mentioned were, after rectal enemata, the administration of calomel, corrosive sublimate, salol, etc. The author had tried corrosive-sublimate enteric pills, as recommended by Waldstein, and which did not melt unless the intestinal contents were alkaline. The use of the pills had been followed by improvement of the general condition, the stools became less offensive, and the amount

of indican in the urine was diminished; but this had been only one part of the treatment.

Tubbing Preferred—Experience with Other Methods.—DR. FRANCIS DELAFIELD said that to his mind the tubbing treatment of typhoid fever was altogether the best which we now had. In employing it one did so for the disease and not for the temperature. Do not wait for an excessive rise of temperature. But it must be admitted that the bath treatment was absolutely impossible for a considerable number of patients. Therefore we had to look around for some other method, and this was a good time while the mortality rate from typhoid in New York was low. His own experience during the past winter was limited to thirty cases with the Woodbridge treatment, carried out literally at first, afterward in modified form. The modified form consisted in continuing only the calomel and carbonate-of-guaiacol ingredients of the pill, and of these he gave one-twentieth instead of one-sixteenth grain of calomel, and five instead of three grains of carbonate of guaiacol. Later, finding that calomel given so frequently was producing sore mouth, he substituted for it drachm-doses of sulphate of magnesium and continued the guaiacol. He could see no particular change in the patients under the different methods. Of the thirty patients, four died, two of them at least plainly from the disease and not from complications. Seventeen were convalescent in three weeks, and none had a relapse. While the figures seemed to speak well for the treatment, yet, when at the end of the winter he came to analyze them, he concluded that, although in the mild cases the duration of the disease might have been shortened a little, in the severe ones there had been no influence. It was not at all probable that the drugs would at all diminish the mortality of the disease.

Tubbing a Doctor.—DR. A. B. BALL thought the reason why the doctors at Bellevue, including himself, had given up the bath treatment some years ago was that they did not employ rubbing. Everybody who had tried the more recent method, and for which we were indebted to Dr. Simon Baruch, adding friction, had been convinced that there was no other method at command which was so valuable. When he had attended Dr. W. G. Thompson he observed the gasping for breath which the bath produced, and remarked then that the influence upon the respiration, causing deep inspiration, must be among the most beneficial effects. With women he had continued the treatment during menstruation, and it had received the approval of some of his gynecological friends whom he had consulted about it. With some patients it might be best to give the bath at 85° or even 90° F. The great mistake was to suppose that it was intended simply to reduce the temperature. Some believed a high temperature was beneficial in typhoid, tending to kill bacilli.

DR. W. P. NORTHRUP said the beauty about the bath treatment of typhoid cases was, to quote Dr. Delafield, that they ran such a comfortable course. He had applied it in all cases for three successive autumns at the Presbyterian Hospital, except in a few cases in which at the strong recommendation of a doctor in the city he allowed Fraenkel's toxin to be tried. These patients, although recovering, suffered such great discomfort from their disease as long as the baths were withheld that he made up his mind, if he were forgiven for thus allowing them to suffer, never to repeat the offence. He thought in some cases it might be well to devise a means of applying warmth to the extremities during the cold bath, as they did when sponging scarlet-fever patients at Willard Parker's.

May Typhoid be Aborted?—DR. LOUIS WALDSTEIN referred to the fact that Dr. Manges seemed to doubt whether typhoid could be aborted. German clinicians like Wündelrich and Friedreich had insisted

for years that it was possible to abort this disease, and they resorted to calomel. The difficulty was to say that a patient who got well after three doses of half a drachm of calomel had had the incipient stage of typhoid. All of us had seen cases of continued fever, with more or less coated tongue, headache, backache, general malaise, with or without intestinal symptoms, with or without indication of tumor in the splenic region, cases which seemed to be tending toward typhoid. He had seen quite a number of such cases, had always thought it was possible they were cases of beginning typhoid, and had at once put them upon liquid diet and given them calomel. They were closely watched, and within a week or less were well. But a few cases, after remaining well two or three weeks, became ill again and had real typhoid fever. Was it not possible they had typhoid in the first attack, that this was aborted, and that the second attack was simply a relapse?

DR. NEWTON, of Montclair, N. J., had seen pneumonia rapidly clear up under large doses of calomel. This was in accord with the teaching of the late Dr. Leaming. If pneumonia could be cleared up under calomel, why might not some cases of typhoid fever? If we should live to see the diagnosis of typhoid made as it was in diphtheria, we could tell more about the effect of treatment. In the army he had seen many cases of so-called mountain fever, which autopsy proved to be typhoid with intestinal lesions. The origin was not clear. He had used calomel and thought he had aborted an occasional case of typhoid, and he had seen such favorable results as had been attributed this evening to the cold bath—clearing up of the tongue, disappearance of tympanites, etc. It was not necessary for an antiseptic to kill all of the germs of a disease to be of benefit.

Condemns the Cold-Water Treatment.—DR. A. P. DUDLEY had passed through two epidemics of typhoid fever, and treated quite a number of cases, more than ten, fifteen, or twenty; he had lost none, but he had not employed the tub bath. He held that this had no anatomical or physiological basis relative to typhoid fever. The disease depended upon germs in the intestinal tract, their multiplication, and the production of a poison. The scientific treatment was eliminative. The bath did not eliminate the poison; it subjected the patient to unnecessary shock and endangered the heart, whose muscular fibre was weakened by the disease. It was well known that death in this disease was usually attributed to heart failure. The treatment which had proven so successful in Dr. Dudley's hands was citrate of magnesium, to wash out the intestinal tract. He did not hesitate to move the bowel two or three times a day if necessary. The patient took two or three quarts of milk a day, and was given quinine and nux vomica to keep the heart going. Within a year one of his friends died in a German town under the Brandt treatment, he being one of two who died out of twenty-four patients so treated.

DR. SIMON BARUCH upheld the Brandt treatment, and pointed to the charts shown by Dr. Thompson as proof that the bath was the best heart tonic. The temperature fell and the heart's action always became slower and stronger. Further, the bath was eliminative, for the urinary secretion was increased and with it the poisons in the circulation. The great bugbear was shock, but there could not be reaction without shock, and reaction was wanted for its stimulating effect.

DR. THOMPSON confirmed the statements made by Dr. Baruch in response to Dr. Dudley's assertion that the bath was not eliminative and was weakening to the heart. Dr. Manges also made some closing remarks.

The Phonendoscope.—DR. MANGES presented a

phonendoscope, the device of an Italian physician for increasing the normal auscultatory sounds of the organs of the body and also the percussion note.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, October 26, 1896.

E. D. FISHER, M.D., PRESIDENT, IN THE CHAIR.

Report of the Treasurer.—DR. JOHN S. WARREN read his report as treasurer, by which it appeared there was a balance of \$1,745. The disbursements for the year had been \$5,894.

Report of the Committee on Ethics.—DR. T. E. SATTERTHWAIT, chairman, read the report. Eight cases of alleged violation of medical ethics had been presented by members and others. In one case the committee advised that the attorney prosecute the offender, if satisfactory evidence could be obtained. In one it was advised that the offender be disciplined by the society. In two it was recommended that the consideration of the cases be deferred until matters relating to them had been adjudicated in the city courts. In four it was stated that the charges were not sustained. The report stated that the committee's efficiency would have been greatly enhanced and the labors of the *comitia minora* lessened, if the chairman of the committee on ethics had been a member of the *comitia minora*. The committee unanimously recommended that the constitution of the society be amended to that effect.

Report of the Counsel.—DR. SENECA D. POWELL read the report of the board of censors, or that part of it which embodied the report of the counsellor for the society. The total number of persons arrested during the year was seventy-three; the total number convicted so far was forty-six; the amount of the fines imposed was over \$3,000.

The committee on prize essays reported through its chairman, DR. W. H. KATZENBACH, that but one essay had been received, and, while it was deserving of favorable mention, the committee thought it was not worthy the prize.

Report of the Committee on Hygiene.—DR. J. W. BRANNAN read the report. The committee had co-operated with some of the city departments in promoting the public health. It was thought that better arrangements had been made for night lodgers, those out of work, and tramps than had formerly existed. Through the board of health an effort had been made to stop expectoration in cars and public buildings. It was thought that within a year a building would be set aside, on Blackwell's Island, for tuberculous patients, thus separating them from others in public hospitals and placing them where they could receive the advantages of any improved methods of treatment. DR. E. S. PECK, a member of the committee, contributed that part of the report relating to contagious ophthalmia in the city. The State law bearing on the subject had had a more or less wholesome effect.

Amendments to the Constitution.—Amendments to the constitution were adopted, permitting the election *via voce* of members recommended by the *comitia minora*, except when three members asked for a ballot. A two-thirds vote would elect. Also the chairmen of standing committees were made members of the *comitia minora*, but the chairmen of the committee on ethics and of the committee on hygiene were to have no vote.

Remarks on Some of the Practical Phases of the Leprosy Question.—DR. PRINCE A. MORROW read a

paper with this title, and threw on the screen lantern slides of leprosy and other diseases. The term leprosy had crept into our literature as standing for all that was most foul and unclean. If a leper were seen at large, the public press set up such a clamor that he must be immediately isolated. Quarantine of this disease meant imprisonment for life, as practised in this city. Tuberculous patients were not quarantined, yet they were far more numerous, and the danger of spreading the disease was far greater than in the case of leprosy. For a given number of years in New York there had been sixty thousand deaths from tuberculosis to two deaths from leprosy. There was no surveillance of syphilis, yet the danger of its propagation was immensely greater, and the number of cases, even of repulsive external lesions, far exceeded those of leprosy. Indeed, there were many other diseases, as was shown by the photographs, which were more repulsive than most cases of leprosy. In New York there was no disease which granted its victims so long a lease of life; there was no instance here in which it was known to have been communicated to another person; yet because of the public clamor the board of health had felt itself compelled to quarantine leprosy patients, which really meant imprisonment for life. DR. MORROW had three cases under observation, in one the disease being of twelve years' duration, in the other two of seven years'. In one there had been apparent cure; in the other two the patients were not worse than when he first saw them. While leprosy was a contagious disease, he believed the degree of contagiousness was influenced by climate and other local conditions, so that in New York there was no known instance of contagion. What should be done with leprosy in New York? As it was almost exclusively a disease of exotic origin, it might seem the easiest solution of the problem to return the patients to the country whence they had come; but this had been found impractical in most instances. As already stated, to send them to North Brother Island was practically to imprison them for life—a punishment which was assigned only to desperate criminals after due trial. If they were isolated, it should be by the State or nation in colonies, with such surroundings and conditions as were adapted to their needs, not unduly restricting their liberty and giving them the advantages of any improvement in treatment.

DR. G. H. FOX felt that it was unnecessary for him to add anything to what DR. MORROW had said. He had expressed similar views some years ago, and they had not changed. In New York the chances of leprosy being conveyed to the healthy were extremely slight. The danger in some other countries was much greater. He would rather live in a hospital for lepers here than to travel through certain countries where leprosy was common, so far as the risk of contracting the disease was concerned. Here the rights of lepers should be maintained. He did not believe there was any danger to the public from allowing them their freedom.

An Outrage.—DR. GEORGE B. FOWLER said the interest which he felt in leprosy dated from the moment that he took office as health commissioner, when he found five lepers on North Brother Island, confined, disfranchised, restricted in their mode of life, feeling that they were going to die, in every way subdued. Although knowing then but little about leprosy, he felt that it was an outrage and wrote for information to noted specialists in this country and abroad as to the contagiousness of leprosy in our climate. Backed by the answers received to those communications and by the opinions expressed to-night, he felt that these men ought not to be deprived of their liberty, and he proposed to release them. They were an expense to the city, and, since confinement meant imprisonment for

life, it was a question whether the community had a legal right to quarantine them.

DRS. C. W. ALLEN, A. Y. REID, and J. A. IRWIN asked some questions regarding the comparative contagiousness of leprosy in New York and other countries, and expressed doubt as to the propriety of the society adopting a resolution at once approving of setting at liberty the lepers on the island, until a committee had investigated and reported on the subject. It should be remembered that the action of New York would be looked to as an example for the rest of the country. Dr. Reid made a motion, which was amended by Dr. Irwin, providing for the appointment of such a committee, with Dr. Fowler as chairman.

DR. JOHN A. FORDYCE gave a lantern-slide exhibition of some rare and interesting forms of skin lesions, including rare cases of lupus erythematosus, multiple epithelioma, multiple fibroma, papillomatous tumors of various parts of the body, psoriasis, rupia, etc.

The annual dues were continued at \$3.

Correspondence.

HAS MACKENRODT ABANDONED VAGINO-FIXATION?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am so frequently asked the question: "Is it true that Mackenrodt has abandoned vagino-fixation?" and I am so frequently confronted with the statement in print that he has done so, that I beg the indulgence of a short space in your valuable and extensively read journal to place the matter before your readers in its true aspect.

To the question of the abandonment of vagino-fixation by Mackenrodt, I will now give the same answer I have given before, notably in a discussion before the obstetric section of the Academy of Medicine, on February 27, 1896, called forth by a series of papers on the indications for Alexander's operation, ventral fixation, and vaginal fixation, by Dr. Paul F. Mundé, Dr. G. M. Edebohls, and the writer, respectively. I stated then (not exactly in the same phraseology) that Mackenrodt had not discarded vaginal fixation any more than Edebohls, Cleveland, and Kellogg had given up Alexander's operation because each of them had changed the technique from time to time; nor any more than Howard Kelly had abandoned ventro-fixation because he had modified very materially his method of operating. I stated that Mackenrodt had not given up vagino-fixation, but had modified the technique, baptizing the modification by a new name, "vesico-fixation" which he considered an improvement upon his former technique. The ventro-fixationists have followed a similar procedure in labelling their modification ventro-suspension of the uterus. I am not finding fault with these actions, but merely wish to draw attention to the analogy between the two courses, and to emphasize the circumstance that, though the name be changed, the underlying principle remains the same—in the one instance the fixation or suspension of the uterus carried out through a vaginal operation, in the other through an abdominal one. Be this as it may, let us hear what Mackenrodt himself has to say in reply to a feuilleton by Flaischeln, in the *Monatschrift für Geburtshilfe und Gynäkologie* (Bd. II., Heft 5, November, 1895), in which it was stated that vagino-fixation had been condemned by the Berlin gynecologists. Mackenrodt's reply appears in the same journal for January, 1896. (Be it remembered this was subsequent to the publication of the cases of dystocia in vagino-fixation, in which a faulty technique had been followed.)

"The gynecologists who took part in the discussion

(Berlin Gynecological Society) were divided in two groups, one group consisting of men who discussed the subject in a purely objective manner, from their own experiences, and who, like myself, passed a favorable opinion upon the operation, and who would not think of discarding it. To this group belonged A. Martin, Wendeler, G. Winter, and Kossman, while Olshausen assumed an entirely unpartisan attitude and considered the technique of vagino-fixation as not yet closed. Even J. Veit, on the whole, considered the operation as a triumph (*segenreich*), and that it should not be allowed to fall into disuse. The second group of speakers were those gynecologists who, from the very first, expressed an unfavorable opinion of the operation, and who had little or no experience with it. To this group belonged Flaischeln, Paul Ruge, and Bokelmann, whose remarks partook more of a personal attack than of a scientific discussion upon an important subject."

To the unbiased person the above must be conclusive evidence that Mackenrodt has not abandoned vagino-fixation, and that the operation has not met with general condemnation in Germany. On the contrary, every one concedes its value, no matter which technique is followed, in cases in which pregnancy does not come into consideration; and there is a growing tendency in its favor even in fruitful bearing women, when a certain technique is employed. Of my own experience with the operation, and of the modifications that I have from time to time adopted and devised, I forbear to speak, as I have written of them on former occasions. This much I may add: that I have not as yet met with any accidents during gestation and labor, and there have been five cases of labor in my patients; that I am well pleased with the results; and that the solicitude expressed by Edebohls for the welfare of the women in this city on whom vagino-fixation had been done has thus far proven to be a waste of sentiment.

HIRAM N. VINEBERG, M.D.

127 EAST SIXTY-FIRST STREET, October 15, 1896.

"A CASE OF HERMAPHRODISM."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: On my return from Europe I find in the issue for August 8th letters from Dr. Paul F. Mundé and Dr. William Keller on the case of "Hermaphrodisim," reported by me on July 25th. When I wrote that article I added an interrogation mark to the title; subsequent events, however, showed that I might have omitted it and let the case stand as the second in literature of true hermaphrodisim.

It is not surprising that so careful a searcher as Dr. Mundé should have taken scientific exception to my diagnosis, especially in view of the extreme rarity of such blending of the sexes. But Dr. Mundé labored under the disadvantage of distance. Had I been favored by his presence at the operation, his letter would never have been written. He would then have seen and felt the uterus, as did those of our colleagues who were present at the removal of the testicles that had been retained and which had undergone sarcomatous degeneration.

Again must I deplore Dr. Mundé's absence from the laparotomy, as he would then not have said that I missed the "glorious opportunity" more thoroughly to examine the female reproductive organs contained in this male (?) subject. Even had my colleagues not urged me, I would have been driven by the hemorrhage, the pulseless condition, and the cessation of respiration to close the abdomen as quickly as possible, after the removal of the testicles from their many adhesions. I am more than confident that Dr. Mundé

would have justly reproved me for unnecessarily exposing the patient's life, had I deferred acting for the sake of scientific exploration. In my article these facts were alluded to. The presence of the testicles gives additional male aspect to the penis, which in its flaccid state measured more than two and one-third inches.

The patient acquired pneumonia eighteen days after the operation and died three days thereafter. The autopsy not only corroborated my statement in regard to the presence of the uterus, but showed also ovaries, tubes, and ligaments. Unfortunately, I being absent in Europe at the time of the autopsy, the attention of the gentleman who made it was not sufficiently called to this most important point and the ovaries were cut off. The tubes and ligaments, however, are so well preserved that even the mutilated specimen demonstrates the facts. If the patient had not died, I would have hesitated to say that I was positive in having palpated the ovaries, appreciating the hiatus left by the insufficient examination at the time of the operation. But had nothing but the presence of a uterus been proven, this case would have been an extraordinary one.

Dr. Mundé's well-known sense of justice and courtesy to his colleagues, is, I fear, put into a wrong light through the shortness of my clinical report. Now, having the specimen, I shall be able to write a fuller description of the case.

As to Dr. Keller's letter, I heartily agree that a much more extensive description would be of interest. A vast number of observations could have been made in fact, but I had intended to write only a clinical report, the limits of which forbade this. The microscopical examination was not only made by myself, but also by a prominent pathologist, who would not have been able to determine whether the tumors represented testicles or ovaries, as the tumor tissue had taken up all the normal structure, were it not possible to regard them as testicles on the basis of the facts described.

There was no enlarged clitoris, but a well-developed penis, as described in my article. The arrangement of the pubic hair was decidedly not feminine; it was not continued up to the umbilicus. According to a recent information, obtained through the kindness of Dr. F. G. Lusk, the patient was treated last year in a hospital of this city for syphilis, the initial lesion having been under the observation of Dr. Lusk.

CARL BECK, M.D.

HOW SPECIMENS OF URINE MAY BE SENT TO INDIA FOR DIAGNOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The following letter which I received recently from a native physician in Bombay, India, will interest your readers. It presents gratifying evidence of the progress that urinalysis is making in that country in the interpretation of disease. But, more than this, it throws the door wide open for the interchange of professional courtesies between physicians in the United States of America and India in a unique way, by facilitating the safe sending of samples of urine from one country to the other. Now that the only difficulty in consulting Bombay experts has been removed, I have little doubt that "close-packed and properly sealed" bottles of urine will be exported from this country to India in numbers to compete successfully with "bottled Bass" from England.

The patient referred to in the letter was admitted to the New York Hospital last spring. The case was one of hysterical trance, and was well advertised in the papers for some time before admission and after-

ward. It was a "bonanza" for reporters of sensational newspapers, and the grossly exaggerated and absolutely false reports that appeared daily for some time were a disgrace to modern journalism. I was made to pose as an expert in the cure of hysteria by removal of the ovaries; to cap the climax the case was reported also in a Bombay newspaper, and then came the following letter:

"BOMBAY, INDIA, July 26, 1896.

"DEAR SIR: I was surprised to read in one of the local papers a report of a patient, Mrs. —, who is suffering from hysteria, and who is under your treatment. I, belonging to the medical profession, am naturally led to inquire into the details, and so I beg you to put down all the particulars. I want to know the real disease and to diagnose it properly if I can.

"I generally diagnose all the diseases by examining the urine; so will you be kind to send the patient's urine in a close-packed and properly sealed bottle to my address? The whole quantity of urine passed early in the morning just after getting up should be carefully collected and sent in the bottle.

"With this the history of the whole case will be very useful, if you can conveniently send it.

"Let me remind you that the bottle should be kept on ice in order to prevent decomposition.

"Hoping to be excused for the trouble

"I remain, sir, your obedient servant

"—————"

A. BRAYTON BALL, M.D.

NEW YORK.

CORRECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In my recent article on "Preparation of Blood," etc., the formula for eosin solution should read one gram instead of "one grain," as given. Since the article was published I have received a large number of letters from different parts of the country, evincing a deeper and more widespread interest in hæmatology than I had any idea of. Despite the fact that Hayem has given us over a thousand pages about the blood, what we don't know about the subject would make a much bigger book than what we really do know. Nearly a century and a half ago Henry Baker ("The Microscope Made Easy," London, 1754) wrote as follows:

"We cannot employ the Microscope to any more useful Purpose, than to view the natural Course of the Blood within its Vessels, or examine the Texture of it when extracted from them: for the Preservation or Restoration of the Health of Man may be greatly advantaged by such Enquiries."

H. G. PIFFARD, M.D.

WHAT SHALL WE DO WITH THE LEPER?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have already claimed a small portion of your valuable space to discuss this question, and do so now again because of my sincere belief that, having strong convictions in the matter, it is my duty to express them. At the last meeting of the County Medical Society Dr. Fowler, commissioner of health, expressed his determination to turn out the lepers constituting the colony on North Brother's Island, believing that the disease is not contagious and hence not dangerous to the health of the community, and for the further reason that the New York board of health had no funds to apply to the purpose of maintaining a lazaretto. The commissioner asked the society to endorse this proposed action. I opposed the motion

made to this effect, because I did not think a leading medical body, such as the County Medical Society is known to be by the country at large, should endorse the view so unqualifiedly expressed that the disease is not contagious. No one more than myself recognizes the slight degree of danger from contagion, and I quite agree that there is more danger to-day from syphilis and phthisis in the community than from leprosy; but to give the impression to the profession at large, to the public, and to the world that the New York County Medical Society looks upon leprosy as a disease which is not transmitted from person to person, that, in other words, it is not a bacillary disease, and that a new case depends upon some other cause than a case of leprosy which has gone before, is contrary to the belief of a vast majority of the members of this society.

The only objection I raise to turning these five lepers out upon our streets is that, if they belong to the pauper class and must therefore be cared for by the people somewhere, we had better continue to care for them where they are. If some have been taken from occupations in the city to which they will return when released, such as cooking and baking, I object upon personal grounds that I prefer my bread kneaded by healthy individuals, and, if we cannot compel or induce syphilitics and consumptives to give up these unappetizing pursuits, let us at least do what we can by moral suasion and mild show of assumed power of control over lepers, giving them always the privilege, if they do not like the restraint placed upon them, of returning to the country from which they came.

Why should we scatter these patients about among the hospitals instead of keeping them where they are, since I have been informed their surroundings are all that is to be desired and not the prison or living tomb which they have been represented to be? I have formerly opposed the assumed power of the board of health in shutting up these unfortunates, because it has been represented to me that the first man thus isolated was treated in a barbarous and inhuman manner, being confined in a tent without companionship and left literally to die alone. I hope I have been misinformed in the matter. The fate of one or two Chinamen, likewise isolated, as reported to me, seemed unnecessarily severe. A local board of health cannot in my opinion permanently give proper care to this class of patients, but it can at least keep them under the conditions mentioned, until the national government establishes suitable asylum homes in which to isolate all lepers.

I have urged such a measure for this country because I believe we are so situated that the United States can be made and maintained leper free. For phthisis and syphilis it is futile to think of such a thing, but because we cannot do it for all infectious diseases there is no reason why it should not be done for so loathsome a disease as leprosy, which is still so limited in distribution that the proposition is practical.

CHARLES W. ALLEN, M.D.

126 EAST SIXTIETH STREET.

The Population of the Earth.—The quinquennial census of different nations was recently completed. From 1874 to 1895 the total population seems to have increased from 1,391,000,000 to 1,480,000,000. The increase at the rate of five per cent. should give 1,549,000,000 in 1900, and 2,548,000,000 in the year 2000. The fear expressed in Malthus' essay on population, that in course of time one portion of the population will be reduced to famine, seems not incredible, since the producing powers of the soil are limited, while those of reproduction of species are practically without limit.

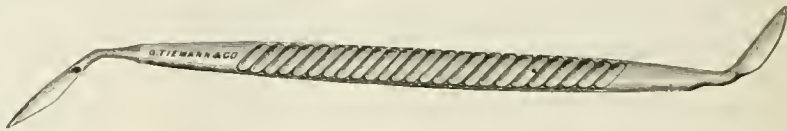
New Instruments.

A NEW TRACHELORRHAPHY KNIFE.

BY D. TOD GILLIAM, M.D.,

COLUMBUS, OHIO.

This knife, devised by me some months since, has proven most satisfactory. It not only expedites the freshening, but enables one to do smoother work than is usually obtained with the straight knife or scissors. It consists of a handle, seven inches long, with a blade



at either end. The blades are set at an angle of 45° to the handle, and are turned in opposite directions, thus giving the instrument something of the appearance of the letter S. One of the blades is narrow and pointed, and intended to transfix the tissues up near the angle of the tear and cut outward. The other is bellied and used for clearing the angles. This blade may often be conveniently used for the entire denudation of the right side. The accompanying cut is self-explanatory. The knife is made by George Tiemann & Co., New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 31, 1896:

	Cases.	Deaths.
Tuberculosis.....	148	113
Typhoid fever.....	29	6
Scarlet fever.....	96	7
Cerebro-spinal meningitis.....	0	0
Measles.....	53	2
Diphtheria.....	200	20
Smallpox.....	0	0

Thermal Baths have a diagnostic worth, aside from therapeutic results. In Wiesbaden, after six or seven baths, rheumatic subjects are rendered worse, and gouty subjects have a typical attack. After some twenty baths, the quantity of uric acid excreted is reduced, in gout, to about one-half. In differential diagnosis these almost constant results have an importance in distinguishing rheumatism and gout from other painful affections simulating them.—*PEIFFER, Berlin klin. Woch., No. 12.*

His Message.—The long, gloomy operating-room of the hospital is hushed and still; soft-voiced, gentle-eyed nurses move quickly here and there, and a skillful attendant arranges the cruel-looking instruments upon a table. Before administering chloroform to the patient, prior to the amputation, the kindly doctor leans over and asks him if he has any message for his friends. "Naw!" he murmurs wearily; "jest tell 'em dat you saw me, an' dat I'm losin' flesh."—*Sam.*

A Scaremosquito.—A New Jersey man has applied the principle of the scarecrow to that other rapacious bird, the native mosquito. He suspends two or three imitation dragon flies by a fine cord from the ceiling of his room, and claims that no mosquito will remain within sight of them.

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Original Articles.

RECENT AIDS IN THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER (DESCRIBING THE AUTHOR'S MODIFICATIONS OF EHRLICH'S TEST, WITH A PRELIMINARY REPORT UPON THE SERUM TEST OF WIDAL).

By CHARLES LYMAN GREENE, M.D.,

INSTRUCTOR IN PHYSICAL DIAGNOSIS AND CLINICAL MEDICINE IN THE UNIVERSITY OF MINNESOTA; VISITING PHYSICIAN TO THE CITY AND COUNTY HOSPITAL, UNIVERSITY FREE DISPENSARY, ETC., ST. PAUL, MINN.

THE perennial interest in typhoid displayed by our profession is to be accounted for, not only by the fact that we all meet it frequently in practice, but also because we have learned that there is no acute disease more insidious in its onset, more deceptive in its manifestations, and more beset by troublesome and unexpected complications.

We ought, therefore, to welcome all tests which seem to make clearer our way to a positive diagnosis, and more particularly those that aid us in early diagnosis.

The accurate diagnosis of typhoid is not always easy, and is never to be made with certainty before the end of the first five to ten days after the onset of fever. Yet, in the discussion of this subject by a medical society, we often hear of diagnoses made in the first few days of the disease; and expressions such as "the characteristic countenance," "the characteristic pulse," or "the characteristic temperature," assail our ears, and make us wonder what early signs are so truly characteristic or diagnostic as to warrant these positive opinions.

In our student days all things were made so plain to us that we were astonished, perhaps, to find in our hospital practice after graduation that error in the diagnosis of a disease so commonplace as typhoid was not uncommon, even in the practice of the most acute clinicians. I have seen some of the greatest diagnosticians refuse to commit themselves to a positive diagnosis in a certain case until the disease had nearly or quite run its course—this conservatism being due to the chastening effect of frequent autopsies and the growth of caution in diagnosis which results from a large clinical experience.

If we could trust the older text-books and if our disease would be obligingly typical, we should have no trouble. But the symptom complex of the text-book is by no means common, and even its individual components are often illusory or ubiquitous.

Allow me to pass some of these symptoms in review, with a running commentary upon their value. Commencing with the prodromal and early first-week symptoms, these are said to be: "Headache, nausea, epistaxis, injected conjunctivæ, lassitude, pain in the back and legs, anorexia, tenderness and gurgling in the right iliac fossa, diarrhœa, fever."

The foregoing group contains the earlier symptoms which, by their different combinations, constitute the general malaise preceding the onset of fever, and are the ones upon which the very early snap diagnoses

must, of necessity, be based. Collectively they are important, as indicating an insidious onset; but the individual symptoms are of little value, all being frequently found in diseases other than typhoid, and no one of them being at all characteristic of this disease. For example, many of our cases in the city hospital are constipated upon admission and give no history of diarrhœa. Gurgling in the right iliac fossa may be found in any diarrhœa. Tenderness in the right iliac fossa may be due to appendicitis and many other conditions. Epistaxis is lacking in a majority of our cases, and the other symptoms are common to all general infections.

If we pass on to the signs of the established disease, there are:

First, fever. Much stress is laid by the text-books upon the "characteristic temperature record," yet we know that a case in St. Paul, with the step-ladder temperature of the text-book, is a curiosity. The general features are present and are important aids to diagnosis, but that is all.

Second, rose spots. These are important, and, if found, are typical. They are absent, however, in at least thirty per cent. of our cases, and do not appear until the eighth or tenth day.

Third, pulse. The pulse of typhoid is not necessarily characteristic and certainly not pathognomonic, though dicrotism is here more frequent than in almost any other acute disease, and a disturbed pulse-temperature ratio is often interesting (the pulse rate may be only 100 to 110, with a temperature of 105° F.).

Fourth, enlargement of the spleen. This is a most important sign. The spleen is palpable at the end of the first week, if there is not too much tympanites, and the engorgement disappears promptly as the fever lessens. It is found, however, in malaria, septicæmia, and miliary tuberculosis, and is far from being a pathognomonic sign.

I will not prolong the discussion of symptoms, because my object is merely to indicate the somewhat gauzy texture of ordinary diagnoses, and to point out the fact that not one of the foregoing signs is pathognomonic, that they do not permit of any positive early diagnosis, and that it is only in their grouping that they become important. Knowing that this is true, it might be expected that the profession would grasp eagerly at any new and important sign, even if it were not pathognomonic; but such has not proven the case with the diazo reaction of Ehrlich, a sign both early and constant.

In a paper read before the Minnesota Academy of Medicine, in 1893, I described both the original method of Ehrlich and my own modification of his method, which seemed to me to yield more accurate results. I intend to demonstrate this test to you to-night, and beg that you will follow me closely at this point.

The formulæ are as follows. I shall describe my own method only, as I believe that it furnishes more definite and less confusing results than in the original.

Solution A.—Hydrochloric acid, 50; distilled water, 1,000; sulfanilic acid, q.s. ad sat. This solution should be most thoroughly saturated, allowed to stand some days before being used, and shaken up from time to time.

Solution *B*.—Five-tenths solution of sodium nitrite in distilled water. Should be kept in a cool place, and black bottle, and renewed every week or ten days.

Solution *C* (test solution).—One part of solution *B*; one hundred parst of solution *A*. This solution should be freshly made for each day's testing.

Method of Applying Test.—Equal parts of the solution *C* and the suspected urine are thoroughly shaken up together in test tube, and from one to two cubic centimetres of ammonium hydrate allowed to flow gently down upon the surface. If the reaction be present, a beautiful crimson or carmine band appears at the junction of the ammonia with the mixture. Upon shaking, a pink tinge is imparted to the foam.

This test appears very simple, and no one would suppose that any serious blunders would arise in the hands of competent men. We find, nevertheless, one of the greatest living authorities upon clinical diagnosis reporting it as valueless, and omitting all mention of ammonia in his description of the test. The same error occurred in the work of a very celebrated clinician, who found it in normal urines. Another elaborate report winds up with the reference to the yellow color of the ring. Another used a five-per-cent. solution of sodium nitrite, and could not get rid of the reaction. He found it in everything. Still another used sodium nitrate. His results were naturally deplorable, and he cruelly condemned the test. Such, sometimes, is the boasted accuracy of scientific medicine.

As I test this typhoid urine, you will notice that the color is not yellow, nor orange, but red. It must be red, or there is no reaction. Now, here is the urine of pneumonia and advanced tuberculosis. The color is orange. In the first specimen, shaking produces a pink foam; in the second, no pink is to be seen. The following rules are all important:

- 1. The urine must be fresh and filtered.
- 2. The urine must be acid.
- 3. The true color is red, and when the urine is shaken the foam should be slightly tinged with pink.
- 4. The test solution *C* is to be freshly prepared each day and accurately measured. A medicine dropper and a marked test tube will insure this.
- 5. The sodium-nitrite solution must be accurately made, and renewed at intervals of a week or ten days, and be not stronger than 0.5 per cent.
- 6. The color band should be held against a white background, the light falling upon it from behind the observer. It must not be held against the light.
- 7. The exact method of procedure must be conscientiously carried out.
- 8. The test is to be made during the height of infection.

CASES TESTED.	TOTAL No.	DIAZO REACTION.	
		Present.	Absent.
Typhoid.....	64	61	3 (95%)
Malarial fever.....	4	0	4
Tetanus.....	2	0	2
Acute miliary tuberculosis...	3	0	3
Joint tuberculosis.....	4	0	4
Pulmonary tuberculosis.....	16	2	14
Septicæmia.....	4	3	1
Ulcerative endocarditis.....	1	0	1
Secondary syphilis.....	4	0	4
Erysipelas.....	2	0	2
Scarlatina.....	3	0	3
Measles.....	2	0	2
Carcinoma.....	4	2	2
Pneumonia.....	11	1	10
Rheumatism, chronic.....	10	0	10
" acute.....	5	0	5
Diphtheria.....	3	0	3
Diarrhoea.....	4	0	4
Appendicitis.....	3	0	3
Albuminuria of pregnancy...	6	0	6
Chronic nephritis.....	19	0	19
Cystitis.....	2	0	2
Urethritis, specific.....	7	0	7

CASES TESTED.	TOTAL No.	DIAZO REACTION.	
		Present.	Absent.
Oxaluria and lithæmia.....	11	0	11
Pleurisy.....	5	0	5
Pyæmic abscess of lung.....	1	0	1
Tuberculosis of prostate...	3	0	3
Necrosis of long bones.....	2	0	2
Rötheln.....	1	0	1
Syphilis, third stage.....	5	0	5
Alcoholic neuritis.....	3	0	3
Hysteria.....	6	0	6
Epilepsy.....	2	0	2
Leg ulcer, varicose.....	7	0	7
Fractures, long bones.....	5	0	5
Fractures, skull.....	2	0	2
Burns, severe.....	2	0	2
Gunshot wounds, aseptic...	2	0	2
Morphine poisoning.....	1	0	1
Sciatica.....	3	0	3
Cirrhosis, hepatic.....	2	0	2
Simple enteritis.....	3	0	3
Angio-neurotic œdema.....	2	0	2
Endometritis.....	3	0	3
Pericarditis.....	1	0	1
Meningitis.....	1	0	1
Vulvitis and vaginitis, specific.....	2	0	2
Orchitis, gonorrhœal.....	1	0	1
Valvular heart disease.....	7	0	7
Quinsy and tonsillitis.....	3	0	3
Normal urines.....	30	0	30
Varicella.....	1	0	1
Typhoid, relapse.....	3	3	0
Gastric ulcer.....	2	0	2
Acute bronchitis.....	3	0	3
Chronic constipation.....	7	0	7
Total cases.....	315		

The urines of three hundred and fifteen cases, comprising over fifty diseases, have been tested. No one of the three cases of supposed typhoid which failed to show the reaction was, in other respects, a typical case. In one the maximum temperature was only 100° F.; in another the spleen was unaffected; and in none of the three were there any rose spots. The reaction occurred in only two of sixteen cases of pulmonary tuberculosis, in one of which it was very faint. Both were cases in which the element of sepsis predominated. Septicæmia, if profound, would seem to show it, though, strangely enough, ulcerative endocarditis with markedly septic temperature curve did not show it.

The single case of pneumonia in which it occurred was an unusually rare and severe case of double pneumonia, with involvement of both apices, seen in consultation with Dr. H. P. Ritchie. Note that it did not occur in our malarias, in appendicitis, nor in miliary tuberculosis—a fact of the utmost importance in differential diagnosis. It should be stated, however, that these cases of malaria were of only moderate severity, being the usual imported variety met with in this region.

I shall also demonstrate to you the method proposed by Widal¹ to diagnose typhoid, by adding to a pure culture of Eberth's bacillus a drop of blood from a supposed typhoid. The method is simple and has so far proven to be reliable.

This patient is a convalescent, who, during his illness, presented a very typical group of symptoms. I take two cover slips and a glass slide, place a large drop of distilled water upon the slide, and stir in a bit of the pure culture taken with the usual precautions from this tube. I now draw a drop of blood from my patient, and, having sterilized my loop, take up a little of the blood and stir into the mixture of distilled water and typhoid bacilli, and drop on my cover glass. I now go through the same process with my own blood and a similar mixture placed upon another slide. We will leave them for a few minutes.

¹ Widal: La Presse Médicale, July 29, 1896. Dieulafoy: Journal des Praticiens, July 11, 1896. New York Medical Journal, August 3, 1896. Courmont, Achard, Widal, Hayem: La Semaine Médicale, July 29, 1896. Medical News, October 17, 1896.

and you will see that the typhoid blood has seriously interfered with the motility of the bacilli, which are for the most part grouped and show but little movement. The control slide will show the bacilli in rapid motion and not grouped. Widal recommends that the blood be allowed to clot and the serum used for the test, but for rapid clinical work the blood itself is more convenient and certainly proves satisfactory. The colon bacillus is said to react in the same way, and might, perhaps, be used if typhoid cultures were not at hand.

The following tests were made at the City Hospital, by Dr. H. P. Ritchie and myself, with the results as here stated:

Case 1.—W. J. M.—. Typhoid. Test of Widal made on twenty-fourth day after admission. Temperature nearly normal. Reaction present.

Case 2.—J. N.—. Typhoid. Test on fortieth day. Temperature normal. Reaction present.

Case 3.—F. D.—. Typhoid. Test on forty-sixth day. Temperature normal. Reaction marked.

Case 4.—A. G.—. Typhoid. Test on sixteenth day after admission. Reaction marked.

Case 5.—J. J.—. Typhoid (mild). Test on twenty-fourth day. Reaction present.

Case 6.—R. Y.—. Typhoid. Test on twenty-eighth day. Reaction marked.

Case 7.—Mrs. C.—. Typhoid. Test on thirtieth day. Reaction marked.

Case 8.—M. P.—. Typhoid (mild). Test on twentieth day. Reaction present.

Case 9.—Lizzie —. Typhoid. Test on sixtieth day. Reaction present.

Case 10.—M. G.—. Typhoid. Test on thirty-eighth day. Reaction marked.

Case 11.—L. F.—. Typhoid. Test on twenty-first day. Reaction marked.

Case 12.—D. D.—. Ulcerative endocarditis. No reaction.

Case 13.—Lama. Ulcerative endocarditis. No reaction.

Case 14.—G. T.—. Broncho-pneumonia. No reaction.

Case 15.—Mrs. H.—. Pyloric stenosis. No reaction.

Case 16.—Mrs. B.—. Lobar pneumonia. No reaction.

Case 17.—Mrs. S.—. Septicæmia (abortion). No reaction.

Case 18.—Diphtheria. No reaction.

Case 19.—Diphtheria. No reaction.

Case 20.—E. W.—. Gonorrhœal bubo with fever. No reaction.

Case 21.—Phthisis. No reaction.

Case 22.—Phthisis. No reaction.

Case 23.—Phthisis. No reaction.

Case 24.—Tuberculous pleurisy. No reaction.

Case 25.—Erysipelas. No reaction.

This would indicate that the method has value, though, of course, we must make many more tests before we can be entirely satisfied that the reaction is constant, and further determine the question as to its occurrence in other acute diseases. Widal states that it may be present on the fifth day, and is quite constant on the eighth or ninth.

I wish, in closing, to state what symptoms of typhoid appear to me necessary to a diagnosis, and to emphasize the importance of the two tests just described. The important symptoms are:

(a) An insidious onset.

(b) Continued fever.

(c) An enlarged and palpable spleen.

(d) The occurrence of a well-marked diazo reaction.

(e) Widal's test with the typhoid blood, if this preliminary report is verified by future work.

The occurrence of rose spots and the peculiar ochre stool are, of course, important, though less constant. Absence of leucocytosis is in favor of typhoid, and a marked leucocytosis during the course of typhoid indicates a complicating inflammation, such as pneumonia. Malaria may usually be differentiated by the finding of plasmodia in the blood of patients suffering from this disease.

The most important of these signs are the diazo reaction and Widal's test. Our tables show that if proper technique be observed, we have in the diazo reaction not a pathognomonic sign, but

(a) A constant sign.

(b) A very early sign.

When any sign is found in ninety-five per cent. of so large a number of cases as are here reported, it may certainly be called constant, and I, personally, believe that all cases of severe typhoid will show it if the test be made during the height of infection, *i.e.*, tenth to eighteenth day; and that when in a supposed typhoid the reaction is lacking we have positive proof that we are dealing with some other disease. The sign may occur before the end of the first week, having been observed upon the fourth day. The fact that it occurs occasionally in other diseases has led most of those who have reported upon the test to condemn it as valueless. This position is certainly illogical and untenable. We might as well deny the value of the physical signs of consolidation of lung tissue or albuminuria as a symptom, because they are common to many conditions; and the same argument applied to the classical signs of typhoid would leave us no symptomatology at all.

With regard to Widal's test, I can only say that if the comparatively limited number of cases reported can be taken as a fair indication, we have found something very nearly approaching the long-sought-for pathognomonic sign.

Lacking space for any extended discussion of the test at this time, I shall hope to report more fully at a later date. I am under great obligations to Drs. E. J. Batchelder, H. W. Knauff, and H. P. Ritchie, who have materially assisted me in making these tests, and venture to express the hope that this paper will serve in some slight degree to bring about the wider recognition and more general use, in this Northwest, of these clinical tests, which have to me proven both interesting and useful.

150 LOWRY ARCADE, October, 1896.

THE TREATMENT OF STRICTURE OF THE MALE URETHRA.¹

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THE object of this paper is not to give a treatise on the treatment of stricture, with a review of the current literature, but to describe the methods that I am in the habit of pursuing in the cases which come under my care, and to mention a few of the various other methods now in vogue. The treatment of strictures depends entirely upon the varieties presenting themselves.

These are classified by different authors in a number of ways, as, for example, organic, inflammatory, spasmodic, traumatic, congenital, etc. It is my object in this paper, however, to simplify as much as possible, and I will therefore speak of them only as organic and functional.

By far the greatest number of strictures are organic, and under this head I include congenital, which are

¹ Read before the Medico-Surgical Society at September meeting.

narrows of the canal, usually at or near the meatus; traumatic, due generally to a blow on the perineum, by which the bulbo-membranous urethra is caught between the impinging body and the lower border of the subpubic ligament; and the so-called inflammatory strictures, due to acute urethritis and inflammations about organic strictures.

These vary in consistence, size, position, and resistance.

In consistence they vary from an induration and thickening of the mucous membrane, with connective-tissue proliferation occurring in its depths, to the formation of a dense mass of cicatricial tissue occupying the submucous region and extending into the meshes of the corpus spongiosum.

In size, they are spoken of as being of large calibre when they admit more than a 15 F. sound; of small calibre when they admit a smaller size, and impermeable when nothing can pass through them.

As to position observers differ, many believing them to be more frequent in the bulbo-membranous region. My own experience, however, leads me to think they most frequently occur in the pendulous portion. In the bulbo-membranous region, however, they are the most serious. In fact, the gravity of a stricture is in direct proportion to its distance from the meatus.

In resistance strictures of the urethra vary greatly, some of the soft and recent ones being very amenable to dilatation, while others are so hard or unyielding that not much headway can be made without resorting to the most radical measures. The most unyielding of those in my experience have been the congenital, the traumatic, and those of long standing.

Functional strictures are simply spasmodic, and will be considered later.

When a patient who has had frequent attacks of urethritis presents himself to me, with symptoms of a chronic urethral discharge (gleet), a feeling of pain or heaviness in the perineum or back, frequent desire to urinate, dribbling after urination, a stream twisted or small, or a condition of hypochondriasis or depression, I at once suspect stricture and advise an examination of his urethra.

Examination for Stricture.—At this examination I am in the habit of directing him to pass his urine in two glasses, which is then examined for threads and to observe the clearness of the two specimens, cloudiness in the first specimen indicating urethral discharge, in the second cystitis. I then direct him to lie at full length on the table, with his shoulders elevated, and wash out his urethra with warm boiled water. After this I insert the Otis bulbous sounds, usually commencing with a 15 F.

If this passes easily, I continue to increase the size, noticing the location of the strictures, if any be present. If the meatus is too small for a complete examination and the organ is a well developed one, it would seem probable that the average calibre of the canal is greater than that of the meatus, and therefore, to make a thorough exploration, the meatus should be cut.

Meatotomy.—In performing this operation, it is my custom to use a blunt-pointed bistoury or a blunt-pointed tenotomy knife, and to cut downward, endeavoring to enlarge the opening until it can admit a 30 French sound, or even one of larger size. The incision should be exactly in the median line toward the frænum. In this operation one must cut steadily and avoid a quick, sharp cut, which might prove to be too free, thus producing a condition of artificial balanitis hypospadias.

If the bleeding is slight, I at once make an examination of the anterior urethra, postponing that of the deep urethra until the next visit. The patient is directed to wear a plug of oakum or absorbent cotton for the next three days, inserting a fresh one after

each act of micturition, and is requested to return again at the expiration of that time. At the second visit, an examination of the entire urethra is made, as at the first visit in cases in which the meatus is of ordinary size.

If strictures of moderate calibre are found, gradual dilatation is attempted.

Gradual Dilatation.—For this purpose the best method that we have appears to me to be by means of the Oberlander dilator and sounds.

The Oberlander dilator affords the best-graded instrument of dilatation which we have at present. It is constructed after the model of the curved Otis urethrotome. It is inserted with a rubber covering, and is capable of dilating strictures both of the pendulous and bulbo-membranous portions of the canal. The dial at the handle end on the upper surface registers the amount of dilatation, each point corresponding to a millimetre. The dilatation is usually from one to three millimetres at each visit. It is well to alternate with sounds, the patient calling for treatment every second day.

During a course of dilatation in these cases the utmost care should be taken to have the bladder, the urethra, and the instruments as clean as possible. The instruments should be boiled in a soda solution before being used, and should be lubricated with borated glycerin before they are introduced.

The patient should be directed to take internally the so-called urinary antiseptics while under treatment, such as salol, boric acid, or oil of wintergreen, to abstain from liquor, and to avoid exposure to cold and wet. Tobacco is also bad, as it tends to produce general irritability and hyperæsthesia. Oil of eucalyptus in ten-minim doses is considered one of the best urinary antiseptics. If there is a spasm or congestion after the passage of sounds a hot sitz bath should be taken then, or just before retiring.

The patient should always urinate immediately before each treatment, after which his urethra should be washed out with boiled water. If moderate dilatation has been accomplished in this way, or the strictures are more than 18 F. and not much progress can be made by dilatation, I am inclined to cut them if they are situated anteriorly.

If they are deep, however, I should not recommend an operation until symptoms of an annoying character develop. In this latter class of cases, I should recommend the passing of sounds at intervals, to prevent any further contraction. It quite frequently happens that after cutting an anterior stricture the deep one can be dilated. The operations for internal and external urethrotomy will be considered later. If the introduction of sounds causes irritation, the French rubber or silk bougie will often irritate less and accomplish more.

Bougies may be disinfected by soaking them in a 1-1,000 bichloride solution.

If the strictures are small, that is, less than 15 F., more care is necessary. Strictures of this size are usually of some years' standing and are often very unyielding. All strictures will, however, yield somewhat to dilatation if it is properly performed. They are, of course, too small for dilatation with the Oberlander, which is equivalent to a 19 F. sound, and therefore must be treated with either sounds or bougies. Of these the latter are preferable, as they are much less liable to lacerate the tissues, and should always be used if the strictures are smaller than 10 F. By the passage of the bougies, the strictures can generally be stretched enough to admit a dilator or a urethrotome, when further treatment may be carried out as with strictures of a larger calibre.

In other cases strictures of this size are unyielding, and operative procedures have to be resorted to, either

an internal urethrotomy, with a Maisonneuve, or an external upon a Gouley tunnelled sound or catheter.

Instrumentation in irritable strictures, which usually occur in the nervous and hyperæsthetic, sometimes give rise to pain and spasms, followed later by chills and fever. The urethral fever in these cases is often obviated by irrigating the urethra with a hot bichloride solution before and after passing the sounds, or before cutting, if urethrotomy should be decided upon. This prevents the septic element present from causing urethral fever. Eucalyptus taken internally is a valuable agent in preventing chills in these cases. A great deal of time is saved, and suffering and distress are spared if an internal urethrotomy is performed in such conditions.

Continuous Dilatation.—We now come to a class of strictures nearly impermeable, in which all the skill and ingenuity of a surgeon is brought into play, as apparently nothing can be passed through them, and yet by a little careful manipulation the passage of an instrument may be effected. In these cases the urethra are distorted by strictures, and often by pockets and false passages as well. Here the smallest instruments are brought into play, namely, the filiform bougies. If one of these can be passed into the bladder, it should be left there during the night, as thus a certain amount of dilatation is accomplished by the continuous action of the bougie and the flowing of the urine beside it, and on the following day one or two more can usually be slipped in beside it, or perhaps a small French catheter may be introduced in its place. In either case, whatever is passed on the next day, whether it is one or two additional filiforms or a small French catheter, should be allowed to remain in for another twenty-four hours. By increasing the size of the catheter or the number of filiforms daily for a few days, a sufficient dilatation will be accomplished to allow the passage of small bougies and a continuation of the treatment by gradual dilatation.

The passage of a filiform bougie through the urethra is not always an easy thing. When it is found to be difficult, if a little warm sweet oil is first injected into the canal and held for a few minutes, the filiform can usually be worked through. In case it cannot be, it should be left in place and others slipped in beside it. When half a dozen or more of these are in the canal, they should be worked about gently for a few moments, when it will be found that one will slip by into the bladder. This should be allowed to remain in over night, as just referred to. If one cannot be made to pass through the stricture in this way, but engages, it should be allowed to remain in this position for the night, as on the following day it may possibly be worked into the bladder.

In other cases, in which a filiform cannot be passed and in which the stricture is considered impermeable, but in which the patient is able to pass his urine, I am in the habit of directing him to remain in bed for a few days in the dorsal decubitus, arising only to take hot sitz baths night and morning. During this time I give him a preparation of the acetate of potassium and sweet spirits of nitre three times a day. A few days of this treatment usually reduces the congestion of the urethra sufficiently to allow a filiform to be passed.

In all these cases of so-called impermeable strictures and strictures of small calibre in which a filiform can be passed through into the bladder, the pressure of the retained bougie and the urine passing along its sides will dilate it sufficiently to allow something larger to be introduced at the next visit. If, however, it seems advisable to operate at once, a Flührer's modified Maisonneuve urethrotome can be passed over it and the stricture cut if it is in the anterior urethra; or a Gouley tunnelled sound can be passed over it

into the bladder upon which an external perineal urethrotomy can be performed if it is in the deep urethra. I do not think that Flührer's modification of the Maisonneuve is so good as the original instrument which is attached to a guide. This guide is, however, the size of a No. 4 or No. 5 French bougie, and is therefore a little larger than a filiform over which a Flührer's modified instrument can be passed. A Maisonneuve urethrotome cuts up to 20 F., which is sufficient to allow gradual dilatation by sounds of a considerable size, or a further cutting operation by means of an Otis urethrotome, which cannot be introduced into a canal smaller than 18 F.

I may here say that I do not believe in a Maisonneuve urethrotome, as I think that it lacerates the tissues, and I feel that it cannot be used safely, excepting in connection with an external urethrotomy. Perhaps an ideal case for this double operation is when there are a number of very small resisting strictures along both the anterior and deep urethra.

To reconsider what has just been said, we may assume that all soft and yielding strictures, whether anterior or deep, large or small, should be dilated; resisting strictures of large size in the pendulous portion should be cut, while similar ones of the deep urethra should be kept open and observed carefully; resisting strictures of small calibre of the pendulous urethra should be cut by a Maisonneuve urethrotome, if very small, or by an Otis urethrotome if they can be dilated sufficiently to admit it, or by both; while resisting strictures of small calibre in the deep urethra should be treated by an external perineal urethrotomy. The so-called impermeable strictures should be opened sufficiently for operation by instruments on a guide, if possible; if not, by perineal section.

Internal Urethrotomy.—In all anterior urethrotomies, my preparation of the patient is the same. He is put on salol, ten grains, three times a day for three days before the operation, to be continued until three days after. A cathartic is given on the evening preceding the operation, and the bowel is washed out just before the patient is brought to the operating-room. When he is upon the table his urine is drawn by catheter and his bladder is washed out with a saturated solution of boric acid, about six ounces of which is allowed to remain in the bladder. A syringeful of a four-per-cent. cocaine solution is then injected into the urethra from a hand syringe holding about three drachms, and is held there for five minutes to allow perfect anæsthesia of the urethra to be produced. The choice of instruments now takes place. The two instruments of to-day are the Otis and the Maisonneuve urethrotomes. The numerous others which have been invented are now in disuse. As we have observed, the Maisonneuve is the smaller of the two, and is therefore used in the cases in which the Otis cannot be made to enter.

Operation by the Maisonneuve Urethrotome.—A Maisonneuve urethrotome is shaped like an ordinary small sound, with a groove running along the entire length of its concave aspect. In this groove a small wire shaft with a triangular blade on its end is inserted, which can be slid at will backward and forward in the groove. The instrument, which is of the size of an 8 or 9 F., is attached by a screw to a guide of the size of a 4 or 5 F. bougie.

The guide is pushed gently into the bladder, followed by the staff which is attached to it until its end has reached the prostatic urethra. The penis is then held steadily in the median line slightly on the stretch, while the urethrotome is carefully and firmly held in the urethra in such a way that the groove on the upper surface of the urethrotome corresponds exactly to the space between the two corpora cavernosa. Everything being in readiness, the blade is introduced

into the groove and is then pushed down through the strictures. The blade of the Maisonneuve is triangular, with a guard on the apex of the triangle, and a cutting edge in front and behind. The object of this guard on the apex of the cutting blade is to prevent the normal tissues along the canal from being cut, as it glides along the upper wall of the urethra and only stops when it comes in contact with the stricture through which the knife passes, when the guard again slides along the smooth urethra until another stricture is encountered. It is my opinion that the Maisonneuve is not a good cutting instrument, as it is difficult to keep sharp and the guard hinders the progress of the blade. It has frequently happened in my experience with this instrument that the force used in pushing the blade of the instrument has been sufficient to push the organ out of my grasp instead of sending the blade through the stricture. It is thus easy to see that the force used would be sufficient to lacerate and contuse the mucous membrane and soft tissues about a tough stricture. When there are one or two small strictures of the pendulous portion to be cut the Maisonneuve is of undoubted service, but when the strictures are in the bulbo-membranous region it is safer to associate this operation with an external urethrotomy. In cases of anterior strictures, after cutting them with the Maisonneuve, I frequently insert an Otis and cut to a larger size.

In almost every case anterior strictures can be dilated with patience and care to a size sufficient to allow the passage of the Otis urethrotome.

Operation by the Electrolyzer.—Professor Fort, of Paris, has recently devised a means of performing urethrotomy by an instrument known as the electrolyzer. This instrument is about the size of the Maisonneuve urethrotome and very similar to it in shape. It has a guide of about the same size as that of the Maisonneuve, and the staff to which it is attached also corresponds in shape and size. The blade of the electrolyzer corresponds to that of the Maisonneuve in shape, but it differs in material, as it is made of platinum instead of steel; and in edge, as it is dull on all sides, while that of the Maisonneuve is dull at the apex where the guard is situated and is sharp in front and behind. An electrolyzer, in fact, resembles in outline a Maisonneuve with the guide and staff joined and the blade pushed well down into its concavity. The blade of the electrolyzer is connected through the shaft and handle end of the instrument with the negative pole of a galvanic battery, while the positive pole is connected with an electrode, covered with chamois, which is placed over the pubis or on the adjoining thigh.

The guide is then pushed in until the platinum blade comes in contact with the stricture, against which it is gently pressed. The current then being turned on, the dull blade glides easily through the stricture, dissolving a furrow through it in the median line. The current is then discontinued and the instrument is withdrawn or pushed in until the next stricture is encountered, when the same process is again adopted. In this way, without using any force, the platinum blade gently slides through all the strictures present into the bladder. During the entire operation the blade remains perfectly cold, and very little pain is experienced, even if no cocaine is used. The strength of the current necessary successfully to operate on these strictures is from ten to twenty milliamperes, and the time required to go through a stricture is usually from thirty seconds to four minutes. The lumen of the strictured portion of the urethra is thus brought to the size of an 18 F. sound. Afterward the stricture can be still further enlarged by sounds or by a urethrotomy with the Otis urethrotome if the stricture is an anterior one.

This operation has been performed several times in this country by Dr. Fort and also by Dr. Chassaignac, of New Orleans. It has several advantages over the Maisonneuve, namely, it does not bruise and lacerate the tissues so much; it is less painful at the time and on urination afterward; there is almost no hemorrhage, and consequently very little danger of infection, as the blood-vessels in the urethra are not left open.

Operation by the Otis Urethrotome.—An Otis urethrotome consists of a shaft made of two pieces of steel, with a groove along its upper surface; a wire shaft with a small cutting blade on its end, which is pushed along the groove until the blade disappears from sight near the end of the shaft of the urethrotome; and a dial on the upper surface near the handle, on which the amount of dilatation is registered. The dilatation is accomplished in this way: A small wheel at the end of the handle is turned. This turning separates the two pieces of the shaft, thus dilating the urethra to a size corresponding to the circumference of the opened halves of the shaft, the amount of which dilatation is registered in millimetres on the dial of the instrument. There are two forms of the Otis urethrotome, the straight and the curved. The straight is of service only in cases of anterior strictures, while the curved one could be used in cases of deep strictures in the same way as the Maisonneuve, although I do not consider it safe unless combined with an external urethrotomy.

The steps of the operation are as follows: The point of the urethrotome is pushed about an inch beyond the stricture, when the screw at the handle end is turned until the degree determined upon as that of the average size of the urethra has been registered upon the dial of the instrument, when the knife is pulled up through the stricture and then pushed back again into place. The other strictures are then approached in the same way and severed. The canal is then tested with the sounds, to see if it admits with ease the size required. I do not believe in inserting the urethrotome into the penis at right angles to the body as far as it will go, then screwing it up to the highest point possible and pulling out the blade along its entire length, as I have frequently seen done by surgeons of good standing.

Otis determines the size of the urethra in two ways, first by his urethrometer, and second by measuring the circumference of the penis. His rule of comparison is as follows:

Circumference of penis	3	inches,	urethra	30	millimetres.
"	"	"	3 $\frac{1}{4}$	"	32
"	"	"	3 $\frac{1}{2}$	"	34
"	"	"	3 $\frac{3}{4}$	"	36
"	"	"	4	"	38
"	"	"	4 $\frac{1}{4}$	"	40

As each degree upon the dial of his urethrotome corresponds to one millimetre, it is easy to see how exactly he can make the size of his urethrotome correspond to that up to which he has determined to cut. These figures of Otis are the result of careful study and long observation, and yet I am afraid to be governed by them, although I do not doubt their accuracy.

The reason why I consider these figures difficult to be accepted as a standard are: 1st. Because in turning the screw of the urethrometer it is very difficult to tell when we have arrived at the exact size of the urethra or when we have it on the stretch. 2. Because the circumference of the organ varies so much when flaccid. This depends on the amount of blood in the organ at the time and is influenced by the temperature of the room, the feeling of fear or nervousness, and many other causes.

In my own practice when a patient's urethra will

admit a 32 F. with ease, it appears to me that he has a sufficiently good canal for all practical purposes, and cases of stricture of very large calibre seldom present themselves.

After-Treatment in Cases of Internal Urethrotomy.—In several cases that have come under my observation severe rigors and a rise of temperature to 103° or 104° F. have followed. These elevations of temperature usually began after the first urination. They are not nearly so frequent now, however, as they were formerly, and this improvement I attribute to my present system of urethral antiseptics already alluded to, namely, the administration of salol for some days before the operation and the injecting the bladder with a saturated solution of boric acid just before the urethrotomy, as the urine mixed with the boric-acid solution and influenced by the salol is much less irritating and more antiseptic.

After the operation sounds should be passed on the second day if there is no fever, but if fever is present this treatment should be postponed until it has subsided. I am in the habit of passing sounds every day for the first week, every other day for the second week, and every third day for the third week.

The patient should remain in bed for two days, or longer if necessary. The results of the operation in this country are very favorable and personally I have never had a fatal case. Other observers, however, claim a mortality of two per cent., while in England and on the continent as high as four per cent. is claimed.

Hemorrhage sometimes occurs after the operation, causing a great deal of alarm. It can be controlled by simply bandaging the penis. If it is very severe, a catheter may be introduced and pressure made by bandaging the organ, thus pressing the cut urethra against the catheter.

Fever, if it does occur, is benefited by quinine, grs. x., or Dover's powder, grs. x.

Gleets accompanying stricture usually disappear after a urethrotomy, as the source of irritation has been removed.

External Perineal Urethrotomy.—This operation is usually performed for strictures of the bulbo-membranous region which require operative interference. An internal urethrotomy with a Maisonneuve could be performed in these cases, but the drainage would not be so good and there would be more danger of infection. A perineal section might also be performed. The only real difference between a perineal urethrotomy and a perineal section, as they are understood to-day, is that the former is performed with the aid of a guide, and the latter without. You will frequently hear a surgeon say he is going to do a perineal section, but if you see the operation you will find that it is really an external urethrotomy, and not a Cock's operation.

The usual indication for an external urethrotomy is the existence in the deep urethra of a stricture of small calibre not amenable to dilatation. White, of Philadelphia, has enumerated these conditions very carefully, in Morrow's "System of Genito-Urinary Diseases," the following varieties of which I may here mention briefly: Tough, fibrous strictures which will not permit of dilatation; resilient strictures, which rapidly recontract after dilatation; hard, narrow strictures, associated with perineal indurations; strictures complicated with fistulæ, in which dilatation has failed; traumatic strictures, which are almost always dense; strictures with extravasation of urine behind them; strictures complicated by perineal abscesses; strictures associated with intense cystitis; strictures in which retention of urine is present.

The preparation of a patient for external urethrotomy is practically the same as for an internal. Have

the patient on salol, ten grains, three times a day for two days before the operation, and have the bowel well emptied before he is brought upon the operating-table. When he is upon the table, if the stricture is permeable, his urine should be drawn, and he should have eight ounces of boric acid left in his bladder. If it is not permeable to an instrument and he can urinate, he should be directed not to pass his urine for five hours before the operation, as it is much easier to perform a perineal urethrotomy when the bladder is full than when it is empty. Always pass the guide before placing the patient in a position for operation. The two best positions are the lithotomy and the Edebohls'. I generally use the latter, and find it perfectly satisfactory. Instruct the assistants carefully how to hold the thighs and be sure that they attend to the support of the limbs and not to other matters. Direct the assistant holding the guide to stand on the left of the patient near his waist, that he may control it in the median line in a steady manner. Do not have the buttocks and thighs so covered with towels that you cannot see whether the patient is in an even position or not, as it is most important to have him held squarely in an even position.

The Various Operations.—There are a number of methods of performing perineal urethrotomy which I will review hurriedly.

Boutonnière, that is, the simple opening of the urethra behind the stricture as a palliative measure, or for bladder drainage. It consists merely in passing a guide through the urethra into the bladder and cutting down on it through the perineum, after which, if for bladder drainage, a tube is introduced into the bladder by way of the perineal incision.

Syme's Operation.—In this method a staff can be pushed through the stricture upon which it can be cut. This staff is called a Syme's staff. It resembles in shape an ordinary sound with a generous curve, but with the peculiarity that the lowest third is much smaller than the remainder of the instrument. It has a groove running along the convex surface of the smaller part of the staff up on to the larger part. The junction of the smaller and larger parts form a shoulder, and it is this shoulder which comes up against the distal side of the stricture after the smaller part has passed through.

Steps: The patient is placed in the lithotomy position and the staff is introduced. An incision is then made in the median line of the perineum down on to the shoulder of the Syme's staff. The point of the knife enters into the groove above the shoulder and cuts down through the stricture in the groove toward the neck of the bladder. A director or Teale's gorget is then introduced along the staff into the bladder, after which the staff can be withdrawn. A catheter is passed into the bladder through the penis along the director. If the bladder is too irritable to retain the catheter, a tube should be passed into the bladder through the perineum and held by tapes.

Gouley's Operation.—In this method a Gouley's tunnelled sound or catheter is used. The Gouley tunnelled sound is an instrument shaped like any other sound, the latter half of it being grooved on its convex surface. At the end of the sound is a bridge about one-fourth of an inch long, extending over the concavity, thus making it round in circumference, with a passage for the transmission of the filiform bougie. It is thus easy to see how the tunnel or canal of the instrument can be slipped over the filiform and the instrument can then follow it down to the stricture.

A Gouley catheter is built with the same curve as the sound, with the difference that the concave side has a canal running along its entire extent, through which the fluid may escape from the bladder. The

handle end of the instrument is not solid, and therefore not so easy to steady as that of the sound.

The urethra is filled with olive oil, and a probe-pointed whalebone bougie is passed through the obstruction into the bladder. Gouley's grooved metallic catheter staff is then passed over the whalebone bougie until its point comes in contact with the stricture, when the patient is brought into the lithotomy position and the guide held in position by an assistant. The surgeon then makes an incision through the median line of the perineum and brings the urethra into view, which he incises upon the bridge of the catheter and a short distance along its groove. Sutures are then passed through each side of the incised urethra close to the stricture, which are held apart by assistants. The catheter is then withdrawn sufficiently to bring the filiform into view. The beaked bistoury is then introduced beside the filiform, and an incision is made well through the stricture, after which the guide is pushed through into the bladder, when the operation is complete.

Wheelhouse's Operation.—Lithotomy position. The Wheelhouse staff is then passed up the urethra with the groove away from the pubes until its end touches the stricture. A Wheelhouse staff is like a straight sound with a groove on one side, the other side being intact as far as the end, where it turns up in a little knob called a button.

Steps: This is held in position by an assistant while the surgeon makes an incision down on to the groove of the staff. The urethra being opened, its edges are grasped on either side by straight-bladed nibbed forceps and held apart. The staff is then drawn up and turned so that the button end catches the upper part of the urethral incision. The incision into the urethra is then held open from three different points, and the operator passes a grooved director through the stricture into the bladder. The director is then turned so that the groove is toward the surface of the perineum, and the stricture is divided along it to its full extent. A blunt-pointed bistoury is then run along the groove to complete the division of the tissues. After this a Teale's gorget is passed along the director into the bladder and a catheter is introduced through the urethra into the bladder, where it is fastened for drainage for a number of days.

Cock's Operation.—This consists in opening the urethra behind the obstruction at the apex of the prostate without the aid of a guide. It is spoken of as perineal section or external urethrotomy without a guide.

Steps: Lithotomy position. The operator's left forefinger is inserted into the rectum and its tip pressed against the apex of the prostate. The knife, having a double-edged blade, is then thrust into the perineum in the median line of the perineum and carried toward the tip of the forefinger at the apex of the prostate until it is felt to be close to it. The incision is at times made somewhat obliquely to be sure of cutting through the urethra. It is important that the knife should not at any time be withdrawn from the wound until the posterior urethra has been opened. The probe-pointed director is then passed through the incision into the bladder, and along this a perineal drainage tube, which is held in place by means of two tapes.

Observations on the Various External Urethrotomies.—It appears to me, after reviewing the various methods of performing external urethrotomy which I have just described, that each method has been formulated to fit some particular new instrument which the surgeon has designed. I consider the Gouley tunnelled sound or catheter by far the most ingenious and practical instrument which has been devised for

operative work in the deep urethra. Compared with the Syme's staff, a Gouley tunnelled sound No. 8 is smaller than any portion of it and far more practical. It is very convenient to know that a particular stricture of the deep urethra has the shoulder of the staff engaged in it; but if we have examined the urethra carefully, we know exactly where the stricture is, and it is as easy to cut through it in the groove of a Gouley as in that of a Syme. Again, suppose that there are one or two small anterior strictures present. In such a case, unless an anterior urethrotomy were first performed, the shoulder of the Syme's staff would stick in one of the anterior strictures, far away from the seat of operation.

Again, comparing the Gouley tunnelled catheter with the Wheelhouse staff; In the Wheelhouse operation the staff is passed down to the stricture. This could be done as well with the Gouley. An incision is made into the groove of the staff through the urethra and its edges are seized with straight-bladed nibbed forceps and held apart while the staff is turned and the button end is caught in the upper part of the incision. It appears to me that it is much easier to cut down into the groove of the Gouley sound, pass retraction sutures, and then turn the beak of the sound out through the perineal opening; while regarding the other steps of the operation, passing a grooved director through the stricture and cutting upon it, with the Gouley method there would already be a guide present in the filiform, along which the incision could be made; or if a grooved director could be inserted through the stricture, the Gouley sound could be pressed through, as they are of about the same size, the No. 8 Gouley being smaller than the average director, in which case the incision of the stricture could be made in the groove of the Gouley instrument. Another point which I should like to criticise is the method of preparing for drainage in the Syme and Wheelhouse operations, which is by a catheter through the urethra, as it appears to me that the use of the perineal tube is the preferable one.

Author's Method of Operating on the Urethra through the Perineum.—After the comparative study of the various methods of performing external perineal urethrotomy, I should like to outline the one which I am in the habit of teaching. I find that most men who are practising medicine do not know the difference between the methods here described, and have not the various instruments which characterize them. It is necessary, therefore, to recommend one instrument, if possible, as the most important one, and to show how it can be best used in all cases. The instrument that I recommend is the Gouley tunnelled sound. The only advantage that the catheter has is that the stylet can be withdrawn and one can tell whether or not he is in the bladder by the appearance of urine. The Gouley sound, on the other hand, is stronger, has a handle more like an ordinary sound, and can be held more steadily and firmly in place, and is therefore preferable.

In most cases of stricture of small calibre in the deep urethra not amenable to dilatation, the small sizes of the Gouley sound can be passed. The patient then having been prepared as already described, anesthetized, and the Gouley tunnelled sound passed, he is brought into the lithotomy or Edebohls' position. There should be four assistants, if possible, one at each corner of the table to support the legs, another standing at the waist of the patient to steady the sound, and another to pass instruments and sponge. If the instrument has passed through the stricture into the bladder, it is only necessary to cut down into the groove on the convex part of the instrument. The incision should be made exactly in the median line of the perineum from the base of the scrotum to within

half an inch of the anus; as the tissues retract and the superficial perineal fascia is cut through, the sound with its groove can be easily felt. Care must be now taken not to wound the bulb of the urethra, as its bleeding obscures the field of operation. This can be caught by a tenaculum and held up by an assistant. The point of the knife can now be pushed gently into the groove and a small incision made, after which it can follow the groove down into the prostatic urethra, the sound being taken by the operator and pushed along with it. The knife should then be withdrawn and the grooved director pushed along the sound into the bladder. The gush of urine along the director shows that its end is in the bladder. The forefinger should then be introduced along the director, when the characteristic feel of the neck of the bladder will be noted. If the opening is not large enough to admit the end of the finger, a scalpel should be run along the groove of the director, first above and then below, enlarging the opening sufficiently to admit the finger. The gorget should be introduced along the director, and a large rubber velvet-eyed catheter, with thick walls, from 17 to 19 English, should be inserted into the bladder along the hollow of the gorget. The gorget should then in turn be withdrawn and the drainage tube should be drawn down to the lowest point at which it will drain the bladder, and should be pinned by an ordinary safety pin to the skin of the perineum. A little iodoform gauze should be packed into the wound around the drainage tube, and the tube should be connected by a glass coupling with a larger rubber tube which passes down into the bottom of a wide-mouthed jar, about one-quarter full of carbolic-acid solution, on the floor by the bedside. In this way, siphon drainage is established.

If the Gouley sound cannot be introduced alone into the bladder, but a filiform may be made to enter, in almost every case the tunnelled sound can be forced along it into the bladder. I do not believe in forcing a sound ordinarily, but when it is my intention to cut into the area that has been forced and drain it almost immediately afterward, I do not think that a slight laceration will do any harm, and we are sure the sound has been forced in the right direction, as it has been pushed over a guide. When, however, the sound cannot be pushed over the guide without exerting a great deal of force, if the filiform is left in the urethra and continuous dilatation is resorted to for a few days, the Gouley sound can generally be made to pass. In either of the cases, the sound having been passed into the bladder, it can be cut down upon through the perineum in the manner just described. In case, however, that the tunnelled sound cannot be made to follow the guide into the bladder, the operation can be performed by passing it down to the distal end of the stricture, opening the urethra anterior to it through the perineum along the groove in the sound and then cutting through the stricture along the filiform with a beaked bistoury, as already described under the head of the Gouley operation.

If a filiform cannot be passed through the stricture, the tunnelled sound should be passed down to the distal end and an incision made down into its groove through the perineum. Traction sutures should then be passed through the walls of the urethra on either side and the beak of the sound should be turned and brought out through the opening in the perineum and held in the median line, thus keeping the urethra open from three points. A small silver grooved director should then be inserted into the stricture, which, if it passes, can be cut down on to. If this small director cannot be made to pass, a filiform may be tried. If nothing can be made to pass through, insert the left forefinger into the rectum, with its tip against the apex of the prostate, and make an incision toward it from the dis-

tal end of the stricture. If the point of the knife is inserted into the stricture from the opening just anterior, and a sharp, quick cut downward and outward made, it will often sever the stricture so that the sound may be slipped through. If it does not, however, the incision should be made steadily toward the apex of the prostate. After cutting a little way the prostatic urethra will be entered, and a little urine will be seen escaping. Pass a director up along this stream, and it will be found to enter the bladder. The opening can be enlarged in the manner already referred to, and the operation finished as in other cases of perineal operation. This last operation is really a perineal section. In these cases the exact position of the urethra must be known, and it is important to remember that the membranous urethra passes one inch below the symphysis and three-fourths of an inch above the perineal centre.

In all operations on the perineum, hot water is of the greatest value to stop the general oozing, and should be freely used. Unless the bulb or perineal arteries are cut into, there will not be much real hemorrhage. It is thus easy to see that it is not necessary to have many special instruments to do operative work on the deep urethra. A few filiforms and a Gouley sound are absolutely necessary, while a Teale's gorget, a Gouley's beaked bistoury, and a fine silver grooved director are luxuries which are much appreciated.

Perineal operations are at times very difficult. I have often spent an hour over a difficult case, and have at times been obliged to begin an operation on one day and finish it on the next. In cases in which considerable hacking has been done without opening the strictured urethra, and in which there is quite a profuse hemorrhage, I think that it is justifiable to open the bladder suprapubically and to pass an instrument through to the proximal end of the stricture, since with guides against both its distal and proximal ends it will be an easy matter to cut through it.

These perineal operations, although at times very difficult, are usually not dangerous, and the only fatal cases that I have ever seen were those in which there had been quite an extensive urinary infiltration existing for a few days and gangrene had already set in. Bryant estimates the mortality in external urethrotomy at five per cent.

After-Treatment.—The salol, ten grains, three times a day, should be continued for three days after the operation, and the patient should be kept upon a milk diet. The dressings should be changed on the following day and on every succeeding day. The bladder should be washed out twice a day with a boric-acid solution. Forty-eight hours after the operation the tube may be withdrawn, and the bladder, wound, and tube all thoroughly cleansed with the boric-acid solution, after which sounds should be passed through the urethra into the bladder. The tube is then reinserted and allowed to remain in place for two days more, when it is again withdrawn and sounds are passed as before. The perineal tube should be left in for from four to fourteen days (generally six). After the perineal tube has been discontinued, sounds should be passed every second day for three weeks, but if the deep urethra is much distorted a catheter may be passed through the penile urethra into the bladder and allowed to remain in for a few days longer.

If hemorrhage takes place after the operation, it can usually be controlled by packing gauze into the opening about the catheter. If this does not succeed, attach a piece of gauze to the tube in the manner known as a *cathétère en chemise*, and then pack the gauze with cotton within it into the wound.

The patient should remain in bed for two weeks after the operation, and after the tube is withdrawn

should always urinate with his legs pressed tightly together until the perineal wound has healed.

Functional Strictures (Spasmodic).—These are due to spasmodic contractions of the striped or unstriped muscular fibres. They are generally situated in the membranous urethra, as spasmodic contractions of the compressor urethræ muscle, in which case they closely resemble deep organic strictures. They are due to reflex and psychical causes, the former of which are by far the most frequent and important. The reflex causes are generally situated along the genito-urinary tract, and are usually anterior strictures, contracted meatus, localized areas of urethral inflammation, vesical calculus, retention of urine, excessive coitus, etc.; but they are sometimes situated about the lower end of the bowel, as in cases of hemorrhoids, fissures, and the like. Spasmodic strictures are sometimes so severe as to cause retention of urine.

The treatment in all these cases consists in determining what the source of the irritation is and treating it by some radical means.

It is quite common to find a urethra with anterior strictures of moderately large calibre and a deep one through which a very small bougie can be passed with difficulty, in which an external urethrotomy is contemplated, and in which after a division of the anterior strictures a sound of large size can be passed through the deep one.

Remarks.—On all occasions when the urethra is under treatment for stricture, whether by methods of dilatation or cutting, urinary antiseptics should be given until the treatment is at an end.

If the meatus is much smaller than the rest of the canal, meatotomy should always be performed at the start.

Dilatation is always to be preferred to cutting operations, if the strictures will yield to this measure.

In continuous dilatation in very small strictures we have a method which produces the most satisfactory results if used with patience and care, and it should always be tried in the beginning either to enlarge the urethra sufficiently for gradual dilatation or for the introduction of a good-sized guide if an operation is contemplated.

In performing gradual dilatation, an Oberlander dilator is the best instrument that we have, and I do not think that its use is sufficiently appreciated in this country.

The surgeon should never promise to cure a stricture by dilatation, as there is always a possibility of his failing, in which case a urethrotomy must be resorted to.

In cases in which a filiform has been passed through the urethra with difficulty, it is not advisable to pass a tunnelled sound over it unless it is to be followed by an operation, as the tissues are liable to be lacerated by such a procedure.

When an operation must be performed on an anterior urethra, if the stricture is very small a urethrotomy with a Maisonneuve urethrotome is usually advocated. This is a method that I am not particularly in favor of, for reasons already mentioned, and I believe that an operation by means of a Fort's electrolyzer in such cases will be found much safer and less harmful. It is argued that the formation of cicatricial tissue follows an operation by this instrument, but, as cicatricial tissue is present in the stricture before the operation, I do not see that the argument has any force. At any rate, the object will have been accomplished, that is, the urethra at the strictured portion will have been made to admit an 18 F. sound, whereas before the operation it could perhaps have admitted only a 4 or 5 F.

If the anterior stricture is larger than an 18 F. in size, I should recommend the Otis urethrotome as a

safe and useful cutting instrument, as the results of an internal urethrotomy by this means are usually very gratifying.

In operating by the perineum, a Cock's operation should be avoided, if possible. Regarding the various perineal urethrotomies that have been alluded to, I do not think that any one of the methods by the different instruments described will be found useful in all cases, and I believe that the general advice given by me in this article will be of great value, that is, of using the tunnelled sound or catheter as a guide. The other instruments are useful, and in the hands of a specialist may be employed in various cases, but for the general surgeon who is called upon to perform an operation of this nature the tunnelled sound and a few filiforms will be of the greatest value.

I do not believe that in the very small strictures of long standing in which a dense mass of cicatricial tissue is present any one operation will cure the case, and think that in such cases after an operation the urethra should be kept under constant observation for the remainder of the patient's life, to prevent a recurrence of the gradual chain of bladder and kidney complications which are apt to follow. One of the most important pieces of advice that I can give is never to perform a perineal section without a guide unless absolutely forced to do so; and when a guide is employed, the larger the better. It appears to me that the surgeons of to-day are too anxious to cut. There seems to be a certain fascination about doing a section. But we should not be governed by this, but should at all times perform the quickest, surest, and best operation for the patient, whether in a hospital or in private practice.

23 WEST FIFTY-THIRD STREET.

THE HIGHER AIMS OF DERMATOLOGY.*

BY A. R. ROBINSON, M.D.,

NEW YORK.

GENTLEMEN: My first duty after welcoming you to this meeting is a sad one. Since our last meeting this association has suffered the loss of one of the oldest, ablest, worthiest, most active, genial, and courteous of its members;² and, judging from report and conversation, each one of us, I am certain, regards and feels our general loss as a distinctly personal one also. To some of you he was an old and well-known and well-proven friend; to all of us he was an honored and admired colleague, whose absence from our meetings will be sadly felt. As your president I have asked one of his closest friends, Dr. Duhring, kindly to prepare such an obituary notice as could form a part of our proceedings and be incorporated in the printed transactions. It is for the association to decide what further action shall be taken concerning our late friend and colleague, Dr. Wigglesworth. Let us hope many meetings will be held before another such a loss occurs in our ranks.

Gentlemen, the honor you have conferred upon me, by electing me to the presidency of the American Dermatological Association, is, I assure you, fully appreciated by me; and it was my intention to give a token of that appreciation by carefully preparing, according to my ability, an address suitable for this occasion and worthy of your attention. With that object in view, I read, several weeks ago, all the addresses given before this association since its foundation, but found the ground had been so well covered by my predecessors that no untrodden, unworked area,

* President's address delivered at the annual meeting of the American Dermatological Association, held at Hot Springs, Va., September 8, 9, 10, 1896.

² Dr. Edward Wigglesworth.

inviting or requiring consideration, arose before my mental vision.

After further consideration, and especially after thinking over the brilliant address of our late lamented member, the idea was formed that to continue the historical description up to date of the struggle of dermatology for due recognition in America, as given by Dr. Wigglesworth: to describe its present position among the other branches of the medical tree; and also, peering into the future, to consider the lines of study and action most suitable for a proper increase and extension of our influence in territory rightfully belonging to us—territory we have not only discovered but in which we are the active workers, and have settled and cultivated almost everything that has been settled and cultivated—would be acceptable to you. I hope to make it clear, not to my colleagues, for you all know it already, but to the rest of the medical profession, that this territory is of much significance to the human race; that cutaneous diseases are much more numerous, complicated, and serious than is generally believed; that not a few of them are not alone annoying or humiliating, but dangerous to the life of the subjects of them; and that only those who are able to diagnose and understand their nature and course, as far as our present knowledge permits, should undertake their treatment.

At the present time dermatology as a specialty does not, in my opinion, hold the position it should in the eyes of the general profession, considering the magnitude of the subject and the importance of a knowledge of cutaneous diseases. There are reasons for this condition of sentiment, and I hold it possible for dermatologists to bring about a great change in this matter. One reason is the "dark-age" position of the medical schools toward the subject of diseases of the skin, as well as toward other important subjects—as diseases of the eye, etc. Almost every medical school acts on the absurd plan that internal medicine, obstetrics, and general surgery are the only subjects, from a clinical standpoint, worthy of serious consideration and study, and necessary for a student to know something about in order to obtain a diploma entitling the recipient to practise medicine and surgery in all its branches and certifying to his ability to do the same. It is necessary (sometimes) for graduation that the candidate should know the names and mutual relations of the deep muscles of the back; that he should be able to give the surgical anatomy of the parts concerned in the operation of œsophogotomy, and to describe the several steps of the operation; to give symptoms and pathology of Addison's disease, of Asiatic cholera, or of some disease limited to a foreign country. He is required to study diseases he will probably never be called upon to treat, and if he should would have plenty of time to read about—and yet he is not required to know the diagnosis and treatment of purulent ophthalmia, cutaneous epithelioma, or syphilis! Does it not seem strange that the plan of medical education has not yet reached a common-sense, economic basis? In no other branch of science is such a defective, absurd, and morally wrong method followed. If it be true that the diligent and bright student should have a degree at the end of four years of study in a medical college, a view with which I entirely disagree, his training should be so regulated as to give the best basis for independent study after graduation. As far as the practical subjects are concerned, he should be drilled in those diseases only with which he is most likely to be brought in contact, and particularly in those of such serious character as to demand active and correct treatment. He should be informed beforehand of the subject he is expected

thoroughly to study and will be examined in, instead of requiring him to grind into his inexperienced and confused head the contents of a large volume or of two volumes on internal medicine—an utter impossibility; there is even great probability that the author himself, if subjected to the usual "catch" examination, would not receive a fifty-per-cent. marking for his attempts to answer the questions. By such a curriculum he could study properly such subjects as auscultation and percussion, diseases of the heart, lungs, kidneys, digestive tract, etc., and establish a basis in that department upon which he could build after receiving his diploma. The same method in the selection of subjects would be proper as regards surgery and the other departments of medical science. No graduate in arts, not even the honor graduate, is expected to know all of mathematical subjects that is known; but his studies are so arranged that he can subsequently continue the study of his subjects without the aid of a personal teacher. So, also, the medical student who receives a degree entitling him to practise medicine and surgery in all its branches should pursue selected subjects and have such a basis of knowledge in all the branches that he can with advantage continue unaided to study for the rest of his professional life; at the same time his first patients in special departments would be likely to receive more or less correct treatment. If this result cannot be accomplished with four years' study, then no medical college has the moral right to graduate its students at the end of that period. It has no right to declare under seal a person to be fairly capable of treating serious diseases of common occurrence, unless he has been taught and has learned to recognize and treat with more or less skill such cases.

To return to the subject of dermatology: It is a glaring fact that, with the exceptions already noted, in no college in this country do the students devote the time they should to obtain any useful knowledge of the subject of skin diseases. It is true that many of the colleges have professors or lecturers of dermatology; but the classes are too large to be handled to advantage, the lectures are too few in number, and the students rarely devote any time to the study of the subject, as even a smattering knowledge of it is not necessary in order to obtain a diploma. The consequence of all this is that the young graduate does not know how to diagnose the most common skin disease, and, therefore, is unfit to treat it, and certainly is not justified in any sense in accepting a fee from a patient for treatment, especially when there are other physicians within easy reach who, from study and experience, can diagnose the disease and treat it according to recognized proper methods.

These remarks are meant to apply especially to physicians in cities, where specialists can be consulted, either at their private offices or at the clinics or dispensaries. If practising in the country, I think the physician should tell the patient that his knowledge of skin diseases is limited, but that he will treat the case, as he thinks he can benefit him, and certainly can do better for him than if he resorted to advertised "cure-all-skin-diseases" nostrums. Even in this case, if the physician cannot exclude in his diagnosis such diseases as epithelioma, lupus vulgaris, etc., he should write or send the patient to some specialist for assistance. If he writes, and the patient is not a pauper, but one from whom he receives money for his services, he should not forget to enclose a proper consultation fee. I mention this, as it is a notorious fact that physicians very rarely think of rewarding a specialist for advice obtained by letter; and this is most unfair, as the task of answering such letters usually consumes considerable time, and is, furthermore, a consultation, and should be regarded as such. I have no doubt you

¹ Harvard is an exception, and the University of Pennsylvania, I understand, intends to follow in Harvard's footsteps.

all, like myself, receive a great many such letters every year, and much time is taken up in considering and writing a suitable reply. This complaint is directed more to the older, so-called established physician, than to the one who has just hung out his shingle. Of course, if the case is one of charity, we are always willing to contribute to the relief of such sufferers, without money and without price.

I do not believe that dermatologists make known through the proper channels—the medical profession—our convictions upon this subject of the moral duty of the physician toward himself and his patients in the practice of medicine. A physician should appreciate the fact that, if he intends to practise the art in any special department in addition to internal medicine or surgery, he is not qualified to do so unless he has studied the special subject, under a capable teacher, a sufficient length of time to acquire a fair knowledge of it. That this knowledge is not obtained at the regular undergraduate schools, is easily demonstrated, as far as the subject of dermatology is concerned. Since the opening of the New York Polyclinic I have lectured to at least three thousand physicians, who have come from different parts of the country to take a post-graduate course. Of this number, not one per cent. were able to diagnose the different cases of eczema presented at the clinics, and such diseases as lupus vulgaris were an enigma. In England there is a special diploma in medicine and a special diploma in surgery. This, I believe, was a step in the right direction, and sufficient for the time when it was instituted. At the present day the subject of medicine is too large for the mental grasp of a single individual, especially if he has to earn his daily bread by the practice of his profession. The time has come, I believe, when colleges should separate, to a certain extent, the different well-recognized branches of medical science, and grant special diplomas or certificates to those who have given special attention to and shown special knowledge in a particular branch, in addition to the ordinary degree of doctor in medicine. Of course, a fair knowledge of general medicine and surgery should be required, just as the graduate in surgery in England must also pass an examination in internal medicine. As the country is greatly overstocked with physicians, necessitating considerable "hustling" with a large percentage of them in order to increase their incomes, and the colleges continue to manufacture them in increasing numbers each successive year, such a system would, in time, result in benefit to the afflicted, as they would probably learn to seek the advice of a physician according to the character of his extra diploma and the supposed nature of the disease. As a final result, owing to the increased attention given to special subjects, the poor and middle classes would probably cease flocking to dispensaries and clinics, as they could receive private treatment by a partial specialist for a fee within their means—and that, up to the present time, they cannot get, and so should not be blamed for seeking free advice at a clinic.

Until the above-sketched plan of teaching and graduating is followed, or dermatology accorded its proper place in medical schools, we must not without protest allow the recent graduate to imagine that he is justified in treating any skin disease except those he has learned to diagnose. By such action we might encourage him to pursue his studies further before commencing private practice, or combine both practice and post-graduate studies.

While we can quietly and honestly impress upon the recent graduate the necessity for further study, and the fact that he should regard the four years of under-graduate study as only preparatory to studies necessary to enable him to do justice to his patients, we must be more aggressive with the "old practition-

er," the "established" physician, especially in a city—he who grasps all but refuses to devote the time to such post-graduate instruction as would enable him to treat the ordinary run of office cases. I have always strongly advised the general practitioner in the country to take a six-weeks' course every second year, at one of our post-graduate schools, upon one or two special subjects each time. There is statistical proof that many physicians have followed this plan within the last few years, and they are a credit and a worthy example to the profession. They learn the difficulties of diagnosis, in skin diseases for instance, and to appreciate more fully the importance of the subject and the value of an expert opinion in many cases before resorting to that reputation agent, the knife. Post-graduate schools are the great teachers of the importance of the special departments in medicine. Under post-graduate instruction is included, of course, instruction from whatever source, whether in schools founded for that purpose, or in connection with an undergraduate school, or from a private teacher, such as our old friend, the "docent" in Vienna, or from medical books and journals. The "complete" specialist must draw from every source, and should not only study in America, but also in Europe; and the "would-be" dermatologist must remain long enough at the medical centres to learn the views of the different teachers, as well as see a large number of cases of skin diseases. In addition, he should not fail to devote for subsequent aid considerable attention to internal medicine and nerve diseases, even if he does not practise outside of pure dermatology.

The surgeon invades our territory almost as much as the general practitioner, and if he has not shown us as much consideration as we feel he should, it is, to a great extent, our own fault. We have not impressed him as much as we should with the real value of our opinion in consultation in a wide range of cases. He treats a good many diseases which we think belong more properly to dermatology, although the border line is often not well marked. Be that as it may, I think the surgeon should recognize the fact that unless he is thoroughly familiar with all the manifestations of syphilis, for instance, he should have a consultation with a dermatologist rather than with a surgeon, if he be in doubt as to whether a certain case be one of sarcoma, lupus, tuberculosis, or syphilis. We are all liable to make an incorrect diagnosis sometimes, but I have seen—we all have seen—a goodly number of unnecessary surgical operations and much mutilation produced in cases easily to be diagnosed by a skilled dermatologist. Most excellent and learned surgeons have performed serious operations with the view of removing a malignant growth, when iodide of potassium would have very quickly accomplished the same result. As the internal-medicine expert should be called in consultation by the surgeon in a suspected case of appendicitis, so the dermatologist should be consulted by him before operating upon a rectum for a supposed sarcoma, or removing a jaw for suspected cancer, or a testicle for supposed tuberculosis. A small lesion situated upon some other part of the body, a lesion to be diagnosed, perhaps, only by a skilled dermatologist, will often give a clew to a correct diagnosis of a tumor situated, say, in the jaw, tongue, or rectum. Who should be so capable of diagnosing a cutaneous epithelioma at its earliest stage, at a period when correct treatment offers such excellent results, as the physician familiar with all the forms of cutaneous disease? And who should be able to treat such a case more efficiently and with less resulting deformity than he? The dermatologist, with his knowledge of the anatomy and intimate structure of the skin, should usurp his real province in all cutaneous diseases, and obtain the legitimate results of

his special studies and knowledge therein. The general profession should learn, through our discussions and publications, that the study of cutaneous diseases is a large subject, and a comprehensive knowledge of it is obtained only after many years of diligent study and observation. Few physicians in a city think of invading the field of ophthalmology, and the same should be the case with our specialty, for it is an equally important one from every point of view. If we do justice to ourselves and our subject, the medical schools must and will, finally, give us rightful recognition, and the general physician and surgeon will cease thinking that any one can treat skin diseases and that a consultation with a dermatologist is only necessary "after all other means have failed."

By the term specialist, as used in this address, I mean a physician specially skilled in dermatology. A specialist—that is, one who devotes himself to the practice of only one subject—is not necessarily a specialist in the sense of the term as used by me, for such a one may, after all, not possess special knowledge of the subject. A physician, also, may be a learned specialist in more departments than one. That is not unusual, and even in widely separated subjects, such as dermatology and ophthalmology, or surgery. So, also, one may be an expert in the treatment of a limited number of diseases in a special department, without being a specialist in the whole subject; for instance, a surgeon may be an expert in abdominal surgery, and not in brain surgery or surgical diseases of the rectum.

It is, in reality, a question of brains, time, and opportunities; but there is a limit, and, as a rule, two special departments make the limit. And they should be somewhat related subjects, as internal medicine and dermatology, and not genito-urinary surgery and dermatology. In some places of study, one can see more dermatological cases in three months than in others in a year; and many physicians live a much longer medical life than others during the same number of years, by sticking closely to their studies and avoiding engagements, and limiting the hours devoted to sleep and meals to a physiological number. A great deal of time can be saved and utilized in this way, and if devoted to a second subject may lead to special knowledge of it. Personally I believe every physician should devote several years to post-graduate studies before commencing private practice on his own responsibility.

The time is long past when it was thought there were only three kinds of skin diseases—one sulphur would cure, another arsenic would cure, and a third the devil couldn't cure. The time should now be past when any physician is entitled to think he can treat any case of so-called eczema. The profession should learn that only a skilled expert can diagnose correctly the kind of eczematous inflammation present in a given case, and understand the cause and processes at work, and treat them intelligently and in a manner the patient has a right to expect. When all these things are learned—and we are the individuals who should teach them—then those afflicted with cutaneous disease, including syphilis, will receive proper treatment from skilful hands. Then we will see students anxious to attend colleges where dermatology can be learned; there will be special wards for cutaneous diseases in our public hospitals and private hospitals will be erected, such as now exist for other special branches, such as diseases of the eye; our not over-ethical nor over-scrupulous medical journals will not contain advertisements of some preparation warranted to cure all skin diseases, or be filled with formulæ for the treatment of eczema, pruritus, etc., for such advertisements on their very faces would bear the stamp of humbug

to the educated physician. To bring about this result, we must simply be properly aggressive in our writings toward notorious offenders, and by our studies and works show the great importance of a knowledge of our specialty for the relief of human suffering.

The above outspoken remarks are not intended to apply to all physicians, as they would not be true as regards the very considerable number of the profession who make a point of referring to some specialist all cases they do not feel fairly competent to treat. All I have said is intended to aid the advancement of medicine, both in its moral and scientific aspects.

I believe all publications representing original work, and equivalent to a contribution to existing knowledge, should be published only in a journal devoted to the specialty. The same is true of reports of meetings of dermatological societies and reports of unusual cases of skin disease. If this were done, it would, at a small expense, be possible for the dermatologist to keep track of the only literature upon the subject worth reading. Other articles, not representing contributions to existing knowledge, but intended to teach the general practitioner, should be printed in journals devoted to general medicine and not to dermatology. Such papers, when written, should be devoted to a discussion of diseases with which the general physician supposes himself to be capable of diagnosing and treating, as acne vulgaris, etc.; and even then the difficulties of diagnosis should be emphasized. Papers of this kind, or such as deal in a general manner with cutaneous diseases, may and should be written with the object of drawing attention to the knowledge and experience required for the proper recognition and treatment of these affections; and, as they can reach the general profession only through the columns of a general medical journal, that is the proper organ for their publication. At no time and on no occasion should a paper be read or published for the purpose of advertising the author, and yet I am afraid such things have occurred and will occur again. We should keep a lookout for such "dermatologists"—they may some day apply for admission to our association.

I believe it to be the duty of this association to guard the interests of dermatology in America and to maintain a membership herein. A membership should be the goal of every true dermatologist in this country, and when such a one has earned by his labors and character a fellowship with us he should be admitted, irrespective of personal feelings. We should watch the medical course of possible aspirants, read their articles, and observe if the quantity and quality are proportionate to the subject or subjects discussed. A scribbler who writes for notoriety and keeps the printing-machine busy is not likely to bring us much credit, and should not have a 16 to 1 chance for admission. I would suggest a very careful consideration of all candidates proposed for membership, and trust no one will propose a name merely because he was asked to do so or because he is a personal friend of its bearer. The more select the membership, the more honor to be admitted a member. I see danger ahead if much caution is not exercised.

I hope the innovation this year, of devoting considerable time to an exhibition of drawings, colored and uncolored photographs, instruments, microscopical sections, will be regarded favorably by the members. I am a warm believer in great mutual benefit from such exhibitions, and think that the reading of papers upon subjects specially adapted for general discussion and requiring only clinical observation, together with these exhibitions, should be the leading features of our annual meetings. Such an arrangement would make our meetings have more the character of clinical demonstrations than of didactic lectures, and more in-

accordance with modern ideas of teaching: for, after all is said, we meet not alone to enjoy each other's fellowship and guard the dignity of dermatology, but also to learn anything that is new and worthy of knowing.

THE EFFECT OF EARLY OPTIC ATROPHY UPON THE COURSE OF LOCOMOTOR ATAXIA.

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It has long been observed by neurologists and ophthalmologists that individuals who develop, without assignable cause, an atrophy of the optic nerves may, after a considerable period of time, begin to have lightning pains, or may become ataxic, or present other of the classical symptoms of locomotor ataxia. Although typical tabetic symptoms have been delayed for as long as nineteen years, the failure to discover any other cause for the optic atrophy and the frequency of occurrence of this symptom in tabes lend probability to the assumption that in such cases the atrophy was the first manifestation of the systemic degeneration, and that during the interval between the occurrence of atrophy and the beginning of the spinal symptoms the disease was quiescent.

The following case, which recently came to the Vanderbilt Clinic, has no symptoms of locomotor ataxia, except blindness and loss of knee jerk, although other tabetic symptoms will undoubtedly develop eventually: Man, aged thirty-six; syphilis denied. One year ago he became blind in the left eye and soon after in the right. Knee jerks absent; double optic atrophy; no pain; no Romberg symptom; no sensory changes; no crises; no oculo-motor paralyses.

The proportion of these "primary" optic atrophies which eventually develop tabes to those which do not is not accurately determined. Gowers states it to be about fifty per cent. The fact that optic atrophy may be an early symptom in general paralysis of the insane was illustrated by a case which recently came to my notice. There was nearly complete blindness, but the mental and physical symptoms of paresis, though unmistakable, were not far advanced.

Benedikt was the first to attribute to an initial optic atrophy a postponing influence upon the development of the other symptoms of locomotor ataxia; and he went further, and formulated the statement that in many cases of tabes in which atrophy of the optic nerves was an early symptom the character as well as the course of the disease would be changed. Symptoms sufficient for a recognition of the trouble might develop, but ataxia and pain would not occur. He also maintained that if the atrophy took place after the disease had become symptomatically characteristic the occurrence of blindness would be accompanied by an amelioration of the spinal symptoms. Déjerine indorses Benedikt's first proposition, but does not agree that optic atrophy, occurring after the disease is developed, will be followed by any improvement of the spinal symptoms. Since the appearance of these earlier articles, the subject has received attention from Berger, Walton, Martin, Pershing, Buzzard, and Déjerine. Martin's is the most valuable of these contributions, as it embodies the results of careful examination of twenty-one cases in which locomotor ataxia was surely present, and in which optic atrophy was the first (in six cases) or among the first symptoms. In three of these patients the pains did not appear until seventeen, eighteen, and nineteen years, respectively, after the blindness. In eleven cases the pains were diminished after atrophy occurred; ataxia was present

in six cases, but developed in one only, after the atrophy was established. But it will be seen from these studies that optic atrophy, as an early symptom, may be speedily followed by ataxia, and that the pains do not necessarily disappear when the blindness comes. Thus the position that initial optic atrophy will invariably retard the appearance of spinal symptoms is no longer tenable.

These results of Martin's accord in many ways with observations of my own; but as the subject, which is of considerable importance to neurologists, has received little attention, I have been led to record the cases of locomotor ataxia which are accessible to me, and most of which I have personally examined, in which optic-nerve atrophy was the initial or an early symptom. I am indebted to Professor Starr for his kindness in permitting me to utilize the records of the Vanderbilt Clinic for this purpose. Of the one hundred and twelve carefully recorded cases which have come to the clinic in the past few years, seven have given symptoms of optic atrophy as an early symptom. It is greatly to be regretted that in three of these an ophthalmoscopic examination was not made, but, as the examination of the pupillary reflexes necessitates close observation of the eye, I think it fair to assume that in these cases the blindness which involved both eyes was due neither to cataract nor to corneal opacities, of which no mention is made in the history, but in all probability to an atrophy of the optic nerves.

In addition to the seven clinic cases, five of the eighteen cases of tabes at present under my care at the Hospital for Incurables, give a history of early atrophy, which has been verified by ophthalmoscopic examination.

I have to thank Dr. Gomez for his kindness in undertaking the ophthalmoscopic examinations.

The cases are as follows:

CASE I.—Male, fifty-three years; has had syphilis. The first symptom was a failure of sight, which came on five years previously. There never were any pains. Knee jerks absent; inco-ordination; girdle sensation. Eyes: Pupils do not respond at all; totally blind in the left eye; can distinguish light only in the right.

CASE II.—Male, aged thirty-eight; syphilis denied. The first symptom was failure of sight, which came on two years previously. Never any pain or ataxia. Numbness of hands and feet; knee jerks absent. Eyes: Argyll-Robertson pupils; left eye totally blind; right eye very much impaired.

CASE III.—Male, forty-seven years; probably has had syphilis. The first symptom was failure of sight, which came on one year previously. Knee jerks absent; ataxia of arms and legs. Never any pain. Eyes: Advanced optic atrophy.

CASE IV.—Male, forty-five years; syphilis denied. The first symptom was dimness of sight, which came on three years previously. Ataxia began in third year of disease; there were very slight pains at first, none since. Knee jerks absent. Eyes: Right, pupil wider than the left; left, external strabismus, totally blind.

CASE V.—Male, aged forty-two; syphilis denied. The first symptom was dimness of vision. No pain; no inco-ordination. Knee jerks: Left, absent; right, present. Eyes: Argyll-Robertson pupil; double optic atrophy.

CASE VI.—S. D.—, female, aged fifty-five; syphilis denied. The first symptom, six years ago, was paræsthesia in legs and feet, followed by sharp shooting pains in the back and legs, which lasted one year. One year ago sight began to fail, and she became totally blind in six months. No ataxia; no Romberg symptom; no loss of sense of position; knee jerks absent; areas of cutaneous anæsthesia. No severe pain now, but paræsthesia in legs and back. Slight incontinence. Eyes: Pupils unequal; respond slightly

during efforts at accommodation, but not to light; almost totally blind; double optic-nerve atrophy; no oculo-motor palsies.

CASE VII.—G. K.—, aged forty-nine; syphilis denied. The first symptoms, seven years ago, were interference with gait and shooting pains in the thighs and legs. Six and one-half years ago eyesight began to fail in the left eye, and about one month later the right eye became affected; was totally blind in six months. At present, ataxia of legs and hands; cannot walk; loss of knee jerks; retention of urine. Pains less severe than before and trouble the patient very little. Eyes: Paralysis of the left internal rectus; pupils unequal; loss of pupillary reflexes; double optic-nerve atrophy.

CASE VIII.—A. M.—, aged fifty-six; syphilis uncertain. The first symptom, twenty-four years ago, was swelling of the right knee-joint, which was operated upon for "dropsy." This knee is now a typical Charcot joint. Sixteen years ago sight began to fail, and total blindness was established in one year. Could work very well until six or seven years ago, since which time ataxia in legs became so marked that walking was impossible. Never any pain, except local pain in the right knee-joint. The patient is now a perfect example of advanced locomotor ataxia—blind and bedridden, with retention of urine, loss of all reflexes, and areas of cutaneous anæsthesia. Eyes: Totally blind; pupillary reflexes, absent; bilateral third-nerve paresis, with double external strabismus and atrophy of both optic nerves.

CASE IX.—W. W.—, aged fifty-five; syphilis thirty-six years ago. The first symptom, three or four years ago, was inco-ordination of legs. One year ago he began to lose sight, and now is totally blind. Never any pain. Gait very ataxic. Loss of sense of position; hands not involved. Knee jerks absent; sphincter control retained; no changes in sensation; Romberg symptom. Eyes: No pupillary reactions; totally blind; double optic atrophy; no oculo-motor palsies.

But no rule is without its exception, and that an initial optic atrophy may very speedily be followed by other characteristic and serious symptoms of locomotor ataxia is positively proved by the three cases which follow:

CASE X.—W. F.—, aged fifty-five; syphilis probable. The first symptoms, in 1891, were sharp shooting pains in the back and legs and difficulty in walking. About one year later, began to lose sight; the left eye was first affected, and was totally blind in one year. Pains increased in severity with the occurrence of blindness. Now very ataxic; cannot walk. Pains not very severe. Eyes: No pupillary response; double optic-nerve atrophy; bilateral third-nerve paresis, with double external strabismus.

CASE XI.—Male, forty-nine years; has had syphilis. The first symptom, occurring three years previously, was dimness of vision. This was soon followed by sharp shooting pains and ataxia. Knee jerks absent. Eyes: Argyll-Robertson pupil; beginning optic atrophy.

CASE XII.—Male, aged thirty-two; has had syphilis. Symptoms, consisting of dimness of vision, pains, and ataxia, came on simultaneously one year previously. Knee jerk absent. Eyes: Optic atrophy.

A summary of these twelve cases shows that in nine the early development of optic atrophy had an apparent inhibitory influence upon the evolution of the disease, especially as regards pain, which either developed not at all, or was slight, or became less severe when the atrophy began. Ataxia failed to develop in three of these nine, but was present in the rest, and in some was very marked. When pain and ataxia both were absent, there were, in addition to the optic atrophy, sufficient symptoms to justify the diagnosis of tabes.

In four of the cases cited there were present oculo-motor palsies, affecting chiefly the third pair.

The last three cases of the series demonstrate very positively that locomotor ataxia may develop in its characteristic form in spite of optic atrophy as the initial symptom.

It is unquestionable that in some but by no means all cases of tabes early optic atrophy exercises an apparently inhibitory influence upon the evolution of the disease. Why this should be so it is impossible to conjecture, and we are obliged to be content with the ability to hold out to patients in whom optic atrophy is an early symptom the hope that the disease will pursue a mild course in other directions. It is possible that more extensive statistics, based upon the systematic observation of patients who develop primary optic atrophies, will alter our present views on this subject. Widely different results have been obtained by different investigators in regard to the symptomatology and etiology of this sensory systemic disease.

As an example of the latter fact may be cited the assertion, made by high authorities, that aortic insufficiency, directly dependent upon the syphilitic or tabetic process, is the commonest complication of the disease. Some investigations of my own tend to contradict this opinion; and in three hundred cases of Erb's, reported by Leimbach, in which the heart was carefully examined, only three presented any evidences of aortic leakage.

Again, Erb's statistics show that optic atrophy occurs in 6.75 per cent. of the cases, while Déjerine says that of one hundred tabetic patients under his care eighteen were completely blind from an early atrophy of the optic nerves.

Thus more extended attention than the influence of the optic-nerve atrophy has obtained will be necessary before it can be definitely determined just how far and how frequently the disease may be modified by the occurrence of any initial individual symptom. There is at present a man, aged thirty-five years, syphilitic, under my observation, who for two years has had retention combined with occasional incontinence of urine. He has the Argyll-Robertson pupil and no knee jerks, and there is no discoverable local cause for the urinary symptoms. The man, in my opinion, has had locomotor ataxia for two years, yet he never has had either pain or ataxia. It would not be justifiable to infer that the bladder trouble had caused a delay in the evolution of other symptoms. So it may be with any individual initial symptom. And with early optic atrophy we would be on the safe side if we limited ourselves to stating that, from the present knowledge of the subject, in a considerable proportion of the cases of locomotor ataxia in which atrophy of the optic nerves is an initial or early manifestation some of the spinal symptoms may be late in appearance or may not develop at all. So that the only justifiable conclusions from present data are that:

1. In about seventy-five per cent. of the cases of tabes in which optic atrophy is an early symptom some of the other tabetic symptoms may be late in appearing or may not develop at all. This is especially the case in respect to the lightning pains and the inco-ordination of movement. The loss of knee jerk in such cases is very constant.

2. The most distressing symptoms may develop simultaneously with or immediately succeed the blindness.

3. The association with the optic atrophy of oculo-motor palsies is without prognostic significance.

4. The subject will receive its best elucidation by the observation, over long periods of time, of patients with "primary optic atrophy."

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 60 WEST FIFTIETH STREET.

Progress of Medical Science.

Magnan's Sign in Chronic Cocainism.—Dr. Ribakoff (*Gaz. d. Osp. e d. Clin.*, August 4th) has had occasion to observe a couple of cases of severe chronic cocainism, in which Magnan's sign was the predominant symptom. This is a hallucination of the cutaneous sensibility, characterized by the sensation of a spheric foreign body under the skin, varying in size from a grain to a nut. This sensation is peculiar to this intoxication, and its differential value should be more generally recognized.

Chlorosis no Contraindication for Marriage.—Dr. Grosset (*Thèse de Paris*, 1896) discusses this subject, and concludes as follows: 1. The physical and spiritual excitement which marriage offers a chlorotic girl can have only a favorable effect upon her disease. 2. The sterility of chlorosis is only a temporary one in most cases, the rare instances of infantile genitals being excepted. 3. Chlorosis does not predispose to abortion. 4. The children of a chlorotic woman are likely to be chlorotic, but they seem to show little tendency to become tuberculous.

Etiology of Peritonsillar Abscess.—Dr. Logueki ("Beiträge zur Aetiol.," etc., *Arch. f. Laryn. u. Rhin.*, Bd. IV., Heft 2) says that abscess in this region presents itself usually under two distinct clinical forms. In the first the pus collection is situated between the gland and the anterior pillar, which is decidedly bulged forward. There is likewise prominence of the vault of the palate and considerable œdema of the uvula. In the second the abscess is located between the tonsil and the posterior pillar. In this variety the affection lasts longer and presents more pronounced symptoms than in the first variety. The author has examined eleven cases from a bacteriologic standpoint. In a recently opened abscess about the tonsil streptococci are especially found; at a later period streptococci and staphylococci; in a still later period only staphylococci. Now it is well known that all these micro-organisms are found in crypts of the tonsil even in healthy persons. If an acute amygdalitis comes on, this always occasions an adhesion between the surface of the tonsil and the pillars of the fauces: the contents of the crypt, not finding any external exit, set up an irritation of the peritonsillar tissue and determine in it an inflammation and an infection by the above-mentioned microbes, which suddenly acquire virulent properties.

Venereal Bubo.—In an article on their etiology and treatment, Dr. Perry, of the Marine Hospital service concludes as follows (*The American Journal of the Medical Sciences*, November, 1896): 1. That buboes are probably caused by the absorption of chemical poisons, the result of the action of the micro-organisms in the chancroid, and not to the entrance of the micro-organisms themselves into the lymphatics. 2. That the benzoate of mercury yields such satisfactory results that it should be employed in the treatment of

non-suppurating buboes, and excision reserved for those cases in which benzoate has failed. 3. The injection of iodoform ointment should be used in the treatment of all freely suppurating buboes, since statistics show that it yields much more satisfactory results than the other methods of treatment applicable to this variety. 4. Incision and curettage should be used in a few cases in which the skin has been destroyed and the ulcer presents an unhealthy granulating surface. 5. Excision should be reserved for cases that have not yielded to other treatment, and for those in which there are several foci of suppuration.

Results of Hydatids.—Dr. Frank (*American Journal of the Medical Sciences*, October, 1896) writes that hydatids of the liver may cause no trouble whatever or the following results may transpire: 1. By pressure interfering with the functions of some organs of the body, and by attaining a large size causing ascites and dropsy. 2. Forming adhesions with the diaphragm and ulcerating through, either into the pleura, causing pleuritis; or further ulceration may take place in the lung, and the contents, coming originally from the liver, may by this channel be expectorated and lead to a spontaneous cure. 3. A fistulous opening may be formed into the lumen of the bowel and lead to a cure. 4. If they open into the stomach and the fluids and cysts be vomited, a cure is the result. 5. If a simple cyst ruptures into the kidney or bladder, a spontaneous cure is possible. 6. If they empty into the pericardium, the peritoneal cavity, bile ducts, or gall bladder, the result is disastrous. 7. Cases are on record in which hydatids have invaded the trachea and produced death by suffocation. 8. Nature's best cure, without any surgical aid, is the formation of adhesions to the parietes. Cases are on record which have emptied themselves externally, but this favorable result is not often met with. 9. Finally, a calcareous degeneration may take place within the cyst, and thus lead to a very satisfactory termination.

The Cause of Sudden Death after Antitoxin Injections.—Drs. A. Seibert and F. Schwyzer (*Medical Journal*, May 30th) published the following conclusions: 1. Antitoxic serum does not seem to be capable of causing threatening symptoms and speedy death, even when brought quickly into the blood current in very large doses. 2. The carbolic acid used in preserving the antidiphtheritic serum must be in such a weak solution as to be entirely unable to cause the characteristic carbolic convulsions produced in every one of our second series of experiments. The absence of these convulsions in patients in the cases of sudden death, the entirely different group of symptoms reported in them, and the fact that guinea-pigs and rabbits will survive even very large and concentrated doses of carbolic acid injected into a vein, lead us to discard the possibility of this drug having caused the reported deaths. 3. Even very small quantities of air will cause severe disturbances and ultimate cessation of breathing in every animal experimented upon. These disturbances are entirely analogous to the symptoms reported as preceding the sudden deaths after antitoxin injections. Air is found alongside of the fluid in every syringe used for hypodermic injections, and being pressed under the skin with the fluid may readily come in contact with a punctured cutaneous vein and so may enter the blood-vessel and the right heart, even before the serum has been absorbed. In view of these facts and of our experiments, we here express our firm opinion that the sudden deaths reported after antitoxin injections were caused by injected air and not by the antidiphtheritic serum.

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THE TREATMENT OF PERNICIOUS ANÆMIA.

OUR notions concerning the nature of pernicious anæmia have undergone various modifications since its recognition by Addison in 1855, and by him designated idiopathic, and its subsequent description by Biermer, in 1868, as an independent affection. A final decision cannot yet be given as to whether the disorder is dependent principally upon excessive blood destruction or upon deficient blood production, but the statement can be safely made that the affection is no longer looked upon as primary or idiopathic, and doubt may exist in some cases as to its progressive and pernicious character, in the sense in which it has been customary to employ these terms.

A growing experience has taught that profound and fatal anæmia may result from a variety of causes, sometimes perfectly obvious, but at other times so obscure as to escape detection at the hands of the keenest clinical observer. Sufficient evidence has accumulated to justify the conclusion that in a not inconsiderable proportion of cases the blood depravity results through the gastro-intestinal tract, perhaps in consequence of poisonous products there generated, or by infection, or from the presence of parasites of other character. These advances in our knowledge of the etiology of the disease have not been without their influence upon a selection of the means employed in its treatment. Thus, whenever a source of hemorrhage or other wasting discharge can be discovered, the first essential step is to secure its control. When animal parasites are found to be present in the intestinal tract, their extrusion must be effected by appropriate means. When it is suspected that the condition arises in consequence of intoxication, resulting from some failure in the normal digestive and assimilative processes, measures calculated to aid gastro-intestinal digestion and disinfection will be indicated; if the intoxication be dependent upon the retention of metabolic products intended for excretion, laxatives—and especially calomel and salines—may be used with advantage.

Upon the assumption that the excessive hæmolysis is supposed to take place in pernicious anæmia as a result of the presence of toxic matters in the gastro-intestinal tract, Gibson¹ was led to use two-grain

pills of beta-naphthol, given twice or thrice daily, in the treatment of a case of that disorder, with the happiest results. Acting upon the same thought and adopting a suggestion of Fraser,¹ Dieballa² employed successfully salol in a case of similar kind, in which the usual remedial agents had been previously employed without avail. The patient was a laborer, fifty years old, who suffered greatly from weakness, and presented a yellowish discoloration of the skin and conjunctivæ, and pallor of the lips and mucous membranes, with a reduction of the red blood corpuscles to 1,120,000 per cubic millimetre, of the white to 2,600, and of the hæmoglobin to 43 per cent. At the age of thirty-one he had had a like attack, from which he recovered in the course of six months, and again at the age of forty-five. The red blood corpuscles varied greatly in size and shape, and some were nucleated. Of the colorless corpuscles, 55 per cent. were polymorphous neutrophile, 21 per cent. lymphocytes, 13 per cent. large mononuclear cells, 8.5 per cent. transitional forms, and 2.5 per cent. eosinophile cells. After arsenic, bone marrow, iron, inhalations of oxygen, and quinine, singly and in combination, had been employed for more than four months without appreciable benefit, salol was given in doses of fifteen grains five times a day. Unpleasant symptoms arising, the frequency of administration was reduced to three times a day. The treatment was continued thus for three months, at the end of which time the red corpuscles had increased in number to 4,200,000 per cubic millimetre, the colorless corpuscles to 7,000, and the hæmoglobin to 60 per cent., while a gain in weight of thirty pounds had been made. Of the colorless corpuscles, the polynuclear neutrophile were increased to 68 per cent., and the large mononuclear and transitional forms to 8 per cent., the others undergoing practically no change. The presence of eosinophile cells in about normal proportion was looked upon as indicative of maintained functional activity of the bone marrow in the process of hæmogenesis, and to this extent of favorable prognostic omen.

In cases in which the blood-forming organs are believed to be at fault, bone marrow may serve a useful purpose. The influence which this substance is capable of exerting is still undecided, but in a disease like pernicious anæmia, in which no measure can be expected to act with certainty for good, the patient should be given the advantage of every doubt, and no remedy should be neglected which may even doubtfully render a service. In the way of agents that aid in blood making, the first place must be given to arsenic, given in doses as large as the patient will bear and for a long period of time. Iron is not capable of the same good, but may find a useful place in the treatment. Inhalations of oxygen have at time proved a valuable therapeutic adjunct.

It goes without saying that the diet should always be the most nutritious possible, special care being observed to maintain digestive integrity and activity, while no general hygienic precaution should be neglected. Moderate and gentle exercise in the open

¹ British Medical Journal, No. 1,744, p. 1,172.

² Zeitschrift für klinische Medizin, B. xxxi., II. 1, 2, p. 47.

¹ Edinburgh Medical Journal, October, 1892, p. 329.

air, within the limits of fatigue, and exposure to sunshine, should be judiciously indulged in. Symptomatic indications must be met as they arise. Strychnine in moderate doses will almost always serve a useful purpose.

In attempting to reach a decision as to the efficacy of any plan pursued in the treatment of pernicious anæmia, it is to be borne in mind that periods of transitory improvement, of varying duration, are often a part of the natural course of the disease, so that too much importance must not be attached to the favorable results that may follow the special line of medication employed. Even if such improvement continue for a long time, the conclusion must not be too hastily reached that the disease is cured.

THE SIGNS OF LONGEVITY.

EVERY ONE is interested in the question of long life as applied to himself, and all facts bearing on it are noted with becoming feelings of self-congratulation or otherwise. It is the staying power that is in demand, backed by an inherited and reserved vitality of resistance against the usual evils to which all flesh and other perishable things are subject. The law of heredity, which our life insurance companies understand so well, is at the bottom of all calculations as to whether a particular man or woman is wound up for seventy years or will run down at twenty or forty years.

Aside from this testimony, there are certain physical qualities which have great weight in determining the result of the struggle against a conspiring environment. An oak has one configuration, and a cedar, pine, or mullein stalk another. It is the proper recognition of such distinctions that aids physicians in their prognosis and turns the balance against apparently desperate chances.

At a recent meeting of the Academy of Science, Mr. F. W. Warner, in speaking upon the subject of biometry, offered some very interesting data, which are in the main true.

"Every person," said he, "carries about with him the physical indications of his longevity. A long-lived person may be distinguished from a short-lived person at sight. In many instances a physician may look at the hand of a patient and tell whether he will live or die.

"In the vegetable as well as in the animal kingdom, each life takes its characteristics from the life from which it sprung. Among these inherited characteristics we find the capacity for continuing its life for a given length of time. This capacity for living we call the inherent or potential longevity.

"Under favorable conditions and environment, the individual should live out the potential longevity. With unfavorable conditions this longevity may be greatly decreased, but with a favorable environment the longevity of the person, the family, or the race may be increased."

Herein are presented the two leading considerations, always present and always interdependent—the

inherited potentiality and the reactionary influences of environment.

"The primary conditions of longevity," he continues, "are that the heart, lungs, and digestive organs, as well as the brain, should be large. If these organs are large, the trunk will be long and the limbs comparatively short. The person will appear tall in sitting and short in standing. The hand will have a long and somewhat heavy palm and short fingers. The brain will be deeply seated, as shown by the orifice of the ear being low. The blue hazel or brown hazel eye, as showing an intermission of temperament, is a favorable indication. The nostrils being large, open, and free indicates large lungs. A pinched and half-closed nostril indicates small or weak lungs."

These are general points of distinction from those of short-lived tendencies, but, of course, subject to the usual individual exceptions. Still, it is well acknowledged that the characteristics noted are expressions of inherent potentiality, which have been proven on the basis of abundant statistical evidence.

Again, he says truly:

"In the case of persons who have short-lived parentage on one side and long-lived on the other side, the question becomes more involved. It is shown in grafting and hybridizing that nature makes a supreme effort to pass the period of the shorter longevity and extend the life to the greater longevity. Any one who understands these weak and dangerous periods of life is forewarned and forearmed. It has been observed that the children of long-lived parents mature much later and are usually backward in their studies."

Such observations are of the highest importance, especially to the physician, and it is on this ground we commend them to his thoughtful consideration.

CHARCOAL AS A SURGICAL DRESSING.

KIKUZI, a Japanese army surgeon, as our readers already know, has introduced, with great success, charcoal, freshly prepared by burning rice straw, as a dressing on the battlefield and in military hospitals. A qualitative analysis shows the presence of potassium, sodium, aluminium, magnesium, lime, iron, chlorine, sulphur, phosphorus, silicates, and organic substance. Its absorbent qualities are but slightly inferior to that of gauze, and it makes even pressure. Dr. Matignon, an attaché of the French legation in China, has been most favorably impressed with this dressing, and gives, in *La Médecine Moderne*, May 6, 1896, the following *résumé* of its advantages:

"1. Its elasticity and its absorbent powers are equal to those of gauze.

"2. It is found everywhere, and can be obtained quickly in large quantities.

"3. Its price is minimum, being a twentieth part of that of gauze.

"4. It may be employed at once, its disinfection resulting from its preparation.

"5. It is not necessary to transport it."

In this connection we would refer to an article upon the uses of charcoal as a dressing in military surgery,

based upon an experience in the Franco-Prussian war. Dr. Samuel Sherwell, of Brooklyn, published in the *New York Medical Journal and Obstetrical Review* for October, 1882, a paper which he had written in 1876, just after the battle of Plevna, and which he read in the surgical section of the International Medical Congress in London, in 1881.

As surgeon in the Anglo-American ambulance, the writer saw considerable field-hospital practice at Sedan, Orleans, and other places, and was only too familiar with the ravages of septicæmia and pyæmia after amputation and important operations. In his article, which is entitled "A Ready and Convenient Antiseptic Dressing for Amputations and Other Open Wounds in Field Hospitals," he says: "Among almost all continental nations charcoal is largely used and everywhere available or easily obtained. I would suggest, then, after operation, the instant envelopment of the wounds, particularly those of the limbs, and more especially, as I think, those of the lower limbs, in a sack or bag (a common small pillow slip would serve) of charcoal finely pulverized, a fair excess of this to be used so as to shield and envelop the tissues, the charcoal to be either directly laid on the wound or mediately, a fold of gauze being applied next the surface; this not to be removed for days at a time, except under pressing necessity, and then preferably by a jet of water from some clean source."

It should be a source of gratification to Dr. Sherwell to know that, after all these years of Listerism and antiseptis and aseptic treatment, which can never be properly carried out in a busy field of carnage, his excellent and original suggestion has been put into practical use on a large scale, and with such favorable results.

News of the Week.

Illness of Sir William MacCormack.—Sir William MacCormack is very ill with pneumonia following influenza. His numerous friends are very anxious.

Surgeon in Ordinary to the Lord Lieutenant.—Mr. Thompson, president of the Royal College of Surgeons in Ireland, is the new surgeon in ordinary to the lord lieutenant.

The Widow as Partner.—The tribunal of the Seine has just handed down a decision of interest to French relicts of medical men, who may wish to dispose of their husbands' clientèle or to enter into copartnership (professional) with another physician who succeeds to the practice. The court holds that the doctor's knowledge and experience cannot be made the object of a contract, and a copartnership between the widow and a practitioner of the art of her defunct husband is void.

Rabies.—The city of Lyons, France, continues to give a large percentage of this affection, ninety persons having been bitten during the past year. There have been observed one hundred and three dogs, ten cats, and one horse showing manifestations of the distemper.

Obituary Notes.—DR. JOHN RUSSELL McCLURG died at West Chester, Pa., on November 3d, at the age of seventy-six years. He was graduated from Jefferson Medical College, and in 1864 was commissioned major and surgeon, United States volunteers, retiring at the close of the war with the brevet rank of colonel.

Vital Statistics of Philadelphia.—For the week ending October 31st there occurred in the city of Philadelphia 362 deaths—114 in children under five years of age. The largest number of deaths from any one disease resulted from pulmonary tuberculosis, 44; the next largest number from pneumonia, 33; and next, diseases of the heart, 22. There were reported during the week new cases of diphtheria, 59; of typhoid fever, 38; and of scarlet fever, 20.

The New York Obstetrical Society.—At the annual meeting of the New York Obstetrical Society, held October 20, 1896, the following officers were elected: Dr. Robert A. Murray, *President*; Dr. C. A. Von Ramdohr, *First Vice-President*; Dr. George W. Jarman, *Second Vice-President*; Dr. Arthur M. Jacobus, *Recording Secretary*; Dr. Le Roy Brown, *Assistant Recording Secretary*; Dr. H. J. Boldt, *Corresponding Secretary*; Dr. J. Lee Morrill, *Treasurer*; Dr. G. C. Freeborn, *Pathologist*.

A Novel Enterprise.—The announcement is made that articles of incorporation have been filed in the Camden County (N. J.) clerk's office by the Pennsylvania Medical and Burial Company, whose avowed objects are the entering into contracts with parties for the purpose of providing them with funeral and mourning supplies, drugs, medicines, and medical services. It would seem that the enterprising incorporators of this novel commercial scheme have reversed the order in which it would naturally be supposed their services might be useful, as one would scarcely have need for medical attendance after having been provided with funeral and mourning supplies.

College of Physicians of Philadelphia.—At a stated meeting of the College of Physicians of Philadelphia, on November 4th, Dr. Guy Hinsdale presented a communication entitled "Case of Foreign Body in the Larynx; Death from Suffocation: Exhibition of Specimen." Dr. A. A. Eshner read a paper entitled "A Graphic Study of Tremor." Dr. Frederick A. Packard read a paper entitled "Movable Liver, with Report of a Case." Dr. John Ashhurst, Jr., read a notice of the late Dr. W. S. W. Ruschenberger. It is announced that the Mütter course of lectures for 1896 will be delivered in the Mütter Museum of the college, by Dr. Oscar H. Allis, on November 18th, 20th, 24th, 27th, 30th; December 4th, 7th, 8th, 14th, and 16th, at 8 P.M. The subject of these lectures will be "Luxations; the Traumatisms Present in the Major Articulations."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending November 7, 1896: October 31st.—Medical Inspector J. L. Neilson detached from the *Maine*, November 10th, and placed on waiting orders; Surgeon L. G.

Heneberger ordered to the *Maine*, November 10th; D. N. Carpenter and F. L. Pleadwell appointed assistant surgeons from October 24th. November 2d.—Surgeon G. P. Lumsden detached from the *Yorktown*, ordered home, and granted three months' leave; Passed Assistant Surgeon J. E. Page detached from the *Boston* and ordered to the *Yorktown*; Passed Assistant Surgeon G. Rothganger detached from the *Oregon* and ordered to the *Patterson*; Passed Assistant Surgeon R. M. Kennedy detached from the *Patterson*, ordered home, and granted three months' leave; Assistant Surgeon R. S. Blakeman detached from the *Vermont*, November 12th, and ordered to the *Boston*, per steamer of November 21st; Assistant Surgeon W. M. Wheeler detached from the *Franklin*, November 12th, and ordered to the naval hospital, Mare Island; Assistant Surgeon A. Farenholt detached from the Mare Island naval hospital and ordered to the *Oregon*; Assistant Surgeon S. B. Palmer detached from the naval laboratory, New York, and ordered to the *Vermont*. November 5th.—Assistant Surgeons D. N. Carpenter and F. L. Pleadwell ordered to the naval laboratory and department of instruction, New York.

Killed by His Patient.—Dr. J. S. Wintermute, of Tacamah, Wash., was shot and killed November 11th by a patient whom he was treating for melancholia.

Tuxedo Quarantined.—An epidemic of diphtheria of virulent type has recently occurred at Sloatsburg, Rockland County, N. Y., in which out of fifteen cases there occurred five deaths. For some time Tuxedo was quarantined against Sloatsburgers.

Department of Charities.—A contract has been given out for uniforms for all employees of the department and they are now having their measure taken. Physicians, we understand, are exempt from the workings of the rule.

Bellevue Hospital Dispensary has been renovated in several important particulars. Wooden floors have been wholly done away with and replaced by asphalt with automatic central drainage. The whole interior has been repainted.

Medical Examination by Civil Service.—The New York City civil service commission will hold the following examinations at its office, in the new criminal court building (corner of Franklin and Centre streets) at 10 A.M. on the dates given. Applicants must be citizens of the United States, residents of the State of New York, eighteen years of age and over. Applications may be obtained from S. William Briscoe, secretary, new criminal court building, New York City. November 24th, assistant bacteriologist, health department. Candidates must hold degree of M.D. and possess knowledge of general bacteriology. Salary, \$1,200 per annum. November 24th, assistant bacteriologist, health department (temporary). Candidates must hold degree of M.D., and possess knowledge of general bacteriology. Salary, \$600 per annum. Medical chief of staff, department of public charities. Candidates must hold degree of M.D. and have had experience in hospital organization and management. Salary, \$3,000 per annum.

Marine Hospital Service.—A competitive examination will be held in Washington on February 3, 1897, for the position of assistant surgeon in the United States Marine Hospital service. After four years of service a second examination is held for promotion to the grade of passed assistant surgeon. The salary of assistant surgeon is \$1,600, quarters, light, fuel. That of passed assistant surgeon \$1,800, and that of surgeon \$2,500. Information can be obtained from the surgeon-general of the Marine Hospital service.

Cleveland Medical Society.—It appears that an Ohio man was elected as a member of the judicial council of the American Medical Association at its last meeting who was objected to by the Ohio member of the nominating committee. In his official capacity the gentleman elected seems to have prevented the recognition of delegates from the Cleveland Medical Society and thus returned the compliment. Now the members of the Cleveland Medical Society have agreed among themselves to keep away from the next meeting of the American Association. It is said that the Ohio State Society approves of the Cleveland Society's action.

Contract Practice.—Resolutions have been signed by nine-tenths of the Santa Clara, Cal., physicians pledging themselves not to enter into any agreement or contract to render medical or surgical service at reduced rates to any association or organization.

A Hospital Reform Association, having for its object the correction of abuses which exist in the outpatient departments, has been organized in London. While wishing the association all success, we would state that an attempt has been made in this direction here, and unless London hospital managers and physicians differ greatly from our own, little or nothing will be accomplished. There are a few things in the world which seem beyond reformation, and the dispensary physician who once acquires a taste for large classes of well-to-do patients is one of them, and another is the "professor" who boasts that his interests have nothing in common with those of the young and struggling practitioner, and that abundant material must be provided for his clinics, no matter from what source the patients are drawn or who is injured.

London, too, has her noises of unnecessary nature of which to complain, but there they do something at least looking to their abatement. The county council have just resolved "that the local government and taxation committee should further consider the matter and report with a view to the mitigation or suppression of such street noises as constitute a public nuisance." Will our honorable board of aldermen allow the London gentlemen to outdo it?

Errata.—In Dr. Craig's article on the "Plasmodium of Malaria," published in the issue of November 7th, the authorities quoted as "Doch" and "Dambewsky" should read Dock and Danilewsky. In Dr. Louis Fischer's remarks on "Weaning of Infants," p. 612, the amount of salt used in the cow's milk should be from ten to fifteen grains, instead of ten-fifteenths of a grain, as printed.

Philadelphia Neurological Society.—At the opening meeting of the Philadelphia Neurological Society on October 26th Drs. De Forest Willard and William G. Spiller presented a communication entitled "Concussion of the Spinal Cord (Railway Spine)."

Northern Medical Association of Philadelphia.

At a meeting of the Northern Medical Association of Philadelphia, on October 23d, Dr. Samuel Wolfe read a paper on "Puerperal Convulsions." The association will shortly celebrate the fiftieth anniversary of its organization. It is thus a little older than the American Medical Association and by several years the senior of the Philadelphia County Medical Society.

Philadelphia County Medical Society.—At a meeting of the Philadelphia County Medical Society on October 28th Dr. Joseph Price read a paper entitled "Surgery for Typhoid Perforation," in which he related three cases of intestinal perforation, probably of typhoid origin, in which recovery followed operation. Dr. J. T. Rugh read a paper entitled "Profound Toxic Effects from Drinking Large Amounts of Strong Coffee." Dr. John B. Roberts read a paper entitled "The Perfect Surgical Needle; with Remarks on Common Defects in Needles." The needle recommended was the ordinary glovers' needle properly polished and sharpened.

Additional Laboratory of Bacteriology at the University of Pennsylvania.—A laboratory of bacteriology has been established at the University of Pennsylvania in connection with the courses in veterinary medicine, to be under the supervision of the State live-stock sanitary board and in direct charge of Dr. M. P. Ravenel, instructor in bacteriology in the medical department of the university. Special attention will be given to the study and investigation of the diseases of poultry and cattle. Arrangements have also been made for the preparation of tuberculin for employment in the treatment of tuberculosis in cattle. This laboratory work is independent of the course in bacteriology already offered to students in the medical department of the university.

Medical Students at Vienna.—During the last summer semester there were 2,228 students of medicine at the University of Vienna, 110 fewer than there were the corresponding semester of 1895. According to the university calendar, recently issued, there will be held during the present winter 271 courses by 29 ordinary professors, 36 extraordinary professors, and 94 *Privatdozenten* and assistants. The number of courses in the various subjects is as follows: history of medicine, 2; anatomy, 8; physiology, 13; pathology, 16; pharmacology, 6; medicine, 63; surgery, 47; otology, 13; ophthalmology, 28; midwifery and gynecology, 29; syphilis, 17; mental pathology, 8; public health, 10; chemistry, 9; and veterinary medicine, 2.

Moral Turpitude in a Physician.—The medical board of Oregon was recently requested to revoke the license of a physician for getting drunk and using forcible language. The board agreed, however, with the counsel of the accused that getting drunk was only

a violation of a city ordinance, and even when frequently repeated did not involve any inherent baseness of character. It was established that a physician may get drunk and indulge in loud language occasionally without his conduct being held to indicate moral turpitude.

Hygeia Medical College of Cincinnati has had its diplomas refused by the Ohio State board.

Dr. Black on English Hypocrisy.—Dr. D. Campbell Black, of Glasgow, who must know whereof he speaks, writes to *The Medical Press* that "our moral censors of the British Medical Association, who object so much to advertising, take good care that their lucubrations at the annual meetings are reported in as many 'lay' papers as possible; and if this did not happen, the association would not long be favored with the exalted light of their countenances, and the British Medical Association itself would collapse (no great loss!) in twenty-four hours."

Non-Toxic Properties of Aluminium.—Recently two healthy and robust physicians, aged twenty-six and thirty-five, were selected by the imperial German health bureau to undergo an interesting experiment to ascertain whether aluminium is poisonous or not. These two gentlemen, in order to test the non-poisonous properties of aluminium, volunteered to swallow, every morning for one month, fifteen grains of aluminium tartrate with their lunch. At the end of the trial neither of them had lost flesh or appetite nor experienced the slightest discomfort during the entire period of their metallic lunch. It was found that the metal is not adapted, however, to contain for a long period brandy, whiskey, or wine. After a time these liquids turn turbid, and, although perfectly harmless, are not inviting, to say the least, although for two or three days' journey they are not appreciably acted on when carried in aluminium flasks.—*College and Clinical Record*.

The Rush Monument Fund.—Dr. Albert L. Gihon, who will deserve a monument himself for his indefatigable advocacy of every good cause which he takes up, has issued another appeal for subscriptions to the Rush monument fund. He calls attention to the fact that the homœopathic physicians of the country have raised \$75,000 for a monument to Hahnemann, a foreigner, while less than \$4,000 has been subscribed for a monument to the American patriot, Benjamin Rush. The navy department has already generously designated a commanding site in the park fronting the United States Naval Museum of Hygiene, where it will be one of the most conspicuous features of the national capital, but there is as yet nothing to place on this site. The American Medical Association will meet next year in Philadelphia, and it would be a graceful and grateful act on the part of the physicians of that city to raise among themselves the modest sum necessary to honor the man who brought so great honor to their city. That would no doubt stimulate others to give, and then there would be a monument to the great man of which all physicians and all Americans could justly be proud.

Cremation of Paupers.—A petition is in circulation in Washington asking that a crematory be substituted for the Potter's Field.

The American Laryngological, Rhinological, and Otological Society will hold its next meeting in New Orleans, March 3 and 4, 1897, this being in the carnival season.

Sir Andrew Clark's house, which is in reality somewhat of a mansion, in Cavendish Square, vacant since the death of its illustrious occupant, has now been leased to a manufacturing dental firm, and will be used in part for a post-graduate dental school.

Intellectually Enfranchised, the woman physician of England now shows her gratitude to her professional brothers, according to *The Medical Press and Circular*, October 21st, by opening an obstetrical dispensary, at which for the sum of five shillings confinements are undertaken.

Surgeon to the Queen.—Succeeding the late Sir John Erichsen, Mr. Bryant, ex-president of the Royal College of Surgeons, has been appointed surgeon-extraordinary to Queen Victoria. The appointment seems to have given general satisfaction in English professional circles. Can there be anything in the name which is attractive to English-speaking crowned heads?

The International Congress of Criminal Anthropology, which held its fourth session in Geneva on August 25th to 29th, will meet again at The Hague in 1901. The most practical outcome of the Geneva congress was the unanimous adoption of a resolution calling for legislation in all countries restricting the sale of alcoholic liquors, and declaring it to be the business of the congress to further such restrictive legislation of a stringent kind.

San Francisco is to have a college of physicians and surgeons. Articles of incorporation were filed in June last. S. M. Mouser is president and S. O. L. Potter secretary. The Pacific coast is fast supplying facilities for medical instruction. San Francisco already has the University, the Cooper Medical College, and the Polyclinic. Los Angeles has two schools and Portland, Ore., two.

Boston Public Institutions.—Mayor Quincy has dismissed Dr. A. B. Heath from the position of commissioner of public institutions after asking for his resignation, which Dr. Heath declined to hand in. The charge against the commissioner, who was appointed by Mayor Curtis to succeed Dr. Jenks, is that the expenditures have exceeded those of his predecessor by some \$140,000 per annum, leaving at the present time a deficit in the treasury. Dr. Heath has many friends in New York who will regret to learn that, however much his free use of funds has been pleasing to the patients and paupers under his care, it has not had the same effect upon the tax-paying public whom the mayor represents. Boston has had the reputation of caring for the city's poor and needy in a handsome manner, but it evidently does not like to foot the bill.

Clinical Department.

REPORT OF A CASE OF NASAL POLYPUS IN A FEMALE INFANT FOUR WEEKS OLD.¹

By ADOLPH RUPP, M.D.,

NEW YORK,

FORMERLY PHYSICIAN TO THE NORTHERN DISPENSARY AND FORMERLY AURAL SURGEON, NEW YORK EYE AND EAR INFIRMARY.

CASES of nasal polypi in infants and young children are so rarely observed by both pediatricists and laryngorhinologists as to make the following observation almost unique. Considering the frequency with which catarrh of the nose is met with in children, it is remarkable how rarely neoplasms are observed before the age of puberty. Thus, Moritz Schmidt, in his ample experience, saw and operated upon only one case, the child being a girl six months old. Schmidt and other specialists quote Cardonne, who saw a polypus in the nose of a child two days old. Bosworth states that Krakauer removed twelve polypi from the right nasal fossa of an infant four and one-half months old. My neighbor, Dr. Traugott Roediger, told me he has seen one case in his extensive general practice. This child, when two weeks old, had the polypus removed by Dr. Simrock, of this city.

My own case is a girl baby, N—, four weeks old. I was consulted because since its birth nursing had become gradually more difficult, and the snuffling breathing had also become gradually more marked. This breathing difficulty had been attributed by the midwife and parents to a slight "cold in the head," until the father thought he discovered the real cause, in "something which flapped up and down" in the left nasal fossa. Examining the infant's nose, I found a pinkish pedunculated polypus, large enough almost to occlude the left nasal air passage in the vestibule of the nose. Its consistency was neither soft nor hard, but friable. The attachment of the little tumor was high up, possibly on the upper portion of the middle turbinate. There was only slight nasal catarrh present, but in no sense was it obstructive. The rest of the nasal passages of both fossæ were clear. There was a slight conjunctivitis of the left eye, which may have some pathological interest but was clinically insignificant. Neither of the parents have catarrhal affections, and from neither could a syphilitic history be obtained, nor were there any signs of syphilis about the infant.

Part of the little tumor was removed with a wire snare (cold), and the remainder by means of a blunt ring curette (Buck's). Very little hemorrhage ensued. The operative results were all that could be desired—the child was able to breathe and nurse satisfactorily and with comfort, and slept better than it had before the removal of the tumor.

406 WEST THIRTY-FOURTH STREET.

ABSENCE OF LEFT KIDNEY

By J. H. SMITH, M.D.,

PLATTSBURG, N. Y.

THE article "Congenital Absence of Kidney," on page 550 of the *MEDICAL RECORD* of October 17th, brings to mind a case of the same kind in my practice: A. M—, male, an inmate of Clinton Prison, aged thirty-three, French Canadian, died in the prison hospital on April 24, 1881, of diabetes mellitus. Post-mortem examination showed an entire absence of the left kidney. The right kidney was enlarged, weighing a little more than seven and one-half ounces.

¹ Reported October 25, 1896, at a meeting of the laryngological section of the New York Academy of Medicine.

A COMPLICATED CASE OF BICHLORIDE POISONING.

BY WILLIAM EDGAR DARNALL, M.D.,

ATLANTIC CITY, N. J.

MRS. A—, primipara, consulted me a few days before her labor, complaining of dysentery. Her husband being sick, she had not taken proper care of herself; the gravid uterus, by pressure on the rectum, had therefore set up irritation. Little could be expected from treatment under such circumstances until the child was born. Two or three days later came the call for confinement. The process was uneventful; the labor was a little slow on account of its being the first child. The exciting cause of the dysentery being removed, rapid improvement took place for a day or two. The labor had been conducted with every care, and the uterus thoroughly emptied of its contents. No alarm was felt, therefore, for the mother's safety.

On the morning of the third day after labor, however, I found the patient restless, with chilly sensations, etc.; lochia slightly diminished and foul; a temperature of 102° F.; pulse, 110; and her expression anxious. The only discoverable source of infection was that she must have carried the poison from the rectum to the vagina by carelessness during her frequent stools. A half-gallon of 1 in 40 carbolic-acid solution, with iodoform suspended, was promptly injected into the uterine cavity by means of a fountain syringe. The temperature at once fell to normal.

About 10:30 P.M. the same day, I received an urgent call to the house, the messenger stating that the patient had been poisoned by taking the wrong medicine. On my arrival I found she had been given by mistake a bichloride tablet of one and three-fourth grains, which had been left with careful directions for bathing the parts. Fortunately she discovered, as soon as she swallowed it, that it was not one of the morphine tablets which she was taking for after-pains and called her mother's attention to the fact. Mustard and other household emetics were given as soon as they could be gotten ready, and vigorous vomiting was produced before my arrival. The whites of eggs and milk were then ordered. Her excitement quieted, and I left her fairly comfortable.

Next morning her temperature was 100° F., and for seven days it dodged about from 99° to 102.5° F., being unaffected by intra-uterine treatment. The patient, meanwhile, became worse daily. She had ingested enough of the bichloride to set up a severe gastro-enteritis and relight the old flame at the lower end of the alimentary canal. The most distressing feature, perhaps, was the violent paroxysms of griping abdominal pain, which constantly occurred two or three times an hour. These dated from the poisoning, and continued throughout the sickness. All the analgesics available were tried in turn, but after a few doses the effects of each wore off and they became useless. Morphine did not give any relief. Turpentine stupes were applied to the abdomen. Hoffman's anodyne gave the stimulation the weakened body needed, and kept the cramps in check longer than the others; but it did not wholly meet the emergency. The inflammatory condition seemed to extend from one end of the alimentary canal to the other. Large doses of bismuth with powdered acacia were administered every four hours, with good effect. The diet was restricted to milk and albumin water. On the ninth day the temperature remained at normal, and the bowel symptoms were mitigated a little. The patient was in a precarious condition, at times almost collapsed. Hot bottles and judicious stimulation were applied. The following day she was a little brighter. Mild astringents were ordered as soon as the acute

stages of inflammation were passed. From this time on she gained strength, her acute symptoms gradually subsided, and her recovery took place uneventfully.

Here was a case of acute dysentery complicating labor, associated with septic infection and poisoning with bichloride of mercury. Had emesis been delayed till I arrived, I feel sure the patient would have succumbed. The case was critical enough as it was. The continued abnormal temperature, in my opinion, was kept up more by reason of the intestinal inflammation than from septic processes in the uterus, for it must be borne in mind that it often takes very little to throw a puerperal woman into a fever, when there is no sign of any septic process present. This view is strengthened by the fact that the mild infection present just before the poisoning occurred seems to have been completely removed by the intra-uterine douches, and that after the poisoning intra-uterine treatment had no effect whatever upon the temperature.

PLASTIC OPERATION FOR MALFORMATION OF THE NOSE CAUSED BY SYPHILIS, WITH ILLUSTRATION.¹

BY F. L. FORKER, M.D.,

BINGHAMTON, N. Y.

THE case which I present is one made interesting principally by the transforming effects of plastic surgery. Plastic surgery was originally restricted to the repair of the nose, but during the present century has busied itself in different ways with the emendation of various organs, and has thus greatly enriched the domain of general surgery. It has been a field of conquests, and the perfection to which it has attained constitutes some of the proudest triumphs of the human mind in modern times. I will first give you a brief description of the case and then show you the result. H. Y—, aged twenty-two years, came under my care at the City Hospital, May 13, 1896, and gave the following history: Family history good; personal health good until fourteen years of age, when ulcers began to appear in the mouth, nose, and throat. The end of the nose became very red and painful, and at the end of two weeks the tissues began to break down, the process continuing until the nasal septum and floor of the nasal cavities, including the central portion of the superior maxilla with the incisor teeth were carried away. The nose continued for some time afterward to diminish gradually in size; after being treated for some time this ulcerating process discontinued, and she enjoyed comparatively good health until January, 1894, when her right leg began to ulcerate, and in spite of treatment the process had extended at the end of one year entirely around the limb and destroyed three-fourths of the integument below the knee, in places laying the bone bare. All I am able to learn in regard to the treatment received is that she was in the care of a regular physician, who advised her to enter the hospital and have her leg amputated, since it was entirely useless. She accordingly entered the hospital, but the surgeon-in-charge did not deem amputation necessary, so after three months' treatment she was discharged improved. After leaving the hospital the ulcer again extended, and she returned in May of the present year for further treatment. On admission her general condition was very poor, the extensive ulceration had exhausted her strength to a marked degree, digestion was disturbed, severe pain was felt in the left iliac region, and a large gangrenous ulcer extended over nearly one-half the surface of the right limb below the knee. The external nasal tissues were too small

¹ Read at the annual meeting of Broome County Medical Society, October 6, 1896.

to cover the nasal cavities, being only three-fourths of an inch in length and much distorted, the nasal septum being absent, as were also a portion of the superior maxilla, and four incisor teeth, leaving an opening between the nasal cavities and the mouth about one inch square. The uvula and palate on the right side were closely adherent to the posterior wall of the pharynx. As a result of these deformities, she had a very marked nasal voice and her sense of smell was almost entirely destroyed. Treatment consisted of rest in bed, milk diet, tonics, and potassium iodide. The latter was begun in dose of five grains, t.i.d., and gradually increased to fifteen grains. The ulcer was first thoroughly cauterized with nitrate of silver, and then antiseptic dressings were applied daily for one month, at which time Thiersch's operation of skin-grafting was done with very gratifying results, and two months from the patient's admission to hospital the ulcer was entirely healed.

The deformity in this case had not only destroyed the normal functions of this important organ, but had rendered the patient so repulsive in appearance that she was unable to earn a livelihood; accordingly a successful repair of this deformity was a very important matter to her. After consulting with various members of the hospital staff, and receiving practically no encouragement, I performed the following operation, after the usual preliminaries were attended to. The first step consisted in detaching the nose at its root and sides by two incisions, and folding it down over the upper lip one inch; the second step consisted in dissecting up two triangular flaps, one from each cheek, and turning them around to fill in space created by the first step. These flaps were composed of integument and cellular tissue about one-quarter of an inch in thickness, and were left attached at the angle of the space by a pedicle about one-fourth inch in diameter. The third step consisted in suturing the flaps in their new position and bringing together the borders of the space left in the cheeks by means of silk and worm-gut sutures. Iodoform along the line of suture constituted the only dressing applied. Primary union followed throughout and the sutures were removed on the second day.

Considering the diseased constitution of my patient, it was a question what would happen to the cellular tissue covering the under surface of the flaps which was left uncovered, but by the aid of a solution of peroxide of hydrogen used daily a form of mucous membrane gradually crept out from the border, and at the end of two weeks this exposed surface was entirely covered over.

The adhesions of the uvula and soft palate were separated at a second operation, by means of a knife constructed for the purpose.

I next took my patient to a dentist and had a plate constructed to fill in the cleft in the superior maxilla and to restore the lost teeth.

And now as a result of three months' treatment I am able to report the following condition: First, a gain of integument and healthy tissue over the right leg of about ten inches square; second, a gain in weight of twenty pounds; third, a gain in voice production from a marked nasal to an almost natural tone; fourth, a gain in sense of smell which is quite marked, and fifth, a gain in length of nose of one inch, which, taken together with changes produced in my patient's cheeks by removal of flaps therefrom, amounts to little less than a complete transformation in her appearance.

In Memory of Pasteur.—The municipality of Paris has changed the name of the Boulevard de Vaugirard to that of Boulevard Pasteur.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 5, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Wesley M. Carpenter Lecture—The Etiology and Classification of Infectious Diseases.—DR. GEORGE M. STERNBERG, U. S. A., delivered the lecture. What he should present was not claimed to be new. Etiological studies had always possessed special attraction for him, and he thought a general view of the etiology and classification of infectious diseases might not be out of place on the present occasion. By infectious diseases were meant those which resulted from the introduction into the body of some disease-producing agent, and he thought we were justified in saying that an essential condition of infection was that the disease-producing agent must be capable of reproduction in the body of the infected individual; in other words, that it was a living organism. It was indifferent whether it was large or small; whether it belonged to the animal or to the vegetable kingdom; whether it was located in the skin, as in scabies, or in the blood, as in relapsing fever. The introduction and multiplication of the infecting agent constituted infection.

We were now including among infectious diseases many diseases which a few years ago were not recognized as being due to infection—for example, tetanus, pneumonia. The number was constantly being increased. It was true, we might have inflammation independent of infection, as a gastritis from the introduction of a chemical poison, or in a wound from mechanical cause; but this form of irritation did not give rise to suppurative inflammation. It was only a potent predisposing factor, inasmuch as the injured tissues were thereby rendered liable to infection. The stone in the bladder and the surgeon's instrument did not produce cystitis, but the bacteria which caused cystitis would be impotent without such predisposing cause, *i.e.*, injury. The difference between infectious and non-infectious inflammatory irritation from mechanical cause was well illustrated by some experiments which he had made in 1884. Under antiseptic precautions he introduced finely broken sterilized glass into the abdomen of rabbits, without producing fatal peritonitis. The inflammation which occurred was of a conservative kind, walling in the powdered glass and forming nodules of various sizes. The animals remained in good health, and even gained in weight until killed. Similar results were obtained from introducing sterilized bodies into other tissues. But let the foreign body carry bacteria, and we would find a localized septic process established, if not infection of the blood and pyæmia.

In many diseases the infectious agent was constantly present, awaiting an opportunity to enter the tissues or the circulation through a broken mucous membrane or skin. No doubt this was true of croupous pneumonia and associated diseases. But other conditions besides a wound for their entrance might be necessary to favor production of the disease by the germs. One of the objects of the address was to call attention to these other factors. Among them was natural susceptibility to the disease, which might be increased by depressing agents, such as alcoholism and unsanitary surroundings. Local congestion from "taking cold" was a frequent factor in diphtheria, tonsillitis, pneumonia, etc. It had been demonstrated that a person might carry the bacilli of diphtheria in the throat without developing diphtheria. The same was true of cholera germs. Further, the germs might be pres-

ent and cause a mild attack of diphtheria or cholera, which might not be recognized from the clinical symptoms alone, as these might seem those of a simple tonsillitis or a simple intestinal catarrh. Thus it became apparent that a diagnosis based upon symptomatology alone was not always reliable. Sometimes the most prominent symptom depended upon a mixed infection, and not upon the specific germ of the disease. The laity and some physicians committed the error frequently of attributing the infectious disease to the exciting factor, as cold or injury, instead of to the infecting germ. The prevalence of certain infectious diseases at certain seasons was to be accounted for by the favorable atmospheric conditions for the development of the infecting germs, or by the depression of the patient's system and confinement within doors.

Regarding influenza, Dr. Sternberg was surprised that so few physicians recognized its distinctly infectious nature, and that its germ had been discovered (in 1892). The impression which many had expressed, even of comparatively recent years, that it was wafted long distances—say across a continent or ocean—by the air, was quite without foundation. The author mentioned only one disease whose infectious agent was carried to any considerable distance—malaria. But even in this instance, it was only in the neighborhood of the marsh whence the wind came. Doubt was expressed whether true malaria was conveyed through water or mosquitoes. There were questions of uncertainty in all reported cases. Many of them were cases of typhoid or some form of infectious fever different from typical malaria. The plasmodium of malaria was frequently reported as present when it was not, as there were other conditions of the blood which resembled it more or less. Continued absence of the malarial parasite from the blood and failure to respond to quinine was pretty positive evidence that the case was not one of malaria.

Classification of Infectious Diseases.—Dr. Sternberg said, regarding the classification of infectious diseases, that any attempt in this direction, based on present knowledge, must be more or less incomplete and provisional. One classification might be as follows, based on the channel of contagion: (a) Traumatic infections; (b) infection by contact or direct contagion; (c) infection through ingesta; (d) infection through the respiratory tract. Another classification might be based on the nature of the infectious agent: 1, Diseases due to infection by vegetable parasites, of which there were several subdivisions; 2, diseases due to animal parasites, of which there were several subdivisions. Further, a classification might be made which was based on the special tissues involved, as the blood, the skin, mucous membranes, serous membranes, glands, lungs.

The academy extended to Dr. Sternberg a vote of thanks for his instructive address.

The Physical and Schott Treatment of Chronic Cardiac Disease.—DR. H. NEWTON HEINEMAN read this paper. Contrary to the opinion which he had expressed in a paper read before the academy seven years ago, he now believed the physical and Schott treatment of chronic heart disease gave the best results. This conclusion was based on observation and experience with the method, as carried out at Bad Nauheim and elsewhere in Europe. The waters at Bad Nauheim were chalybeate, but also contained a high percentage of chloride of sodium, calcium chloride, etc., and were strongly impregnated with carbonic acid gas. The temperature was from 83° to 93° F. in the baths, which were taken either in the sprudel bath (*Sprudelstrom*) or after more or less of the gas had escaped, as it did when the water was allowed to stand in the open tub. The longest stay in the bath did not exceed twenty minutes. It should be followed

by an hour's rest. The author pointed out the different effect of these baths and fresh-water baths. The benefit did not come from absorption, for it had long since been shown that there was practically no absorption in baths. The effect of the bath on the heart had been shown by physical signs and by the x-ray. After the treatment had been started, a diminution in the dilated heart could be observed after the individual bath, and a progressive diminution was demonstrable. In addition to the bath, resistance movements were practised. These were made slowly and without special exertion, each successive movement bringing into exercise a different set of muscles. While these were being carried out, the pulse, respirations, and *alæ nasi* should be watched. Five to ten minutes was long enough for exercise at the commencement, but the time should be extended gradually to thirty minutes; and when a second *séance* was held the same day it should be only for twenty minutes. Always go slowly. The reduction in the size of the dilated heart might be observed in one or both ventricles, one or both auricles, and diminution in different directions. The gain was lost in a degree by the following day, but gradually one succeeded in attaining that size of the heart which gave the most perfect muscular accommodation. While he was at Bad Nauheim the majority of patients received only the bath and exercises, yet in general practice one should omit no means by which the patient might be benefited. Diet should be regulated. In explaining the benefit derived from the bath, Dr. Heineman laid most stress on the surface influence. There were a few cases of cardiac disease in which the treatment was contraindicated. Among them were complications by pulmonary infarction, excessive debility, advanced arterial sclerosis, aneurism of the aorta, acute and chronic Bright's. Some of these only required special precautions. The treatment was of most benefit in cases of irritable heart independent of changes; cases of relative inefficiency; in that large group, cardiac valvular lesions; and in angina pectoris. During the past year he had followed one hundred and twenty cases at Bad Nauheim. Of these, considerably more than half had come the second year, and many had returned yearly for three or more years. By such cases the permanency of the improvement had been established beyond doubt.

Gymnastics and Fatty Heart.—DR. A. JACOBI thought it worth while to mention the fact that neither the author nor the doctors at Bad Nauheim regarded the baths as a cure for all heart diseases. Regarding gymnastics, he thought they would be of special benefit when the muscle of the heart was defective. The exercise should be frequently repeated and not too violent. There were cases of fatty degeneration of the heart and of over-fat. It was in the latter that gymnastics were specially beneficial. But there was nothing more dangerous than to try to reduce the overgrown heart too rapidly.

DR. WILLIAM H. THOMSON said his experience had been limited entirely to gymnastic exercises in this treatment, but he now proposed to extend it to the baths. From exercises he had seen striking results. He would attach a good deal of importance to the reflex dilatation of the small arteries, which were contracted reflexly as well as narrowed by arterial change, especially in Bright's. This opening of the small blood-vessels by the bath went far toward relieving the heart.

DR. JACOB TESCHNER read the histories of three cases, in which there was marked improvement of the pulse and diminution in the size of the dilated heart dependent upon valvular lesion, following gymnastic exercises, prescribed more particularly for rotary lateral spinal curvature, in the manner which he had described on former occasions. These exercises were

pushed more rapidly than those recommended by the author, but they were not violent.

DR. F. W. JACKSON expressed surprise that more attention had not been directed to the method in America. He asked Dr. Heineman whether the effect upon the heart could be accepted as permanent, or whether it was only temporary compensation, which was likely to be lost, at least if the patient did not continue his visits to the bath. He thought the method could be adopted with advantage at bath springs in this country.

DR. HEINEMAN said the patients came back to the baths to retain, not to regain. After practising the treatment a while, cardiac tonics which had lost their power could again be used with effect. He agreed with Dr. Thomson that the influence upon the capillary circulation was an enormous factor in relieving the heart. He again impressed the necessity for not hurrying; otherwise, harm would be done in nine cases out of ten.

Semicentennial of the Academy.—THE PRESIDENT, in accordance with a resolution recommended from the council, appointed several committees on the approaching semicentennial of the academy.

SECTION ON NEUROLOGY.

Stated Meeting, October 30, 1896.

PEARCE BAILEY, M.D., CHAIRMAN.

The Relation of Toxic Agents in the Production of Nervous and Mental Diseases.—DR. IRA VAN GIESON read parts of several papers on this subject which he had prepared for another audience but had not presented. The following were the subjects of the several chapters: 1. The homology of the structure of the nervous system with that of the general viscera and tissues of the body. 2. The homology of the diseases of the nervous system with those of the simpler organs of the body, as the kidney or liver. 3. The significance, reasons, and explanation of the fundamental pathological processes, such as degeneration, necrosis, and inflammation. 4. Separation of the toxic diseases. 5. Acute degeneration of the nervous system. 6. Resitution or destruction of ganglion cells after acute degeneration. 7. Acute degeneration of the nervous system from auto-intoxication. 8. From extrinsic poisons. 9. Acute exudative inflammation of the nervous system. 10. Sequelæ of acute exudative inflammation of the nervous system. 11. The occurrence of acute bacterial toxæmias of the nervous system apparently independently of somatic disease, and on the distribution and selective action of poisons on the several departments of the nervous system. 12. Acute parenchymatous degeneration and exudative inflammation of the spinal cord. 13. Acute toxic lesions of the pia mater and the relations of the pia mater to the central nervous system in the toxic diseases. 14. Chronic degeneration of the nervous system. 15. Several examples of that, mainly the systemic diseases of the spinal cord, such as locomotor ataxia and others of the so-called system diseases of the cord.

Our knowledge of the effects of toxic agents upon the nervous system, he said, was much more limited than with relation to other parts of the body. The nervous system had been looked upon as something apart from the rest of the body, as if it were not subjected to similar pathological processes. During the past fifty years it had been studied in a topographic sense. Furthermore, formerly it was thought that as long as the ganglion cell was not blotted out changes were likely to be overlooked, whereas now it was known that the ganglion cell itself might remain and yet show change more or less destructive.

The laws of pathological processes were few, were

uniform and unavoidable. Nor did the brain escape them. They were not modified greatly in the nervous system, although the clinical results were much more complex on account of the varied functions of the nervous system and the intricacy of its anatomy. Neurologists had plunged into the study of the nervous system without the preparation which came from studying similar processes as they occurred in simpler organs in which they could be understood more readily and their significance interpreted. All sorts of clinical names had been given to nervous symptoms which were in reality due to but a few basic changes in the nervous tissue, similar to what was often seen in other structures of the body. The majority, if not nearly all, of the diseases of the nervous system were dependent upon or secondary to diseases of the general body, and these were usually due to or associated with poisoning from intrinsic or extrinsic toxic agents—bacteria and their poisons, auto-intoxication, alcohol, etc.

After pointing out the homology of the structure of the kidney and nervous system, each containing parenchyma and stroma, the author mentioned the several lesions of the kidney and their analogous conditions in the nervous system. For instance, acute parenchymatous nephritis, so often present in connection with infectious and contagious diseases, had exactly its counterpart in the brain—a fact of great importance but very little recognized. When the poison producing the lesion was not too voluminous or intense, the cerebral as well as the renal tissue returned to its normal state and the symptoms disappeared. Acute and chronic diffuse nephritis, in which both the parenchyma and stroma of the kidney were involved, were exemplified in the nervous system by some form of general paresis. Even the pia could be stripped off, carrying with it some of the cortex in some cases of general paresis, just as the capsule of the kidney could be stripped off in the similar condition in that organ. Chronic interstitial inflammation in the kidney also had its analogy in the brain. The early stages were difficult to identify. It was seen in certain epilepsies. Lesions corresponding to all of these were seen in the brain, and were caused largely by the same things which produced the lesions in the kidneys.

The author then passed to the etiology, and referred as a most valuable article upon the subject to one entitled "Immunity and Cure," by Dr. F. Stanley Abbot. As already suggested, the chief cause was poisons, and among these were bacteria, and especially their secretions. At this point Dr. Van Gieson dwelt upon the manner in which the bacteria gained entrance to the body and the way in which the latter tried to cast them out or to counteract their injurious influences. There was an effort to limit them to the point of entrance and also to neutralize their toxic agents. The degenerative processes themselves were conservative, but of course at great cost to the tissues. In disease, therefore, there were two factors, one pertaining to the invader or the bacteria, the other to the host. The bacteria varied in virulence and kind; number was important; and there was the question of mixed infection. Therefore this side of the equation was a very variable one. The same was true of the other side, the bodily resisting forces. In some persons they were generally powerful, in others slight; in some organs strong, in others weak; and varied at different times as well as in different individuals of the same and different races and according to the kind of bacteria which were the invaders, etc. In tuberculosis and pneumonia the variation of these factors was not so great but that they produced a pretty constant result, whereas in typhoid it might vary greatly. In typhoid with brain symptoms we might assume that the bacterial forces were powerful or the bodily forces weak. The lesions themselves varied to a certain

extent both in degree and locality, but of the symptoms it could be said that they were kaleidoscopic, so great might be the variations.

Acute degeneration of the nervous system had its homologue in acute parenchymatous nephritis, acute degeneration of the liver or of other organs, and was seen in a great variety of acute infectious diseases, the eruptive fevers, sunstroke, auto-intoxications, cachexia from removal of the thyroid, eclampsia, poisoning by alcohol and phosphorus or other drugs. All of these things, if the poison were not too intense, acted in the same way, causing acute degeneration of the nervous system. The chromophyllic plaque within the cell disintegrated in greater or less degree, and the cell might even be destroyed. This disintegration of the plaques might be in itself conservative, having an antagonistic effect upon the poison or uniting with it and producing an inert compound. When the dividing line existed between destruction of the cell and the stage at which it could be restored, he had considered in a separate chapter on the restitution of the cell after degeneration. In one case of autopsy after typhoid fever he had found nearly universal breaking up of the chromophyllic plaques, yet the woman had had no more delirium nor cerebral symptoms than the ordinary case of typhoid fever, which would seem to show that such an amount of change in the nerve cells was not uncommon in this disease and restoration might still be possible. In fact, it seemed remarkable to what an extent the brain cells could recover after acute degeneration, just as happened with the kidney cells. In alcoholism this was also seen, but it was evident that alcoholic poisoning could not continue indefinitely without irremediable destruction of the brain cells.

Acute exudative inflammation of the nervous system was generally misunderstood. It had been thought to be an individual disease of the nervous system called multiple sclerosis, the basic change and its cause having been overlooked. It was a question of intensity or amount of the poison, for the greater the intensity or volume the greater was the effort of nature to protect herself. This was accomplished by throwing out an exudate, and this in multiple sclerosis resulted in patches of sclerotic tissue. Landry's paralysis was explained in a similar way.

Dr. Van Gieson thought the freedom of the terminal circulation of the given portion of the nervous system had much to do with its power to resist bacteria and poisons. The pia mater was a network of blood-vessels, and in that portion of the cortex where the circulation was freest the power of resistance and restitution was greatest. Tuberculosis affected the base more than the vertex.

DR. FREDERIC PETERSON opened the discussion. He thought there was, besides pathological evidence, also much clinical evidence in favor of the facts presented. Regarding insanity, the more we studied it clinically the more circumscribed became the class of cases which we had heretofore looked upon as without special cause. He mentioned some cases in which the evident cause was either intrinsic or extrinsic poison. In one of them autopsy showed renal disease as the source of the poisoning; in another there was poisoning from bisulphide of carbon. Both patients were maniacal; one became comatose.

DR. P. M. WISE, state commissioner in lunacy, thought no one who had observed psychoses in hospitals for the insane and the effect of treatment could have reached any other conclusion than that a large proportion of cases of insanity were of toxic origin. He thought disease of the kidneys was the source of the poisoning in a large number. There were insomnia and mental depression, which might go farther.

One of his assistants had found in some cases of periodic insanity a relation between the attacks and the quantity and quality of the urine. Acting on this information he had sometimes been able to abort a threatened outbreak of the mental symptoms by stimulating kidney elimination.

DR. GEORGE BIGGS emphasized the importance of a knowledge of general pathology in studying the diseases of the nervous system. The theory of the toxic origin of most nervous diseases impressed him as a very plausible one. It was certainly sufficient to explain a large number of them.

DR. E. D. FISHER remarked that the author had mapped out an immense scheme, one which would, as suggested, permit of a great deal of amplification. He regarded the paper as the most suggestive one that had been read on any similar topic for a long time. Regarding the etiology of nervous diseases or symptoms, Dr. Fisher thought the infectious diseases produced only very slight nervous symptoms usually, and the toxic influence on the nervous structures could not be great. He thought the cerebral symptoms corresponded more closely to the rise of temperature. As to extrinsic poisons, alcohol produced immediate effects, it was true, but these passed off, and then we could observe no change in the cell. In chronic alcoholism there was another factor to be considered. It was the change in the arteries, not the direct effect upon the nerve cells, which was the striking feature. Cell degeneration here was not due directly to the alcohol, but to diminished circulation through arterial degeneration. While the paper was a most interesting one, he thought it laid too much stress upon toxic agents in the etiology of diseases of the nervous system.

DR. GRANGER said that fifteen years ago the alienist considered scarcely anything but brain diseases and what he could find in the brain itself. Pathology from a broader view had then hardly been considered. We were now largely engaged in unlearning what we had learned fifteen years ago. The study of the diseases of the nervous system had been much broadened. Dr. Granger referred to several cases of acute mania in certain fevers, particularly typhoid, and attributed it to poison acting on the nervous structures, as suggested in the paper.

DR. BERNARD SACHS remarked that Dr. Van Gieson had given a great deal for one evening, yet he had, no doubt, withheld more than he had had time to read. Dr. Sachs had no criticisms to offer, but thought there was a possibility of going to an extreme in generalizing. Regarding toxic agents, it seemed the author did not believe so much in differentiating between the bacteria. It was possible to go too far in this direction and cast aside valuable work done by bacteriological investigators.

DR. EWING was surprised to hear the author state so definitely the changes which took place in the nerve cells in toxic conditions. In the course of his study he had been unable to make positive statements. The subject was still a very complex one.

DR. M. PUTNAM JACOBI mentioned some attempts which had been made to show the association of certain forms of mental disturbance with given kinds of bacterial or toxic poisoning, or certain diseases or disturbances of the general system. In this connection influenza was mentioned, and dilatation of the stomach, in which stomach irrigation relieved attacks of mental depression. She also mentioned a case of muttering delirium in typhoid succeeded by systematized delirium, and was unable to draw the line between the influence of the typhoid poison and of prior alcoholism in producing the mental symptoms. Féré had claimed to observe a diminution of urine preceding epileptic attacks, pointing to an accumulation of

toxic principles in the tissues before the attack and elimination afterward.

DR. HERTER thought progress was going to be along the line mapped out by Dr. Van Gieson. In his opinion the author had been sufficiently cautious in his statements. He could not agree with Dr. Fisher in his exceptions. In studying the influence of the urine, too much attention had been given its clinical aspect and its influence on lower animals.

DR. BAILEY said the presumptive clinical evidence of intoxication as the causative factor in nervous and mental diseases was very strong, yet absolute microscopic and chemical proof was far from being complete.

DR. VAN GIESON made some concluding remarks, and was requested by the section to present the rest of his paper at some early meeting.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 14, 1896.

JOHN SLADE ELV, M.D., PRESIDENT.

Malformation of the Genital Organs; Probably a Case of True Hermaphroditism.—DR. CARL BECK, present by invitation, presented specimens taken from an individual, twenty-one years of age, upon whom he had performed laparotomy last June. The patient died of pneumonia sixteen days later. One specimen showed a well-developed penis, with the exception of the urethra, in the place of which was a slight depression. There was an infundibulum, very closely resembling the introitus vaginae. The membrane covering this was easily broken through, and disclosed a vagina and an infantile uterus. The patient stated that he had been regarded as a girl up to his seventeenth year, and that he had had sexual connection from the fifteenth year. He then assumed the male attire. There had been no menstruation, according to the history. At the time of the operation, which was done for the removal of two pelvic tumors, it was found that the removal of the larger growth was very difficult on account of extensive adhesions. The two tumors filled up the small pelvis, the larger one reaching up as high as the umbilicus. The pedicle of each tumor was rather thick, and was attached to the peritoneum about half an inch laterally from the symphysis and about one-fourth of an inch below the os pubis. Dr. Beck said that he had a distinct impression that on the right side an ovary could be felt, but, just as he was endeavoring to examine into this point more carefully, the patient's respiration suddenly ceased, and this abruptly terminated the examination and also the operation. Unfortunately, the autopsy had been performed in his absence, and many interesting points had been consequently overlooked. The pathologist, Dr. Brooks, reported that the tumor consisted of mixed elements, making it impossible to classify it. The bulk of the growth was composed of embryonic tissue, and the tumor apparently belonged to the teratomata. He had shown these tumors to several eminent medical gentlemen, and none of these had cared to express any distinct opinion on the question of whether these growths were testicles or ovaries. No seminal vesicles had been found. Dr. Torek had informed him that this patient had been admitted to the Skin and Cancer Hospital last year, and had been treated by Dr. Fox for syphilis.

Discussion.—THE PRESIDENT said that the decision as to the actual sex in this case depended upon whether these tumors were ovaries or testicles, or whether one was an ovary and the other a testicle.

Such cases had been reported. An examination of the specimen seemed to him to indicate that the case was one of pseudo-hermaphroditism of the male type, with failure of union of the lateral halves of the body at the time of the completion of the external genitals, and with the persistence of the remnants of the Müllerian duct, which ordinarily becomes atrophied in man, but which in the female is developed into the uterus and Fallopian tubes. In a number of cases of masculine pseudo-hermaphroditism, uteri of about this size had been described as a result of the persistence of a portion of the Müllerian ducts. In a case like this, in which positive evidence was lacking, the fact that the definite function of the male had been performed should have considerable weight in reaching a decision. Certainly, the penis in this case bore a much closer resemblance to the true penis than to a hypertrophied clitoris, although Ziegler pictures a hypertrophied clitoris which very closely resembles the organ found in this specimen.

DR. H. J. GARRIGUES, present by invitation, said that in order to understand these cases of hermaphroditism, whether true or false, we must go back to the history of development. Before the tenth week we could not distinguish the sex at all. It should be remembered that the development takes place from three different localities, viz.: (1) For the outer part the starting-point is the genital tubercle and genital fold. (2) Inside of that are the Müllerian and Wolffian ducts. The former develops into the Fallopian tube and uterus in the female; the other duct becomes the vas deferens in the male, and is often found as a remnant in women. (3) The sexual glands are developed from the epithelium covering the Wolffian body. Bearing these facts in mind, he said, it was evident that any one of these three parts could assume the type of the opposite sex. In spurious hermaphroditism, there is only one sex, and there is an opposition between the outer part and the inner part. In true hermaphroditism, there must be at least one testicle and one ovary. A microscopical examination was necessary to prove a case one of true hermaphroditism. So far as he knew, there was only one reported case of true hermaphroditism—i.e., one in which there had been a microscopical examination to confirm the diagnosis. This was the case of a little child, who lived only one month. In this case there were two testicles and two ovaries, and the nature of all of these organs was demonstrated by microscopical examination. There was no difficulty, he said, in understanding how one sexual gland might take the male type, and the other the female type; nor in understanding how the glands might both belong to one sex, and the external genitals to the other. But how could there be both ovaries and testicles? The explanation probably was to be found in the different origin of the stroma of the testicle and the ovary. According to Waldeyer, the seminal canals of the testicle were formed by invagination from the Wolffian ducts, while the follicles in the ovaries were formed from the germ epithelium.

Dr. Garrigues said that he had seen the two tumors in the case under discussion, just after their removal from the patient, and hence while in the fresh state. They had appeared to him to be sarcomata. He had also had the opportunity of examining the patient while alive, and had in this way been able to diagnose an entirely normal virginal uterus. A certain journal had made the statement that these cases were quite common, but this seemed to him a gross exaggeration. During twenty-five years he had made a considerable number of examinations, and he had never seen a specimen as well developed as this one. He had measured the uterus in this case, and had found it two and one-fourth inches deep. On the left side was an entirely normal ovarian ligament, one

and one-fourth inches long, which had been abruptly cut off. The same was true of the broad ligament on that side. On the other side the post-mortem knife had left only short tabs to indicate the site of these parts. In his own mind he felt sure that this was a case of true hermaphroditism, and hence he regretted exceedingly that a minute examination had not been made. He knew of an individual, now alive, who not only menstruated, but possessed semen. The left side of this individual looked like a male, and the other side like a female.

DR. J. F. ERDMANN, present by invitation, said that he had also seen the specimen. He could not add materially to the report of this case, but desired to refer to an interesting clinical history recently sent to him, which bore on the subject under discussion. The patient was about twenty-five years of age, and had all the appearance of a female as regards the mammary development, and all the appearance of a true hermaphrodite as regards the development of the genitals. In the labia majora on both sides were what appeared to be testicles, and there was also a vagina. The patient would not submit to an examination with the finger or with a sound. He stated that he had had sexual connection after the manner of the male sex. Recently a specimen had been shown in the genito-urinary section of the academy which was really an example of the false type of hermaphroditism.

DR. BECK, in closing, said that he personally had very little doubt that this case was one of true hermaphroditism. It was not certain that there had not been menstruation in this case, for the patient might have had it and denied the fact. The fact that this patient had had a chancre—the initial lesion of syphilis—on the male organ would also be in favor of the opinion that this organ was a true penis.

Congenital Occlusion of the Bowel.—DR. THOMAS S. SOUTHWORTH presented a specimen. The child was one of twins, and died when five days old. The other twin died after two hours and a quarter, and the autopsy showed congenital pulmonary atelectasis. In the child about to be presented there had been no asphyxia at birth. On the first day a little mucus had been passed from the bowel, and the infant also vomited. On the third day, there having been no further discharge from the bowel, castor oil was given, without effect. On the fourth day there was a little vomiting, but there was no faecal odor to it. The little finger was passed a short distance into the rectum and a catheter was also introduced in the same way. The only result of this examination was the discharge of a long string of mucus. Just before death, on the fifth day, there was faecal vomiting. Post-mortem examination showed the lungs fairly well aerated and the heart normal. The stomach was distended with gas, and its greater curvature was turned upward by the distended intestine. The peritoneum contained from four to six drachms of bloody fluid and a few stringy clots. The small intestine protruded from the abdomen on making the first incision. The small intestine and the vessels of the mesentery were injected. The intestine was distended with a yellowish faecal matter. The lower part of the ileum was green and contained meconium. The diameter of the gut at the point of greatest distention was about three-fourths of an inch. In the ileum, and about two inches above the caecum, the bowel was filled with a rather firm mass of faecal matter and mucus. Below this, the ileum was contracted and nearly empty. A probe could be easily passed through the ileo-caecal valve. The caecum was exceedingly small and the appendix was normal. The colon varied from one-eighth to three-eighths of an inch in diameter. The rectum was a little larger and admitted the little finger up to the first joint. It was connected to the sacrum, and appeared to have been

torn from its attachments. This probably accounted for the bloody fluid found in the abdomen.

The speaker said that cases of congenital occlusion were rare. It had been stated that only two cases had been found in the Vienna Hospital in over one hundred thousand children. There might be: (1) An abnormally short or double bowel; (2) a double caecum and appendix; (3) abnormal positions, due to unusual length of mesentery, to hernia through the diaphragm, or to transposition of the viscera; (4) congenital absence of portions of the gut, a condition generally met with in poorly-developed and acephalic monsters; (5) the stenosis might exist in the form of one or more rings. Atresia was only a more advanced condition. The most frequent sites were the beginning of the rectum, the end of the rectum, at the duodenum, and at the lower end of the ileum. Occlusion might also occur from anomalies connected with the omphalo-mesenteric duct. The persistence at the umbilicus of a portion of this duct might give rise to "mucous polyp of the umbilicus," or it might result in a blind pouch, extending out of the ileum. Sometimes there was only a cord, extending from the ileum to the umbilicus.

The etiology was briefly summarized as follows: (1) The duct may be occluded by a fold or diaphragm of mucous membrane, a condition which is most common in the duodenum or jejunum; (2) such malformations are ascribed to arrested foetal development, or to accidents in development; (3) the occlusion may be due to foetal peritonitis; (4) it may arise from changes in the peritoneum in early foetal life, resulting in adhesions or constricting bands; (5) there may be obstruction at the junction of the ileum and omphalo-mesenteric duct, due to an excessive twisting of the umbilical cord—an increase of the normal condition at this point. If the twist extends to the intestine itself, atresia occurs. In the case just presented, the stenosis was about two inches above the ileo-caecal valve, and there was very imperfect development of the entire large intestine.

A New Morphological Element in the Cones of the Retina—"The Kuttarasome Body."—DR. IRA VAN GIESON said that the cones of the retina had been studied only as regards their shape and form. Max Schultze, in 1869, had so well described the cones, not only in the retina of the human subject, but in some of the lower animals, that very little had been added to our knowledge for about twenty years afterward. Then the connection of these cones with the central organs and with the ganglion cells of the retina was perfected. The cytology of the cone up to the present time had been almost entirely neglected. It had been his fortune to secure the retinae from criminals executed at Sing Sing, and hence it had been possible to obtain them in a very fresh condition. They had then been stained by Nissl's method, and examined according to the most recent and approved methods. Unless done in this way, the object to be described could not be seen. A striking body had been found just at the neck of the cone. It was composed of a series of parallel bars, and presented a gridiron appearance. These bars had lateral anastomoses, and at the top joined in a semicircular manner. For this reason he had given this body the name of the "kuttarasome body." This body was to be taken as the analogue of the chromophyllic granules in the ganglion cells. He would also call attention to the fact that the material composing this body extended up into the cone itself in the form of lines.

A Case of Fissure of the Abdomen, Pubic Region, and Genitalia was described by DR. J. S. ELY, by means of diagrams and photographs. The appearance of the child was that of one in good health. It was the third child, two previous children being healthy. There was an indefinite history of an at-

tempt at early abortion, followed by slight hemorrhage. The labor occurred on June 26, 1892, and the presentation was R. O. A. The umbilical cord was so short as to cause some delay in the labor. The child died about twelve hours after birth. At the autopsy the development was noted to be that of a child at full term. There was talipes varus of both feet, and the abdominal wall and genitals were malformed. From about three centimetres below the xyphoid cartilage down to the usual situation of the symphysis pubis was a large gash, measuring eight centimetres from above downward and seven centimetres laterally, and having an elliptical shape. In the edge of this defect in the abdominal parietes a membranous pouch protruded forward. In this pouch a large part of the liver and small intestine could be seen and felt. From about the centre the umbilical cord originated and was of normal diameter. The development of the genitals was exceedingly abnormal. A small wart-like prominence was seen in the median line, about five millimetres in both diameters, and of a bluish-red color. Just external to this was a slit-like opening, about six millimetres in length, from which meconium could be forced by pressure on the gut through the thin-walled omphalocele. At the same time meconium passed in small quantity from a small opening just above the wart-like mass. In each groin was a reddish mass, about two centimetres long and one centimetre at the broadest part. The lower part of this mass was composed chiefly of a thin reddish membrane. Toward its inner border was a small round opening, through which a probe passed into a larger cavity. Above and externally this mass in the groin was made up of denser tissue. Below this mass was a slender protrusion, one centimetre long, and somewhat resembling in appearance the labium minus. Below this was a rounded prominence, covered with tissue-like skin, and resembling slightly the labium majus. Below this was a small depression. On opening the abdomen by a median incision, the upper and anterior portion of the liver was found loosely adherent to the sac of the omphalocele. There was no evidence of a urachus. The liver was rather large, somewhat irregularly lobulated, and situated on the right side of the abdomen. The spleen was somewhat enlarged; it was situated normally, and its structure was also normal. The stomach had the usual situation, size, and shape. The small intestine was normal in size and attachments, but at the lower extremity of the ileum it was adherent to the anterior abdominal wall at a point corresponding to the small median opening already described. A probe passed from this opening into the lower portion of the ileum. The ileum also communicated by an opening in its right wall with the caput coli. This last was of normal size, and to it was attached the vermiform appendix. It was, however, almost spherical, and formed a sac about two centimetres in diameter. It represented all that there was of a large intestine. This cloaca-like pouch was closely attached to the posterior abdominal wall by a very slight mesentery. The ureter passed almost straight downward and communicated with the pyriform bodies extending upward from the prominences in the groin. These pyriform bodies were alike on the two sides. Each was about four centimetres long, broad below, and circular throughout in cross-section. The lower portion was soft and hollow, and was lined by a somewhat wrinkled mucous membrane. The upper three-fourths of the body were hard, but contained a very small cavity and resembled the uterus. It communicated below with the vagina by a well-marked cervix. From the upper and outer side of this uterine mass a tortuous Fallopian tube ran upward to the vertebral column. It had a distinct fimbriated extremity. Each pyriform body represented

a hymen, uterus, tube, and ovary, and the ureter on each side opened into the vagina on the corresponding side. The pelvis was rudimentary and defective in form. The ischium was represented only by a small knob. The ilium was well formed.

Dr. Ely then presented three specimens showing deficiency of the anterior abdominal wall. He said that when there was absence of bladder and of the pubic bones there was apt to be complete fissure of the genitalia, the ducts developing on their respective sides but never fusing.

Discussion.—DR. C. N. DOWD said that it was noticeable that almost all of these deformities were due to a failure of one of the ordinary processes. In one of the specimens there were various amniotic bands and adhesions. It would seem quite possible that many of these deformities were due to such bands. We could not but grant their existence; and, having done this, many malformations could be explained by such mechanical obstruction to growth. He had found that there were very few cloven feet on record—one such had been shown in the specimens just exhibited. In all the reported cases there had been a failure of development in the middle of the feet. It was easy to understand how such a cleft might result from amniotic bands. In all the cases he had been able to study there had been an absence of one or more of the bones of the tarsus.

DR. W. B. NOYES said that, in contradistinction to a purely local cause, such as amniotic bands, he would call attention to a series of cases in which the monstrosities occurred in families showing a distinctly hereditary element. For instance, certain families were known to have cretins, associated with deaf-mutism, or with supernumerary digits, or something of the kind. Unless this could be explained as a coincidence, it was difficult to understand its occurrence on the theory of a purely local cause.

DR. DOWD said that it could not be denied that there was a hereditary element, particularly in regard to the occurrence of supernumerary parts. The mechanical explanation, however, applied to a certain number of the cases of failure of development.

DR. GEORGE P. BIGGS thought that a band of sufficient size to produce such marked disturbances of development ought to be represented by some remnant. This would indicate that there must be something more than the bands to explain the condition.

DR. DOWD replied that if the arrest of development occurred at a very early period of development, it would not be necessary to suppose the existence of very large amniotic bands.

DR. ELY said that there could be no question that amniotic bands had much to do with the occurrence of certain very marked malformations; nevertheless, the theory did not seem necessary to explain the failure of union of the two lateral halves of the body, or such phenomena as cleft hands or cleft feet. It was well known that the respective halves of the hands depended for their development upon the respective sides of the forearm. If, for example, the thumb were absent, the radius would be frequently found to be absent. It seemed quite possible to suppose that some maldevelopment—such as an interference with the nutrition of the cells which usually united the two lateral portions in the median line—might result in this class of malformations. It was now known that certain malformations could be produced by irritation of the embryo. The cytologists were able to state, very early in the development, the exact part which would result in the formation of the respective systems or divisions of the body. It was evident, therefore, that certain cells were set apart for the formation of certain definite parts of the body.

The society then went into executive session.

Reviews and Notices.

MINOR SURGERY AND BANDAGING: Including the Treatment of Fractures, Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By HENRY R. WHARTON, M.D., Demonstrator of Surgery in the University of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. Third Edition, thoroughly Revised and Enlarged, with 475 Illustrations. Philadelphia and New York: Lea Brothers & Co. 1896.

THE title page tells what the book contains, or almost all. The ground of minor surgery is well covered, and as there are five hundred and seventy-nine text pages it will be seen that they are quite well covered, too—with pictures. Most of them are very good, especially those illustrating bandaging, which are reproductions of photographs, several somewhat suggestive of the "living pictures." The chapters on antiseptic and aseptic wound treatment have been thoroughly revised, and some additions have elsewhere been made.

We bespeak for the work a continuance of the favor with which it was originally received.

A MANUAL OF OBSTETRICS. By W. A. NEWMAN DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, Instructor in Gynecology in the Philadelphia Polyclinic, etc. With 163 Illustrations in the Text and 6 Full-Page Plates. Philadelphia: W. B. Saunders, 925 Walnut Street. 1896.

THIS work is constructed upon a combined clinical, physiologic, and pathologic basis. A normal labor in a normal woman is taken as the representative of physiologic obstetrics. In the second part the pathological deviations from this natural state are taken up and discussed in the same order, beginning with ovarian development and ending with the pathology of the puerperium. Following this is a chapter upon the pathology of the new-born, covering the accidents from asphyxia neonatorum to umbilical hernia.

The manual is illustrated in a practical and instructive way. The general style of the publisher's part is that of the "Saunders' New Aid Series."

It is a work worth having by all engaged in learning, teaching, or practising obstetrics. A system of paragraphing, numbering, and cross-reference makes the efficiency of the work more pronounced.

A MANUAL OF PHARMACOLOGY AND THERAPEUTICS. By WILLIAM MURRELL, M.D., F.R.C.P., Physician to and Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, Late Examiner in Materia Medica and Pharmacy to the Conjoint Board of the Royal College of Surgeons of England and the Royal College of Physicians of London. Revised by FREDERICK A. CASTLE, M.D., Member of the Committee for Revision and Publication of the Pharmacopœia of the United States of America, Late Lecturer on Pharmacology at Bellevue Hospital Medical College, Physician to the Presbyterian Hospital; Editor of "New Remedies," etc. New York: William Wood and Company. 1896.

THIS is an abstract of the lectures on pharmacology delivered by the author before the students at the Westminster Hospital, and especially designed for the purposes of students preparing for examination. Still, the therapeutic part has been written in such a way as to make the work most available for the requirements of practitioners of medicine, and with this view a large number of modern prescriptions has been incorporated in the text, and in a separate appendix the introduction covers one hundred and forty-three pages and embraces a large variety of subjects, including climate, baths, serums, alkaloids, ptomaines, the art of prescribing, etc. An excellent feature, in connection with the index, is the addition of the customary maximum single dose for adults, placed opposite each drug intended for internal use. The work of the reviser has been carried out with a full realization of the requirements of the American student and reader, and all points interesting the English purchaser of the work alone have been omitted. In compensation much of interest and importance has been added, and this matter is enclosed in brackets to indicate its source. The work upon both sides appears to have been done with the utmost painstaking care,

and the experience and reputation of the American reviser in such matters are a warrant that accuracy may be depended upon.

There would seem to exist a field of usefulness for just such a work, since pharmacology is attaining from year to year greater importance in the college course, and the branch is keeping well up with advances in other lines.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By FRANCKE HUNTINGTON BOSWORTH, A.M., M.D. Profusely Illustrated with nearly 200 Engravings and 7 Full-Page Chromolithographic Plates. New York: William Wood and Company. 1896.

THIS work, unlike the rather voluminous one recently issued by the same author, is better adapted for the practical use of both practitioner and student. It is in reality a condensation of the two volumes into one, leaving out such portions as were mainly intended for reference. Only a few immaterial changes appear to have been made in the condensing process, which was accomplished, as the author states, mainly through the efforts of Dr. A. R. Schroeder. The number of chapters escaped by one reaching the hundred mark, making eight hundred and twenty-one pages, including seven colored plates inserted after the index. The chapters are divided into six sections: (1) "Diseases of the Nasal Passages." (2) "Diseases of the Naso-Pharynx." (3) "External Surgery of the Nose." (4) "Diseases of the Fauces." (5) "Diseases of the Larynx." (6) "External Surgery of the Throat." The list of illustrations covers a wide range of subjects, whose description is thus rendered much clearer. The wide experience of the author as practitioner in this department and as teacher of this special branch has well qualified him for the task which has been accomplished. Not only have the usual affections which are so common in this climate been almost exhaustively dwelt upon, but all the serious operations which the surgeon is called upon to perform in this region of the body have been described and depicted. The original work having been reviewed at some length, it need now only be said that the reducer of those two volumes has acquitted himself in a most satisfactory manner and presented a book well worthy of the extensive and important subject.

A MANUAL OF CLINICAL DIAGNOSIS by Means of Microscopic and Chemical Methods. For Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, M.D., Late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. With 132 Illustrations on Wood and 10 Colored Plates. Philadelphia and New York: Lea Brothers & Co. 1896.

THIS is a work which enters into a comparatively new field, and one which we must admit has been too much neglected both in America and in Europe. To be sure, the schools are taking up laboratory methods of examination more and more each year, but the older generation of physicians has not realized the importance of securing competent assistants to do such work for it when too busy to devote the requisite time to it. The student and the diagnostician will alike find here pointed out the way through clinical chemistry and clinical microscopy to the attainment of definite results. The arrangement is such that one who has had no special training in these branches can follow out the scheme of work in examinations of blood, secretions of the mouth, the stomach contents, feces, nasal secretions, sputum, vaginal discharges, milk, etc. The normal secretions of the part are described and afterward the pathological, and finally the technique of examination. Naturally the chapter on the urine is the most important, in point of number of pages devoted to it, which extend from page 239 to page 460. There are a number of instructive colored plates, some of which, as well as many of the wood cuts, are taken from von Jaksch's work.

Malakine has been found by Merkel to possess marked influence over rheumatism in those cases in which salicylate of sodium remained without effect. In three cases Korotky and Oussoff secured, by its employment in doses of from two to three grains daily, a lowering of temperature and suppression of pains without any of the discomforts which the salicylate may occasion.—*Meditz. Obos*, No. 2, 1896.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

JUBILEE OF THE PATHOLOGICAL SOCIETY—A GLASGOW INSTITUTE FOR PATHOLOGY—THE HARVEIAN ORATION—GUILD OF ST. LUKE—DOCTORS AT ST. PAUL'S CATHEDRAL—THE ARMY DEADLOCK—SIR W. MACCORMACK—WATER SUPPLY—ENTRIES AT THE SCHOOLS.

LONDON, October 23, 1896.

THE Pathological Society, on Tuesday, celebrated its jubilee by an address from the president, Mr. Butlin, and an exhibition of a series of specimens which have no little historical interest. Mr. Butlin spoke of the great influence the society has exerted in promoting the study of morbid anatomy and pathology. The society held its first meeting on October 20, 1846, when a number of specimens were contributed by the members. Indeed, the exhibition of specimens, drawings, casts, or models of morbid parts was the first object of the society, and has held a foremost place through the half-century of its existence. The forty-six volumes of Transactions are a kind of record of the progress of pathology, and of immense use in the study; but I doubt not the influence of the meetings has been far more widespread. Mr. Butlin anticipates that the records of the society are likely to be of value for the next fifty years, and he spoke from his experience as to their use in collecting cases of morbid growths for analysis—an experience common to all searchers and writers for the last thirty years. Still, I think, as I have said, that the influence of the meetings has been more useful in promoting a wider interest in the subject.

Nevertheless, Mr. Butlin was constrained to express apprehension that the society may have passed its zenith and is in the stage of decadence, although there are some seven hundred members on its list. From some points of view this is undoubtedly the case, and to assist in its rejuvenescence I would suggest that an effort should be made to make the meetings more interesting to those who cannot attend regularly. In this view it is doubtful whether set discussions, in which a few experts are engaged to state their views, are really attractive. Such debates can be read in the journals. That which can only be obtained at the meetings is a sight of the specimens and the remarks, which often shed fresh light on them from different points of views.

After reviewing the history of the society for the last fifty years, the president expressed a hope that the work should go on for an equal period, and he suggested that departments of applied pathology, established at our hospitals, would be a good plan for maintaining the proper relations between purely scientific work and the practice of medicine and surgery.

Sir R. Quain, one of the five surviving original members, moved the vote of thanks to the president, which was seconded by Dr. Wilks, who mentioned that the idea of the society was due to Dr. Bentley, of Guys, at whose house the first meeting was held.

The exhibits were confined to specimens of morbid anatomy, which illustrated subjects of general pathological interest—the restriction being due to want of space. A catalogue was ready. Among them were Paget's specimens of osteitis deformans; Wilks' specimens demonstrating the fact of visceral syphilis; Addison's specimens of suprarenal capsules, from which he made his discovery; and others of similar historical interest.

While pathology has been to the front in London, it has also attracted attention in Glasgow, where a Path-

ological Institute, in a suitable building erected at a cost of £15,000, has just been opened. Professor Gairdner gave an inaugural address on the occasion. No one is more capable of showing the place of pathology in the science of medicine, and this, of course, he did in the felicitous manner that charms his hearers whenever he is the speaker.

On Monday the Harveian oration was delivered by Dr. J. F. Payne, before the College of Physicians. The chief point in his discourse was the relation of Harvey to his predecessors, and especially to Galen, the final representative of the great Greek school. Dr. Payne argued that it was that school which put into shape, but could not solve, the problem which remained insoluble until the appearance of Harvey. His genius was able to solve it. But it may be said that he was influenced in no small degree by his two preceding generations. In fact, Linacre and Caius may be said to represent two successive stages in the movement which was preliminary and essential to the work of Harvey, and of which his discovery was the culmination. The period of the renaissance was that of the revival of Greek learning, and Linacre's object was to make the works of Aristotle and Galen accessible to all by translation and the earnest study of all. Modern science, the orator argued, grew out of Greek learning, and it was only a speculation as to how otherwise it could have arisen. The student of to-day, who goes to his anatomical work with his text-book and dissecting-case in his hand, should be thankful that in the fifteenth century they began to read Greek manuscripts. The moral drawn by the orator was that we cannot ignore the instruments of the past, and that is a growing truth of which the lovers of Greek learning scarcely need a reminder.

On Thursday St. Paul's Cathedral was the scene of an interesting ceremony, promoted by the guild of St. Luke. This guild is an association of doctors who are churchmen—and one may say high churchmen, for it is in that party the guild originates and on its lines it is carried on. But all practitioners and even students were invited to the service at St. Paul's, and doubtless many of the throng who attended neither knew nor cared what party organized the ceremony. It was the thirty-second anniversary of the Guild of St. Luke (patron saint of doctors, as "the beloved physician"), and that association initiated the ceremony, which was announced to be analogous to that among lawyers when Her Majesty's judges annually attend St. Paul's in state, though I fail to see how a private association is analogous to Her Majesty's judges, or can give state to a ceremony of the kind named. However this may be, the guild satisfied the lord mayor and sheriffs, who attended in state and so gave civic pomp to the occasion. It had been requested that graduates should appear in the gowns and hoods of their academic degrees, and, as many complied with the request, the scene under the great dome was unusually brilliant, and must have given great satisfaction to the organizers and all who take delight in robes and ornaments. The Bishop of Stepney preached the sermon, in the place which was to have been occupied by the late archbishop. He referred to the training of young medical men, which he had observed at Cambridge, and did not wonder that some for a time became materialists, as they found no part of nature that might not fully occupy the highest intellects. But that phase must not continue, and, though he was quite certain that religion could not do without science, he also was profoundly convinced that science could not do without religion. In the harmony of the two and the perfection of each is the healing of this world and the building up of the next. After praising the work the guild is doing in this direction, the bishop spoke of the deceased archbishop, whose vacant pulpit re-

minded them of that "marvellous voice—once heard, never forgotten—which would have said things that not all the anxieties of professional life would be able to remove from your minds." He asked if they needed a more speaking message of the poor, feeble thing materialism is, when they met such a blow as his death. In such cases consolation, strength, hope, has to be sought outside any particle of matter. It is in the world of spirit you are plunged. Then he dwelt on how the late prelate would have rejoiced to see the enormous and brilliant assembly that thronged the great cathedral—"such a gathering as I have never seen in this place, under circumstances that make the occasion absolutely and entirely unique."

The deadlock in the army medical service seems, at length, likely to rouse public attention. The *Court Circular* protests against the attempt now being made to conceal the dearth of officers by overworking those who remain, to an extent likely to lead to an ignominious breakdown. The *Circular* says that "rather than admit a deficiency in the medical staff, the department, where possible, is doubling the duties of medical officers." This new departure, adds the journal quoted, "at best can only serve a temporary purpose, and sooner or later the weakness of the staff will have to be officially acknowledged." The sooner the better, for the public is determined to maintain the army and navy in an efficient state, and should these forces have to be employed and the wounded lack medical aid a stern retribution would overtake those responsible.

The service papers cannot ignore the state of affairs. In one of them a correspondent, over the signature "Common-Sense," makes suggestions which should, perhaps, have been sent to a comic paper. However, whether intended as a joke or not, their appearance in a service paper shows the folly of the officials and the prejudices of the so-called combatants. "Common-Sense" says he would abolish the director-general and his staff of doctors, and put the medical staff under the adjutant-general, who could have a civilian doctor on his staff to advise him on professional matters. Exactly! Give your pretentious "combatants" every possible post, and for the sake of doing so make the mere doctors civil servants. Then, when army surgeons were wanted for the grasping combatants, who had driven them from the service, what an outcry would be raised on behalf of the wounded, who could send for "civilian doctors" only.

I am glad to report that Sir William MacCormack is much better, and it is hoped he will soon enter the convalescent stage.

The London water supply is now impugned on the ground of quality, and recent analyses are far from reassuring.

The entries at the London schools are much below the number expected, and the lamentations of the teachers are loud. The provincial schools have kept up their average.

Nymphomania.—Search carefully for local causes, such as may occasion pruritus vulvæ—vaginitis, vegetations, vulvitis, eczema, syphilis, herpes. Investigate, especially, as to diabetes. Where nervous disorders are suspected, bromides in medium dose are indicated. When associated with opium, they combat in an effective manner the exaltation of the venereal appetite. Camphor may be added, and when insomnia coexists chloral is to be given at night. Local applications are useful. Cocaine in lotion or ointment has the preference. Hydrotherapy is indicated in all cases. When scientific douchings are not possible, applications of cold water to the vertebral column at bedtime are beneficial.—LUTAUD.

"THE APPENDICITIS CONTROVERSY"—AN UNFAIR CRITICISM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having read with no little astonishment Dr. Halton's communication and severe arraignment of some gentlemen who treated a case according to modern methods, I shall feel grateful for space in your valuable journal for a few remarks in reference to certain statements it contains.

Usually those opinions concerning this very important and dangerous disease which have the greatest weight come from men who are able to substantiate their statements with an experience in a fair number of cases. Still greater weight should be accorded the opinion of the physician or surgeon who has treated a number of cases by both plans, thereby enabling him to speak intelligently, drawing his conclusions from clinical experience and actual observation. I regret that I am not personally acquainted with Dr. Halton, and that I am unable to find his name in the green book as being a member of any of the scientific bodies formed for the purpose of discussing just such questions. While operation has saved a large proportion of patients in appendicitis, he says it has also killed not a few of them, a very bold statement, which no attempt is made to substantiate by recorded experience. Bad judgment in the selection of cases to be operated upon is mentioned, but he does not tell us what cases we should operate upon and those which should be treated otherwise. He does not tell us who it is that belittles the physician and elevates the surgeon. Dr. Halton criticises the work of thousands of students of surgery and medicine throughout the civilized world who advocate in the strongest possible terms operative procedure in appendicitis. He also deems himself competent to criticise the judgment of these same men in their selection of cases to be operated upon, when he must know, even if he has had but a limited experience, that no living man can foretell the final result of any given (well-marked) case of appendicitis. Physicians and surgeons, in the early operative days, receded from position to position in their honest endeavors to stay the ravages of this destructive disease and to lessen its mortality, until they betook themselves to storming the citadel by early operation, which is at the present day advocated by the majority of both physicians and surgeons.

In reference to the case related by Dr. Halton, according to his own statement, we find a boy sick with appendicitis for at least three days and perhaps longer, without medical attendance of any kind whatever, notwithstanding the fact that he himself was the family physician. A neighboring physician was called and recognized the disease at once; but just what the conditions were that this physician found, whether the boy wore the facial expression which at all times bespeaks very great suffering, whether he had a glazed and dry tongue, a rapid pulse, a high temperature, a swollen and tympanitic abdomen, whether he had a well-marked tumor in his right iliac fossa, Dr. Halton fails to tell us. Perhaps he is to be excused for not informing us of these points, not having been there. We understand from the criticism that the boy had pain, vomited, went to bed; got up and walked around (a very dangerous thing, by the way, to do in appendicitis). The patient's condition, it is stated, finally became alarming and the neighboring physician was sent for. The latter seems to have been prompt in applying the best possible remedy in a very much neglected case, namely, operation.

We are not told whether catarrhal appendicitis is more or less fatal than other forms of the disease, but the simple statement is made that he was told the boy had a catarrhal condition.

Dr. Halton states that when he saw the boy the latter was dying (by the way he lived for several days after this), but he learned that the attending physician expressed a hopeful opinion; he does not state whether the attending physician or surgeon qualified this statement. He concludes that here was a healthy boy suffering with appendicitis (I presume he means that here was a boy sick with appendicitis whose previous health was good) starting slowly for the grave from the moment of operation. Being entirely unacquainted with the facts in the case, how could he say that the patient did not start in this direction from the beginning of his attack? He does not explain what the pathological conditions were in this case. He thinks it would be reasonable to infer that the wrong time was chosen for operation. Here is the only point on which I can possibly agree with the writer. The proper time was within the first twelve to sixteen hours of the attack. He further thinks that by waiting twenty-four hours longer the tendency to general peritonitis might have been reduced by warm applications and the administration of opium. If the appendix was necrotic and its mucous lining had sloughed, warm applications would do no good, and as for opium, this drug has long since been condemned in the treatment of appendicitis because it masks the symptoms. Dr. Halton thinks that the physician's powers of observation are very different from those of the surgeon, forgetting that many surgeons have spent years in the practice of medicine before devoting themselves to the practice of surgery.

To make it clear that Dr. Halton does not voice the sentiments of physicians generally, at least in the city of Brooklyn, I will relate two cases now under my care:

CASE I.—Immediate operation advised by two eminent physicians after seeing the patient for the first time. Mr. G——, native, aged forty-five years; married; residence, Vanderbilt Avenue, Brooklyn. October 3, 1896, complained of pain in the stomach; the following day of pain lower down on right side. October 5th and 6th somewhat better. October 7th, compelled to take to his bed. October 8th, went to business. October 9th, was again compelled to go to bed. October 10th, morning, called his family physician, who is visiting physician to St. Mary's General Hospital, Dr. George R. Kuhn, who diagnosed appendicitis and suggested operation as being the proper remedy. Dr. Kuhn asked me to see the patient with him in order to settle this question. I saw the patient at 11:30 A.M. of the same day and had but to confirm Dr. Kuhn's diagnosis and proposed plan of treatment at 3 P.M. Dr. Kuhn and Professor McCorkle of the Long Island College Hospital saw the patient together, both concurring in the diagnosis and advising immediate operation. At no time was the temperature by the mouth above 99° F. or by the rectum above 100.6° F. per rectum.

The patient was sent into my service at St. Mary's Hospital the same evening, and at 10 P.M. was operated upon. The appendix was found curled upon itself and partially embedded in a firm coating of inflammatory tissue, with its lower end adherent to the omentum. This was separated from the appendix and about two inches of it cut away after being firmly tied with catgut. The serous covering was stripped down to the base of the appendix, which was then cut off and the stump inverted. The serous covering was drawn over it by Lembert sutures. The appendix was perforated about half an inch from its apex, its mucous membrane having entirely sloughed; its muscular wall was necrotic for about three-fourths of its length, its mesocæcum partially gangrenous. At the point of perforation there was a small abscess cavity containing perhaps two ounces of foul-smelling pus. The part of this abscess wall which pointed toward the base of the appendix was very thin. Internally to this the

general peritoneal cavity was unprotected, so that in time this thin wall must have given way, flooding the general peritoneal cavity with pus. October 21st the patient is still in the hospital but practically well. What would have been his fate had Dr. Halton's methods been carried out, I leave the reader to surmise.

CASE II.—Dr. I. Fuchs after early consultation advises early operation. Miss G. S——, native, aged fourteen years; residence, Madison Street, Brooklyn. October 5, 1896, in the evening, patient complained of pain in the abdomen. October 6th, used some home remedies. October 7th, sent for Dr. I. Fuchs, visiting physician to St. Catherine's Hospital. Dr. Fuchs took almost immediate steps to have his patient operated upon, thereby saving her life, as the following pathological conditions will show: She was sent into my service at St. Catherine's Hospital on Monday, October 8th, and operated upon at once (2 A.M.). The enlarged and inflamed appendix was removed and found to contain four large fecal concretions, some little distance apart, filling almost the entire canal. The meso-appendix and the base of the appendix were partially gangrenous, necrosis extending well upon the cæcal wall. The general peritoneal cavity was not protected. There are other interesting and instructive points in connection with this case which I will not bring out here.

I quote these cases to show that the eminent physicians interested in them are at variance with Dr. Halton in his plan of treatment, namely, warm applications, opium, and waiting, and in each case they followed the course pursued by the physician whom Dr. Halton criticises.

That some patients get comparatively well without operation no one denies, but usually improvement commences in such cases within from twelve to sixteen hours from the onset. On the contrary, if the symptoms become aggravated after this time or if the disease persists in spite of palliative measures (opium excluded), it becomes an operative case, and the physician or surgeon who hesitates to advise operation robs his patient of one of the best means known to science at the present day of saving life in this dreaded disease.

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The Absence of Gonococci in Gleet.—Dr. Taylor, in his recent work on "Venereal Disease," believes that after gleet has lasted for some months the gonococci are in all probability absent. Dr. Pilcher, in reviewing the work, remarks that this is a comforting doctrine, but if true the exception must be very frequent, as is shown by the experience of numerous unfortunate young women, who, upon marriage, find that the mucous membrane of the vagina and uterus is a most favorable culture ground for the gonococci that still persist in the urethras of the husbands.

Dislocations of the Hips.—Dr. Oscar H. Allis, in a monograph relating to the difficulties encountered in the reduction of dislocations of the hip, discusses the following points: 1. The capsule is the most important agent against traumatic dislocations of the femur. 2. For the laceration of the capsule and dislodgment of the head of the femur, the femur is employed as a lever. 3. Every lever has a fulcrum: the fulcrum required in dislocations of the femur are bony and ligamentous. 4. Dislocation by thrust, if possible, is infrequent. 5. Reduction by circumduction is the simplest, the most brilliant, and the most hazardous of all modes of replacement. 6. Method suggested for reduction of dislocation of the head of the femur when associated with fracture of the shaft.

Surgical Suggestions.

Pyelitis in Infancy.—Dr. Wolfstein (*Archives of Pediatrics*, xiii., No. 5) names the following causes: 1. The lithæmic state, especially any irritation of the kidney by uric acid, in form of crystals or calculi, or strong acidity. 2. Tuberculosis. 3. Retention of urine with ammoniacal decomposition, causing an ascending pyelitis. 4. Irritation by such drugs as turpentine, carbolic acid, and salicylic acid. 5. Vulvovaginitis, cystitis. 6. Infectious diseases. 7. Septic catheterization. 8. Idiopathic pyelitis from chilling or wetting.

Menorrhagia in Virgins.—Dr. Laroyenne (*Lyon Médicale*) distinguishes the majority of cases of profuse menstruation in young girls which require no local treatment from a minority in which the use of the curette is advisable. If, after long attention to hygiene and a course of suitable tonics, menorrhagia persists, interrupted by occasional amenorrhœa, granular or fungous endometritis probably exists. This disease is yet more safely diagnosed when the patient has been perfectly healthy and quite free from anæmia before profuse menorrhagia appeared, and equally free from evidence of diseased appendages after the local symptoms became marked. It is right after dilatation to use the curette when the excessive menstruation causes debility. A single application of cotton wool, soaked in equal parts of water and chloride of zinc, made immediately after the scraping, is sufficient. Repeated cauterizations may readily cause atresia.

Surgical Treatment of Focal Epilepsy.—Drs. Sachs and Gerster (*American Journal of the Medical Sciences*, October, 1896), after a discussion of this subject, summarize as follows: 1. Surgical interference is advisable in those case of partial epilepsy in which not more than one year, or at the utmost two years, have elapsed since the traumatic injury or the beginning of the disease which has given rise to the convulsive seizures. 2. In cases of depression or other injury of the skull, surgical interference is warranted, even though a number of years have elapsed; but the prospect of recovery is brighter the shorter the period of time since the injury. 3. Simple trephining may prove sufficient in a number of cases, and particularly in those in which there is an injury to the skull, or in which a cystic condition is the main cause of the epilepsy. 4. Excision of cortical tissue is advisable if the epilepsy has lasted but a short time, and if the symptoms point to a strictly circumscribed focus of disease. 5. Since such cortical lesions are often of a microscopical character, excision should be practised even if the tissue appears to be perfectly normal at the time of operation; but the greatest caution should be exercised in order to make sure that the proper area is removed. 6. Surgical interference for the cure of epilepsy associated with infantile cerebral palsies may be attempted, particularly if too long an interval has not elapsed since the beginning of the palsy. 7. In cases of epilepsy of long standing, in which there is in all probability a widespread degeneration of the association fibres, every surgical procedure is useless.

Transperitoneal Treatment of Artificial Anus.—Dr. Gangolphe (*Revue de Chirurgie*) advises opening the peritoneum at once in operating for artificial anus, instead of having recourse to the enterotome of Dupuytren. He claims that it has the following advantages: 1. It is rapid; the surgeon is not delayed by fear of wounding any important organs or tissues. 2. It is sure; the finger introduced into the abdominal cavity explores the parts in the neighborhood of the opening; it also guides the scissors in loosening the

intestines at a distance from it. 3. It permits the withdrawal of the infected intestines outside the abdomen, where they can be protected with gauze while being operated upon; the chances of infection are diminished, while manipulations are facilitated. 4. It is possible in all cases, while operation by other methods is not always possible.

A New Traumaticine.—Treat an aqueous solution of soap with a solution of alum. A magma forms which can be pressed out and which is a fatty-acid salt of alumen. This magma is dissolved in ether while it is still moist. The solution thus obtained can be medicated with chrysarobin, etc., for the treatment of psoriasis.—DUCOMMUN.

Foreign Bodies Swallowed by Children.—*The American Medical and Surgical Bulletin* in an article on this subject says that pins, safety pins, pebbles, jackstones, etc., swallowed by children need occasion no alarm, as they will all pass through without harming the child. The greatest danger is from the castor oil with which the child is usually dosed in such cases; it is better to leave the bowels at rest and give gruel, crackers, baked potatoes, milk, anything which will constipate the child and make a pultaceous mass in which the foreign bodies will be embedded and carried through. When foreign bodies stick in the throat and the child is unable to swallow, it should receive an emetic, or the coin catcher should be introduced. This is a basket-like affair easily used. In one case both a one-cent and a two-cent piece were removed at the same time by this instrument.

Surgery of the Kidney.—Dr. Holmes (*Journal of the American Medical Association*, September 5, 1896) makes the following summary: 1. Tuberculosis of the kidney is a relatively common disease. 2. It usually begins in the kidney itself, descends through the ureter to the bladder, and ascends to the opposite kidney. 3. It is, therefore, for a long time a unilateral disease. 4. It is a progressive and destructive disease, not subject to improvement through medication, offering an unfavorable prognosis as to life and comfort, and subject to extension downward by the urinary tract and outward through the perirenal lymphatics. 5. Diagnosis can be made through the symptoms of cystitis with low temperature, rapid pulse, and dilatation of the heart; the detection of tubercle bacilli in the urine; tuberculosis of the bladder about the orifice of the ureter of the diseased kidney; pus or blood with tubercle bacilli and diminished normal constituents in the urine from the diseased kidney; normal urine in increased quantity from the opposite kidney; sometimes tenderness, pain, and tumor *in situ* of diseased kidney and ureter. 6. The indications in case of an absolute diagnosis of tuberculosis of one kidney and healthy opposite kidney are immediate removal of the diseased kidney and its ureter; in case of disease in both kidneys, no operation should be performed. 7. The competency of the healthy kidney should be proved by repeated catheterization of the ureters before nephrectomy and the removal of all toxic elements from the blood should be secured by a liquid diet, irrigation of the colon, and hydration of the whole system for some days before the removal of the kidney. 8. Lumbar extraperitoneal nephrectomy is the safer operation. 9. In women the removal of the ureter should be completed through the vagina. 10. Any remaining tuberculosis of the bladder should be treated locally by curetting or cauterization. 11. Catheterization of the ureter is not a dangerous procedure, and it may easily be accomplished in women with the simple cystoscope of Simon, Pawlik, or Kelley, and in men with the more complicated instrument of Casper.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 7, 1896:

	Cases.	Deaths.
Tuberculosis.....	102	97
Typhoid fever.....	21	4
Scarlet fever.....	77	1
Cerebro-spinal meningitis.....	0	0
Measles.....	57	2
Diphtheria.....	210	24
Small-pox.....	0	0

The Diagnosis of Typhoid Fever.—Facilities for the new diagnosis of typhoid fever are now offered to the physicians of New York, as will be seen by the following:

“NEW YORK, November 6, 1896.

“Hon. Charles G. Wilson, President, Health Department, City of New York.

“DEAR SIR: I desire to direct the attention of the board to a new laboratory method for the diagnosis of typhoid fever, which, judging from the data available at the present time, promises to be of very considerable practical value in the diagnosis of early or ill-defined cases of this disease.

“The investigations of Pfeiffer and Widal have shown that the blood of persons suffering from typhoid fever, when mixed with active cultures of the typhoid bacillus, has the power of arresting the active movement of these organisms, and of producing peculiar and characteristic clumping of the bacilli. It has been shown that this reaction occurs frequently very early in the course of the disease; that it is found throughout its course, during convalescence, and often for a considerable period after complete recovery. It does not occur with other organisms than the typhoid bacillus, and it does not occur with cultures of the typhoid bacillus when the blood of persons suffering with other diseases is employed. As has been shown by Widal and Johnson, this reaction occurs as well with specimens of dried blood as with fresh blood, and thus can be employed practically in municipal laboratories for the diagnosis of this disease. Observations on this matter, which have been in progress in the laboratories of this department for some time past, have thus far confirmed the conclusions of previous investigators.

“In order that more numerous data shall be at the command of this department, and that physicians of New York may at the earliest moment have facilities for testing the reliability of the observations thus far made, I would respectfully recommend that arrangements be made to place facilities for such examination at the command of all physicians in this city—it being distinctly understood that this action of the department is for the purpose of gaining information on this important subject, and at the same time of placing at the command of physicians opportunities for observing the results. If the data already obtained are entirely confirmed by subsequent observations, this method will undoubtedly prove of great service in the diagnosis of early and obscure cases of typhoid fever.

“Should this action be determined upon, circulars of information as to the method of collecting blood and slides for this purpose may be left at the depots already established for the collection of diphtheria

culture tubes and the distribution of diphtheria antitoxin.

“Respectfully submitted,

“HERMANN M. BIGGS,

“Pathologist and Director of the Bacteriological Laboratory.”

The following resolution was adopted by the board of health of the health department, at a meeting held on November 6, 1896:

“Resolved, That the recommendations of the director of the bacteriological laboratories of this department, contained in the communication dated November 6th, be and are hereby approved, and that he is hereby authorized to place facilities at the command of physicians of this city for the diagnosis of cases of typhoid fever, in accordance with the method prescribed in said communication.”

Circulars of information regarding the method employed, and slides for collection of blood, may now be obtained at the various pharmacies where diphtheria culture tubes are kept. Physicians desiring to make use of this method in the diagnosis of early or obscure cases of typhoid fever can secure these, and, after collection of blood as described, may leave the slides, with the data relating to the case, at the various depots. They will be collected each day, examined the following day, and the report of the result forwarded to the physician.

Boiled Milk requires much more digestive effort than does the unboiled material, as in the latter case the serum albumin and nucleated cells, it is said, are absorbed directly by osmosis without any chemical change. Milk may be pasteurized (warmed to 160° F.) without interfering with its digestibility by coagulation of the cell and serum albumin.—*Atlantic Medical Weekly*.

Grape Growers in the neighborhood of the lakes have allowed their crops to be fed to hogs and to rot on the vines this season, because the appendicitis craze has injured the business. We therefore see the luscious but inoffensive grape, that graces the table and brings to pass so many delights, banished to the domain of the pigsty. Could there be a sadder commentary on ignorance in these panic days of dislocated wit and judgment, when so many people are suffering for the want of wholesome food?—Dr. Rosse, *Maryland Medical Journal*, October.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

PREScriBERS' PHARMACOPEIA. Third edition, 12mo, 436 pages. Kemp & Co., Bombay.

THE DIARY OF A RESURRECTIONIST, 1811-1812. By James Blake Bailey, B.A. 12mo, 184 pages. Illustrated. Swan, Sonnenschein & Co., London.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION FOR THE YEAR 1896. Vol. XII. 8vo, 293 pages.

THE PRACTICE OF MEDICINE. By Horatio C. Wood, M.D., and Reginald H. Fitz, M.D. Royal 8vo, 1,088 pages. J. B. Lippincott Company, Philadelphia, Pa.

SYSTEM OF DISEASES OF THE EYE. By various authors. Edited by W. F. Norris, M.D., and C. A. Oliver, M.D. Vol. 1. Royal 8vo, 670 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By G. F. Butler, M.D. 8vo, 858 pages. W. B. Saunders, Philadelphia, Pa.

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THE SPHERE OF THE PHYSICIAN AND THE HOSPITAL.¹

By HENRY DWIGHT CHAPIN, M.D.,

NEW YORK.

MR. PRESIDENT, GENTLEMEN OF THE BOARD OF TRUSTEES, LADIES, AND GENTLEMEN: When Professor Chandler asked me to give the annual address before St. Luke's Hospital, I was much at a loss to select a proper theme for such an occasion. The distinguished gentlemen who have been with you in previous years have ably treated the topics that would naturally suggest themselves at such a time. Hence, much that I can say will doubtless be but a repetition of what has been already well said. The fact, however, that the medical profession is beginning to assert itself not only in questions relating to its own interests, but in the larger problems of the day, tempts me to offer a few random thoughts upon the calling of the physician and the work of the hospital in their relation to the community at large. I can heartily agree with Dr. Andrew Smith's address before you last year, in which he deprecated the extreme tendency toward specialism that has manifested itself in the profession in recent years. That this tendency, unless checked in some proper degree, will work an injury to the profession itself, as well as to the public at large, is equally clear to my mind. Upon the physician himself the exclusive working upon single lines cannot but have a narrowing effect, unless offset by a large general experience previously spent in the practice of medicine in all its branches. It is too much the fashion for young graduates in medicine to start at once upon the exclusive practice of a specialty, in the operation of which they soon gain great manual dexterity. But this skill, as just suggested, is of the hand rather than of the head. As we inspect the ingenious and too often complicated contrivances for repairing and removing the organs of the body, we are reminded more of the mechanic than of the physician. In direct ratio to the celerity with which the parts of our economy can be removed, there seems to be a weakening of the judgment that will tell us not only when they should be removed, but whether it is necessary to remove them at all. This extreme specialism cannot but be injurious to the public at large, which is now beginning to trust the various organs of their body to as many different healers, and this again suggests the idea of the machine and the mechanical repairer. The common argument that the field of medicine is now so broad as to prevent any one from attempting to occupy it all is only a half-truth. While much advanced work is being done by special investigators, any positive results that they may gain can usually be absorbed by the mass of the profession for the benefit of their patients. It is well to bear in mind that the margin between what is known and necessary for the good of the patient, and needless theorizing and differentiation, is often a pretty wide one. The post-graduate

schools of medicine that in the last decade have sprung up all over the country cannot but have a beneficial effect in acquainting the every-day practitioner with the advances in all lines that can directly benefit his patients. It has often seemed to me that, as far as our patients are concerned, we need in medicine less science and more philosophy. A man who has an average development on all lines will often give safer advice than the extreme specialist, even in his own department. It is not here contended that every physician should not pursue some special line of research. Indeed, this is highly desirable; but both the science and art of medicine will be benefited if such researches can be made by men of broad equipment and experience, who will see facts in their proper relations, and who will thus be less liable to be carried away by undue theorizing. The general practitioner is not yet in his decadence. He has a future of more importance than acting as a sort of intelligence office, to dole out his patients to the proper specialist. The specialists themselves will become more important as they grow less differential, less verbose, and develop out of a solid foundation of knowledge and experience with the whole art of medicine.

A hopeful sign in the physician's sphere of work is the lessening tendency of detaching himself from participation in the broad movements of modern life. To many of the questionings of the day he can throw as much if not more help than most classes in the community. The medical profession affords opportunity for broad and candid judgment upon many problems of life, as it touches humanity in close and many-sided relations, dealing with all classes, drawing experience from the poorest in swarming dispensaries and hospitals, as well as from the better favored in homes of ease. The pure philanthropist is often apt to consider a subject in an unreal, hypothetical sort of way, that may be out of touch with the actual life of the world. The physician, if any one, sees the world as it is—not as it should be, nor as many suppose it to be. Of the many panaceas that are offered for social as well as individual ills, very few are based upon a correct appreciation and knowledge of the operation of natural law.

It may be that physiology will be able to afford the best preliminary solution of some of the problems of sociology. Attempted social relief that is not based upon essential causes cannot be permanently successful. Social reformation that is not in harmony with the underlying laws of nature will always be a failure. It must follow in the lines indicated by a logical study of the sciences of biology, of physiology, and even of pathology. Social law must conform to natural law. All artificial adjustments only complicate existing troubles, in leaving untouched the underlying causes of these troubles. Economic laws are often, at bottom, the outcome of physiological laws and conditions. Assuredly, laws of nature are fundamental, and must largely underlie even economic laws; the latter may be modified but are not necessarily altered by artificial social relations. Here, then, is briefly traced the line in which the physician's knowledge and experience can throw some helpful side-light upon many of the questions of the day. By recognizing and enter-

¹ Annual address delivered at St. Luke's Hospital, South Bethlehem, Pa., on St. Luke's Day.

ing into this larger sphere the profession can take its true commanding position in the community at large.

In like manner should the work of the hospital be planned to meet the widest requirements of the community and the profession. A hospital may be rightly considered as a place to study the nature and course of disease and the most approved methods of cure. Many other interesting questions, however, confront one in such a service. What have been the life conditions of the patients before entrance that have led them to need hospital care, and what becomes of them when they leave the institution? How are they to be handicapped in the struggle for subsistence as a result of disease or injury? How far are preventable social or hygienic influences responsible for their illness? What part does ignorance, or poverty, or evil habits, or simple misfortune play in causing their condition? These and similar questions may well be thought of in studying the collection of sick and unfortunate that are housed together in a hospital. An attempt was made by me a few years ago to study a group of cases that came in my service at the babies' wards of the New York Post-Graduate Hospital, somewhat after this manner. Endeavor was made to find out as nearly as possible the environment and life conditions of these little children on entrance. The study of children is simplified by being divested of many confusing factors which enter into the investigation of adult misfortune.

Of the 600 cases considered, 322 were males and 278 females. The ages ranged from one week to four years, the large majority being under two years. Inquiries were made in regard to certain social facts about the parents, as throwing light upon the past and future lives of the children. Twenty-two different races and nationalities were represented in the families, the three highest being the Irish, 70; the German, 110; and the American, 250, most of the latter, however, being of Irish descent. Of the fathers, 490 were living and 110 dead. Among the living fathers, 245 were healthy and 113 were unhealthy, while the physical condition of 132 was unknown. Of the mothers, 556 were living and 44 dead; 298 were healthy, 75 were diseased, and no satisfactory information could be procured about the health of 227. The parents were unmarried in 25 cases, unknown in 51, and in the remaining 524 cases claimed to be married. In 114 cases the wives had been deserted by their husbands, leaving them with families of little children and without means of support. The common history appeared to be that the man, unable to get steady work, either through fault or misfortune, after spending much of his time at a saloon, would suddenly leave for parts unknown. In such cases drinking habits are both a cause and an effect of misfortune. Among 200 cases in which direct inquiry was made, 14 were drunkards, 140 claimed to drink in moderation, 31 were abstainers, and the habits of 15 were unknown. In a few cases, husbands had been deserted by their wives. In many the poverty was extreme, as might be expected from the disinclination of even the poorest classes to leave an infant or very young child in a hospital. Endeavor was made to find out the earning capacity and resources of the families. In 88 cases the fathers were out of work, in 176 cases the mothers as well as the fathers were obliged to work, while in 107 cases the mothers were the sole bread-winners. The combined earning capacities of the families were, in 150 cases, between five and ten dollars per week; and in 117 cases five dollars or less per week. In many of the latter cases a father and mother with several children were obliged to subsist on a weekly income of from three to four dollars. In 248 cases the weekly earnings were reported to be very small, the exact amount being variable or unknown. In only 85

cases was the earning capacity of the family more than ten dollars per week. These statistics were collected during 1891 and 1892, and hence do not represent the present hard times. They show the usual and chronic condition of many people in average times.

The number of other children in the families from which these little ones came was as follows: No other children in 125 families; one in 148; two in 92; three in 63; four in 38; five in 31; six in 10; seven or more in 14; number unknown in 79. This is not so large a showing as one would expect. Of 200 families, 82 were Roman Catholics, 76 Protestants, 17 Jewish, and 25 were of no religion.

Coming now to the children themselves, the condition at birth was reported to be good in 508 cases, bad in 20 cases, only fair in 12 cases, in 60 unknown. This brings out an exceedingly important point, namely, that the troubles of a large proportion of these infants were acquired and not hereditary. While a tendency to constitutional disease may be inherited, it is the bad surroundings and faulty conditions of life that powerfully predispose to illness. Environment is often stronger than heredity in this, as in many other factors in early life. Poverty and ignorance kill and cripple more than disease germs, or, rather, these malign conditions furnish a fruitful soil for the attraction and development of all kinds of specific poisons.

One of the greatest evils of charitable and philanthropic work is what may be called its segmental character. Results are too often temporary, rather than permanent, from a lack of proper conception and co-operation in the factors aiming at relief. One cannot help noticing how this humanitarian age is abundantly equipped with asylums, almshouses, reformatories, and hospitals of all kinds. If the good accomplished by such agencies could be measured solely by relief of suffering and cure of disease, the results would be nothing but gratifying. A collateral danger consists in the simple temporary alleviation which keeps alive sickly and defective classes, who are often as prolific as they are inefficient. What is urgently needed are homes or retreats, where poor convalescent patients can recuperate after their discharge from the hospital. As it is, such people, in a weakened condition, have no place to seek the needed rest, and either fall victims again to a former disease or become chronic invalids. Here would seem to be a more fruitful field for philanthropy than the building of additional hospitals. By aiming to counteract the evil effects of illness, as well as preventing the causes, we are in the line of permanent results. Municipal governments annually devote large sums of money for the care of the sick, the criminal, and the insane, but devote no energy to investigating and striving to prevent the factors that are constantly at work in producing these classes. Here, if ever, an ounce of prevention is equal to many pounds of cure. In making such an appeal for a broadening of the sphere of hospital effort, it is not intended that there shall be any lessening of the zeal for scientific medical research. As any work tends to compass life in all its relations, each department will be stimulated to do its best, in order to contribute to the common result.

There is a feeling in some quarters that there is a tendency to an unnecessary multiplication of hospitals, as of colleges. Perhaps, if there were fewer, they would be better equipped for their work. Reference is here made more especially to populous communities, where there is little danger of any one suffering for want of hospital care. In such communities, however, most of the hospitals suffer for want of complete equipment for their work. For instance, no splendid architecture or imposing dimensions will make up for the lack of a complete and well-manned laboratory. Most of the advanced scientific work of the hospital

must be done in the latter place. The mere collection of statistics of cases from clinical observation has about served its uses in medical advance. The combination of careful clinical study with accurate bacteriological and pathological observations in the laboratory is now necessary to obtain substantial results. Where this method is pursued more generally, we shall have less "hearsay" in medicine and advance will be in more rapid strides. If all the great hospitals would utilize their vast clinical resources in this way, scientific medicine would be a great gainer. Unfortunately, a laboratory does not appeal to the wealthy governors and patrons of hospitals in the same way as an endowed bed, a gorgeously decorated ward, or even an imposing tower. A laboratory, to do good service, should have a sufficient endowment to attract and keep the best men in its service. They need to be men of special aptitude and training, who should be paid living salaries for giving up their time to this important and exhausting, but not lucrative, work.

In further reference to hospital equipment, there is a deplorable lack, in large as well as small communities, of suitable places to attend contagious diseases of all kinds. These cases are refused admittance to children's as well as general hospitals, and epidemics spread through communities that could often be prevented if there were facilities for collecting the first few cases in one place, and thus stamping out the infection. The nature of these diseases is now pretty well understood, and if there were suitably equipped places for taking patients who cannot be properly isolated and treated at home, widespread suffering would be avoided. The Empress Frederic Children's Hospital, at Berlin, besides the usual medical and surgical services, has separate pavilions for the treatment of scarlatina, diphtheria, measles, and even for whooping-cough. No harm ever comes from the comparative continuity of these pavilions, as all needful precautions are taken. The large class of people living in hotels, boarding-houses, or small apartments is often in sore straits when visited by contagious disease. Such are fortunate if they escape with great inconvenience and possibly pecuniary extortion, but the innocent people following them may likewise suffer. One form of grave contagion is singularly neglected. I refer to ophthalmia neonatorum. These patients require constant and skilful treatment from the first, failing in which the eyesight is hopelessly lost in a large proportion of cases. There is no place to send these children if the parents lack the intelligence or means to command the proper treatment. Children's hospitals, and even most eye hospitals, will not or cannot take them. According to the last census, there are over fifty thousand blind persons in the United States. A conservative estimate places twenty per cent. of this blindness as due to ophthalmia neonatorum. In other words, ten thousand people are blind from shortly after birth, a large proportion of whom could have escaped this awful infliction if proper nursing and treatment had been available.

While the work of the hospital should be broadened out as much as possible to meet all the needs of the community, it must not be forgotten that the profession has peculiar claims for consideration. There can certainly be a more thorough utilization of the work of the hospital for the good of the profession. This may include not only a systematic and scientific study of disease, as hinted previously, but enlarged facilities for teaching and demonstrating any facts or conclusions that may be reached as a result of such research. The hospital should be a sort of Mecca for physicians, where public clinics and free discussion will be offered to all who come. A hospital that does not include teaching in its routine falls very far short of its duty and opportunities, not only to the profession, but in-

directly to the public as well. Again, why cannot some, at least, of the wards of a hospital be utilized by the general profession in the treatment of their cases? It would be a great help if a hospital, in any community, would set aside a special ward for any reputable physician to attend a case specially needing hospital care. Certain facilities for operations might also be afforded, under proper conditions and safeguards.

Finally, a more thorough co-operation between the hospital and the profession at large, in the advance of humanitarian work, cannot but have good results. As the conception of professional opportunity widens, it will be beneficially reflected upon the hospital. The fact that a broadening of professional ideals and opportunity is in the air has already been touched upon in this address. It should be encouraged by all well-wishers of humanity. There are great possibilities for good in this direction. As body and mind and spirit are so closely blended, the two latter depending much for their best activity upon material health, the mere physician may become as well a mental and moral healer. The old Egyptian idea of combining priest and physician was not without its advantages.

ACUTE CATARRHAL SALPINGITIS; ITS RESEMBLANCE TO APPENDICITIS; DIFFERENTIAL DIAGNOSIS; TREATMENT.¹

By HIRAM N. VINEBERG, M.D.,

ATTENDING GYNECOLOGIST TO ST. MARK'S HOSPITAL, MOUNT SINAI HOSPITAL DISPENSARY, AND MONTEFIORE HOME FOR CHRONIC INVALIDS.

My object in selecting this subject is based on the circumstance that there is very little relating to it to be found in the books, and what there is so meagre as to be of little value to the one seeking information. My own knowledge was gained by hard-wrought experience, particularly in one case that puzzled me very much, as it did also an eminent surgeon and diagnostician, who saw the case with me several times in consultation.

I can think of no better way of painting a clinical picture of the disease and of demonstrating the difficulties met with in diagnosis than by narrating the histories of some of the cases that have come under my observation within the past few years.

CASE I.—Miss J— had partaken of a hearty meal, composed of herring and other articles of food difficult of digestion, at 8 P.M., on November 27, 1892. During that night she had colicky pains, radiating from the epigastrium. In the morning she took a tumblerful of Hunyadi water, which produced several watery stools during the day. Still the pain in the abdomen continued with the same severity.

I saw her November 28th, at 6 P.M. She was in bed, complaining very much of pain all over the abdomen. The abdomen was rigid, rather tender, but not distended. No special point of greater tenderness could be elicited. Pulse was 102, small and wiry; temperature, 103° F. I ordered turpentine stupes to the abdomen, and small doses of opium and spirits of chloroform internally.

November 29th, pain no better. Temperature, 101° F.; pulse, 104. I ordered castor oil, half an ounce.

November 30th, she had a large copious stool after taking the oil, and felt considerably relieved. She had much pain all of this day. Temperature, 100° F.; pulse, 116; abdomen slightly distended. A bimanual examination per vaginam and rectum was rather unsatisfactory, owing to the rigidity and tenderness of the abdomen. No mass could be felt at either side of

¹ Read before the Manhattan Medical and Surgical Society, September 19, 1896.

the uterus, nor any mass or marked tenderness in the area of McBurney's point.

December 1st, temperature, 102° F.; pulse, 120. Pain was most severe in right lower quadrant of the abdomen. This area of the abdomen was more tender than the remaining parts, but no one point showed greater sensitiveness than the other. Certainly McBurney's point was no more tender than numerous other areas. A bimanual examination showed a torn cervix (patient had a premature delivery at the sixth month, some months before) and the uterus in forward position and freely movable. There was moderate sensitiveness over the right tube and ovary, and the tube seemed slightly thickened. But the elongated mass, about the size of one's finger, might just as well have been regarded as a prolapsed and adherent vermiform appendix. She was seen now in consultation by Dr. F. Lange. The diagnosis was considered to lie between appendicitis and salpingitis of the right tube. There being no urgent symptoms and the diagnosis being uncertain, it was decided to continue with the palliative treatment and rest in bed.

December 3d, temperature had ranged from 99.3° to 100.5° F. The menses set in in the morning and were unattended by pain.

December 8th, temperature, 99° to 100.3° F. She had been having more or less pain, which, however, was kept in abeyance by small doses of opium regularly administered. She was flowing, the flow being more profuse than was usual with her. On bimanual examination some fulness in Douglas' space was made out. This fulness extended somewhat to the right of the uterus.

December 22d, temperature had ranged from 99° to 100° F. Patient was still in bed, and was not free from pain when the opium was discontinued. She was seen again by Dr. Lange in consultation. A diagnosis could not be made with any greater degree of certainty. Dr. Lange was more inclined to the diagnosis of appendicitis, while I was more in favor of right-sided salpingitis.

January 8, 1893, the patient was allowed out of bed for the first time. Temperature had ranged from 99° to 99.8° F. She could not stand up erect, on account of pain in the right side of the abdomen. No mass was to be felt through the abdominal wall. On bimanual examination an elongated mass, resembling a thickened tube, could be felt pretty high in the pelvis, and apparently running from the right horn of the uterus.

January 14th, latterly the patient had been having higher temperature, 100° to 101° F. (rectum). She had been flowing about ten days and rather profusely. She was not entirely free from pain. It was decided by Dr. Lange and myself to make a thorough examination under narcosis. Accordingly, the patient was narcotized and an examination made. We made out the same mass on the right side of the uterus, but thought it rather high up in the abdomen for a thickened tube. Still, we could not be certain whether it was a thickened appendix or an exudation about the caecum. From this on, the patient gradually improved, and on February 13th was allowed to take a walk.

May 23d, she had had slight pain at times on exertion; otherwise she was in good health. The right tube could be distinctly felt, the size of a lead pencil. The uterus was in good position. The patient was under my observation until a year ago. She had remained perfectly well, entirely free from pain and menstrual disorders.

CASE II.—This patient, a relative, was living in the same house as the writer, and consequently was very closely observed. She was twenty-eight years of age, had been married five years, and had had two

children. Four years ago she had a premature delivery, and after this some fever lasting about ten days, the cause of which was doubtful. There were no exudations in the pelvis and no fetid lochia, and, as the patient was in excellent general condition, it was assumed that she had a slight attack of puerperal sapraemia. She had to be catheterized for some days after delivery, and, as a result of carelessness on the part of the nurse, she developed a moderately severe cystitis, and several weeks elapsed before it disappeared entirely. She made a good recovery, however, and was in the enjoyment of good health until December 17, 1893, when she was suddenly seized with pain in the left hypochondrium and vomiting. I saw her at 8 P.M. The abdomen was then flaccid. No points of tenderness could be felt at any point. Temperature, 99° F.; pulse, 90.

December 18th, she had pain all night and several chills. The abdomen was moderately distended and universally tender. On bimanual examination per rectum and vaginam, I thought that I could feel an ill-defined mass near the left horn of the uterus; but the abdomen was so tender and rigid that a satisfactory examination was impossible. Temperature, 103° F.; pulse, 130. 9 P.M., temperature, 103.3° F.; pulse, 132, small and wiry. Midnight, temperature, 103° F.; pulse, 144. The patient was very restless. If the pain were on the right side instead of on the left, the suspicion of appendicitis would be very strong. The diagnosis of left salpingitis with general peritonitis was made.

December 19th, 8 A.M., temperature, 100° F.; pulse, 108. 11 A.M., temperature, 103° F.; pulse, 132. 5 P.M., temperature, 104° F.; pulse, 132. She was seen by Dr. Lange in consultation, who, after a careful and thorough examination, could not make a definite diagnosis. The pain being situated in the left hypochondrium, and thinking he could make out some enlargement of the left kidney, Dr. Lange suspected supuration in the pelvis of the left kidney. Though recognizing the obscurity of the case, the writer still adhered to the diagnosis of salpingitis. The abdomen was greatly distended, and a bimanual examination was unreliable in the extreme. Opium in small doses was ordered, and cold water compresses were applied to the abdomen.

December 21st, temperature had ranged from 100.4° to 104° F.; pulse, 108 to 132. During the last twelve hours the pain had moderated and the distention of the abdomen had gone down considerably. From this on, the patient gradually convalesced, and in the course of three weeks was able to leave her bed. When the abdomen again became quite flaccid, on bimanual examination the left tube was found to be of the thickness of one's little finger. A prolonged course of treatment with ichthyol, hot baths, pelvic massage, and bipolar vaginal faradization has cured the patient to the extent that she is free from pain, except after some unusual exertion. The tube now is about the thickness of a lead pencil and is but very slightly sensitive. The right tube and ovary are normal. The patient has since gone through a gestation, which was normal in every respect, and has been well since, a period of seven months.

The next case, though strictly not belonging to the disease under consideration, affords another striking example of how a general peritonitis, in some obscure way depending upon the generative organs, can be mistaken for an acute appendicitis. I will give the case in briefest outlines, as it is my intention to write of it more fully on another occasion.

CASE III.—Mrs. G—, about twenty-four years old, married eight months, and pregnant seven and one-half calendar months, had been in the enjoyment of the best of health until the night of August 19th of

this year, when she awoke about midnight, with a slight chill and general pains all over the body. I saw her on the next morning, when she had a temperature of 100.4° F., and pulse of 90. Her tongue was clean and general condition good. A thorough examination of all the organs was attended with negative results. There were indefinite and vague pains in the lower part of the left chest and left side of abdomen, which were called forth only on movement; there were also superficial tenderness over various parts of the chest, back, and abdomen. The bowels had been moving regularly every day. The general impression gained was that the patient had a slight rheumatic attack, affecting the muscles of the chest, back, and abdomen.

August 20th, condition about the same. Temperature, 101° F.; pulse, 116.

August 21st, temperature, 100° to 101° F.; pulse, 120. She vomited once or twice, which she attributed to medicine taken. There was slight distention of the abdomen; she complained more of pain in the right side of the abdomen and in the right hypochondriac and umbilical regions. I was beginning to feel uneasy about her condition, particularly on account of the disproportion between the pulse and the temperature. Abdominal and vaginal examinations resulted negatively; I could not make a diagnosis. The probabilities that occurred to me were:

1. Faecal impaction. Still, she had been having daily stools, and for the past two days had had enemata, with good results.

2. An abnormal incipient typhoid; but there was no splenic enlargement, and the pulse is usually comparatively slow in that disease.

3. Peritonitis from an unknown cause.

The urine had been frequently examined during her gestation, and had been found normal. The same result was now obtained.

August 22d, 10 A.M., temperature, 101° F.; pulse, 120. The tongue was beginning to show slight coating. She had another chill during the night; the abdomen was moderately distended and universally tender on pressure. I asked for a consultation. An able general diagnostician was called in at 1:30 P.M. He diagnosed acute appendicitis, and urged operative interference in the event of the symptoms growing more severe. Though I had not thought of this condition, I must confess that the diagnosis grew upon me, particularly as the symptoms for the next seven or eight hours seemed to point in that direction, the pain now being chiefly located in the right side of the abdomen, between the border of the ribs and the crest of the ilium, over which area the tenderness was the greatest. Temperature went up to 102.4° F.; pulse, 130. The patient was very fidgety and restless when not under the influence of morphine. She was seen at 9 P.M. by a prominent surgeon, who thought he could feel a mass in the right flank and was certain of the presence of pus. He advised immediate operation. At 10 P.M. I performed lateral laparotomy, the patient lying on her left side. The ascending colon was found very much distended; the peritoneal covering was deeply injected and of a dark bluish color. Some thin membranous adhesions of the peritoneum were found. The colon was carefully followed down until the appendix was reached, and it was drawn into the incision. It was found to be quite normal, and was consequently left intact. I passed my two fingers into the incision, and palpated in every direction as far as I could reach. Nothing abnormal was detected. Of course, with the enormous uterus in the way, the exploration with the fingers was limited and imperfect. The abdomen was then closed. The patient rallied nicely from the operation, and excepting for a few hours during the next twenty-four her condition was fairly good. But from then on, the abdominal distention grew more and

more intense, and regurgitation of the liquids taken (so ominous a sign in peritonitis) set in.

On the morning of August 25th, sixty hours after the laparotomy, I began to induce labor by passing a bougie into the uterus. I waited for thirty-six hours, during which time I made use of means, such as hot douches, etc., to hasten dilatation. Slight labor pains set in, and the os dilated to the size of a fifty-cent piece. The patient's condition was now very critical; the abdominal distention was enormous, the uterus was crowded over to the left side by the distended bowels, and the breathing was perceptibly interfered with. Though keenly alive to the risks of employing manual dilatation and extraction, further delay could not be entertained.

Accordingly, on August 26th, at 9 P.M., I rapidly dilated the uterus and extracted a female child, first doing a version. The patient came near dying on the table from the narcosis, though the chloroform was administered by a skilful and experienced anaesthetizer. The whole operation did not consume more than twenty-five minutes. The uterus was irrigated, and there was but a very slight loss of blood. During the following twenty-four hours, though the distention was decidedly less immediately after emptying the uterus, her general condition was worse: pulse and temperature were going up, and the distention was increasing.

At 6 P.M., August 27th, twenty-one hours after the delivery, I gave up all hopes of the patient's recovery. The temperature was 104.8° F.; pulse, 170 to 180, small and weak; and abdomen very much distended. Having observed the marked beneficial effect of opiates all through the illness and the futility of other medication, I decided, as a *dernier ressort*, to bring her fully under their influence. She was accordingly given larger doses of morphine hypodermically and opium by the rectum. At midnight she fell into a deep sleep, and when roused up at 2 A.M. her temperature had fallen to 102.4° F. and pulse to 140. She was at this time seen by a consultant, a well-known surgeon, who still thought the case hopeless. From this on, however, her improvement under the treatment of opiates and enemata was gradual but certain, and she has now been sitting up out of bed for a few days.

I might cite several other cases, but those narrated will sufficiently serve the aim in view. I fully recognize that the crucial test—a laparotomy—in the diagnosis of Case I. is absent. Be that as it may, the case loses nothing in value through that circumstance in accentuating the point I wish to bring out prominently in this paper. Here was a patient who, after an indiscretion in diet, was suddenly seized with pain in the right side of the abdomen. This was followed by fever and symptoms of general peritonitis. Repeated examinations by the writer and by a surgeon known for his skill as a diagnostician and for his vast experience do not determine satisfactorily whether it be appendicitis or salpingitis. Even an examination under narcosis, after the patient had been under close and careful observation for weeks, does not remove the uncertainty in diagnosis.

There can be no reasonable doubt in the diagnosis in Case II. Had it been the right instead of the left tube that was affected, I fear the patient would have been subjected to an operation for appendicitis.

The events in Case III. speak for themselves. Three facts are fully substantiated: 1. The insidious and misleading onset of the affection. 2. The presence of general peritonitis. 3. The absence of appendicitis as a cause of the peritonitis.

We have seen, in the cases reported, that the onset may be sudden and without any apparent cause. But on close scrutiny it was learned that the first two patients had suffered from a uterine discharge—in other

words, from a uterine catarrh—and which, whether it be specific or non-specific, is liable at any time to cause a salpingitis or oöphoritis by extension. Another very common cause of salpingitis is the introduction of instruments within the uterine cavity in the absence of the strictest antiseptic and aseptic precautions. And here it may not be amiss to sound a note of warning against the dangerous procedure recently recommended, of following a curettage for the treatment of an endometritis by daily intra-uterine douches for a week or longer. Intra-uterine douches without very thorough dilatation of the uterus are fraught with great risk, even when every precaution has been taken in regard to cleanliness. But to recommend such a procedure to the general profession, without laying great stress upon the details for carrying out the most thorough surgical cleanliness, is culpable neglect, and shows a lack of sense of the responsibility a writer assumes when he recommends to the profession at large intra-uterine therapeutics. Many a woman has been rendered an invalid for life by the heretofore frequent resort to the sound to ascertain the position of the uterus or the depth of its cavity; and should the advice be generally followed of giving intra-uterine douches for the treatment of an endometritis, many a woman will have grafted upon her a serious pelvic lesion in the effort to cure her of her uterine catarrh. Numerous other causes capable of giving rise to an acute salpingitis might be mentioned, such as exposure to cold during menstruation (a very doubtful cause in my mind, unless there be some pre-existing lesion), extension of infection through the lymphatics, traumatism, and so on. But the first two mentioned are the most important.

We have also seen that an acute salpingitis may be attended with a diffuse peritonitis, differing in no respect from that accompanying an acute appendicitis; and should the tubal lesion be situated on the right side, the solution of the problem of differential diagnosis is difficult in the extreme.

Of course, on paper the solution can be made to appear easy. In the one case, you have tenderness over a certain well-defined area, known now the civilized world over as McBurney's point; in the other, all you have to do is to make a bimanual examination, and you find a thickened and sensitive tube passing from one horn of the uterus. But at the bedside things are not cut and dried for us in this simple manner. It is no easy matter to determine always which is the most sensitive spot in an abdomen that is universally distended and tender, and it is next to an impossibility to palpate a slightly thickened tube when you have a rigid and an extremely sensitive abdomen. The following points the writer has been able to glean from his experience and observation. In appendicitis, the pain is frequently more excruciating than in salpingitis, and is more likely to be limited to the abdomen. It does not usually radiate to such an extent as the pain arising from salpingo-oöphoritis. When the ovary is involved with the tube, as it frequently is, the pain commonly descends the corresponding thigh. Gastric disturbances are common to both. In salpingitis, the very alarming symptoms usually subside to some extent in the course of three or four days; in appendicitis, they may continue or grow more severe. Certainly, it must be our aim to make a diagnosis before the lapse of three or four days; but, if the case be a doubtful one, and no very urgent symptoms are pressing, we can afford to wait that period of time in a suspected case of catarrhal appendicitis. In other cases, when the symptoms are severe, an examination should be made under full narcosis. Even this may not always be decisive, as we have learned in our first case. Still, in the majority of cases, such an examination would be attended with positive results.

The question may be pertinently asked, What good is there to be gained from making a positive diagnosis? If the symptoms are severe, would you not operate in either case? But the answer is that it is just in the matter of treatment wherein lies the importance and value of differential diagnosis. Without entering into any discussion as to the question of operative interference in acute appendicitis, I think the statement may be safely made that the consensus of opinion is in favor of such interference in a large percentage of the cases. But, on the other hand, operative interference is contraindicated, at least in my opinion, in catarrhal salpingitis in the acute stage during the first attack. Further still, it may never be called for, as we have seen that, for all intents and purposes, the patient may be cured after such an attack.

I desire to reaffirm that it is only the non-purulent variety of salpingitis that engages my attention in this article. Whether it be always possible to differentiate clinically between catarrhal salpingitis and pyosalpinx, is a question I do not care to raise here. Suffice it to say that in the vast majority of the cases such a differential diagnosis is possible through an analysis of the subjective and objective signs. Even in pyosalpinx it is certainly wise and feasible, in a large percentage of the cases, to wait until the acute symptoms have subsided before resorting to surgical intervention.

Having reached a diagnosis of acute catarrhal salpingitis, the treatment should consist of absolute rest in bed, opium per rectum to alleviate the pain and subdue the peritonitis, daily enemata to remove contents of rectum and mildly to excite the peristalsis of the upper bowel, light nutritious diet, and ice applications to the abdomen if they be well borne; if not, the ice to be replaced by a Priessnitz compress. In the majority of cases, after the very acute symptoms have subsided, it is advisable to do a thorough curettage under narcosis. This should be performed under the strictest antiseptic and aseptic precautions and with the greatest gentleness. The curettage may be followed by packing the uterus with iodoform gauze, in the event of that organ being large and succulent. Otherwise, the packing may be dispensed with. When the curettage is of benefit, it is so, in my opinion, from its destroying the *fons et origo* of the disease, and not from the much-talked-of drainage. It is so seldom that the contents of an acutely inflamed tube can drain into the uterus that such a contingency may be entirely ignored in the therapeutics of that condition. If you can destroy the source from which further infection may come, the tendency of the natural powers is toward a cure, if certain favorable conditions be maintained. And these are, as already stated, absolute rest in bed, comparative rest of the tissues immediately in contact with the inflamed structures induced by the free administration of opium, and the avoidance of sexual excitement. Even at the risk of repeating myself, I wish to lay great stress upon the importance of prolonged rest in bed—and it is well to tell the patient at the outset, that if she desires to give herself the best chances of a permanent cure she must be willing to remain in bed four, five, or six weeks, and longer if the condition demands it. She ought to remain in the horizontal position as long as there is the slightest elevation of temperature, and as long as there is marked sensitiveness on pressure over the affected tube. Then, for a period of some weeks, she ought to remain comparatively quiet, walking about in the room, but not going up or down stairs, and lying down for an hour in the forenoon and a couple of hours in the afternoon.

By following such a course, one may expect, in a fair number of cases, a permanent cure, if this term may be applied to a condition of freedom from symp-

toms for a period extending over three or four years (my own experience). The tube remains somewhat thickened, and in many cases, no doubt, is sealed at the abdominal end; but it is not sensitive, and is no cause of discomfort to the patient. In other cases, when this course of prolonged rest has not been followed, and in some cases in spite of it, the patient gets apparently well, but only for a short time. Every now and then, after some unusual exertion or exposure to cold, or without any apparent cause, she suffers from pain on the affected side, and may or may not have some elevation of temperature. These seizures are evidences of fresh attacks of inflammation, constituting recurrent salpingitis—another point of resemblance to appendicitis. If these attacks are allowed to recur, it will not be long before the patient will begin to suffer from pain on the opposite side and the disease become bilateral. Of course, it may be bilateral at the very beginning; but, in the majority of my cases, the disease at the commencement was limited to the one side. In my opinion, recurrent attacks after the patient had been subjected to proper treatment call for surgical interference; and now the sooner the diseased tube is removed the better. Just as emphatic as I was before in non-interference, I am equally emphatic now in active intervention, and to my mind the latter course under the changed condition is as strongly conservative as the former one. Nowadays one hears a great deal about conservatism in gynecological affections. This conservatism means different things to different men. With some it means a dallying course until both appendages are hopelessly involved, then doing an operation for their removal and leaving the useless uterus behind. These men are inclined to designate that operator as radical and extremist who, on finding the same conditions, removes the uterus also. The one plan of procedure has just as little genuine conservatism in it as the other.

To my way of thinking, however, true conservatism consists in actively attacking diseased structures as soon as it has been learned that proper palliative treatment has no influence in checking the progress or the recurrence of the pathological lesion. In adopting such a course of action, we are frequently enabled to conserve to the woman at least the tube and ovary on the one side, which will carry on the function of generation just as well as both appendages would.

I can cite many pregnant examples of this within my own experience—one typical of many others will, perhaps, suffice. A young married woman came to me about three years ago, with a gonorrhœal endometritis, which she had shortly before contracted from her husband. She had given birth to her first child some months before. The affection in a short time involved the right tube and ovary. She was curetted and kept in bed for several weeks, under the course of treatment outlined in this paper. There was an apparent cure; the pain had disappeared; the tube and ovary, which formerly had formed a mass about the size of a hen's egg, had gone down to almost normal dimensions. In about three months she had a recurrence of the pain in the right iliac region, and on examination the tube and ovary were found again to be about the size of a hen's egg. Rest in bed for a time was followed by the disappearance of the mass and the pain. During the following fifteen months she had several similar attacks, during the last of which she began to suffer with pain in the left side also. The left tube was now for the first time found to be sensitive on pressure, though not appreciably thickened. I decided not to wait any longer. "Accordingly, on June 6, 1895, at St. Elizabeth Hospital, I performed vaginal section, first delivering the left appendage. The

ovary contained a couple of cysts, which were punctured. The peritoneal covering of the tube was considerably injected, but the fimbriæ were apparently normal. Both tube and ovary were then returned into the peritoneal cavity. The right appendage was delivered with considerable difficulty, owing to the presence of dense and rather extensive adhesions. Tube and ovary were ablated in the usual way. On examination afterward, the tube was found to be the thickness of my thumb, club-shaped, and filled with thick pus, the ovary being completely disorganized by cystic degeneration. The patient made an uneventful recovery and left the hospital on June 23d, seventeen days after the operation. She has remained perfectly well ever since.¹ There is no doubt in my mind that had I waited much longer in the foregoing case, the left appendage would also have become irretrievably damaged."²

The reason that conservative surgical work in female pelvic affections is so often unsatisfactory is that frequently when the woman comes to the operating-table the time has long been past for such a plan of action. My own experience with conservative surgery during the past four years, in patients whom I had under observation during the early stages of the pelvic lesion, has been gratifying in the extreme, and there is no class of cases in my recollection that gives me greater satisfaction than just those in which I feel morally certain that by timely intervention I was enabled to conserve to the woman the tube and ovary on the one side, and in many cases part of the tube and ovary on the affected side. These women have remained free not only from their former pains and attacks of fever, but have been freed from a menace to their remaining generative organs, and in some instances to life itself.

I will briefly cite one more case, in support of the assertion that what at first was evidently a simple salpingitis may prove a menace to life, and I have done. The wife of a physician had some trouble with the left tube and ovary, giving her frequent attacks of pain. She consulted some authorities here and in Germany, all of whom advised her not to have anything done, and not even to allow herself to be examined. She followed this advice for three years, during which time she had several slight attacks, laying her up from a few hours to part of a day. Some months ago she had a more severe attack than usual, and when I saw her she had been in bed for four days, with fever and pain in the lower part of the abdomen. A superficial bimanual examination revealed to the left of the uterus a hard mass of the size of a closed fist. For the next few days her symptoms improved. Then suddenly, after a slight chill, her temperature began to go up, and reached 105.2° F.; pulse, 150, small and thready; and her condition for several hours was one of partial collapse. She rallied from this, and was operated upon the day following by a vaginal incision, which gave exit to a large quantity of pus. Since then, I am informed, she has been operated upon several times to give exit to other collections of pus on the right side, and that she is still an invalid. Comment is unnecessary.

While penning this article, a prominent gynecologist told me of a very unfortunate experience he had recently had, bearing on this question. It occurred, also, in the case of a physician's wife. He had examined her and found a slightly thickened tube and ovary, and advised non-interference. Some hours afterward she was seized with symptoms of collapse. He was sent for, but was not at home. Another gynecologist was called, who opened the abdomen and found free pus in the peritoneal cavity, coming from

¹ September, 1895.

² American Medico-Surgical Bulletin, May 7, 1896.

a ruptured pyosalpinx. The patient died of septic peritonitis.

It would appear that these untoward events are prone to occur in physicians' families. This is, no doubt, from the circumstance that, the subjects being the relatives of physicians, the operator displays more timidity and so-called conservatism than he otherwise would. It might be wise for a physician, in case of illness in his family, to repeat Napoleon's famous answer to the attending physician, who consulted him as to the advisability of following a certain course of treatment. Napoleon replied: "Follow the same line of treatment in the case of the empress as you would in the case of a cobbler's wife."

GONORRHOEA IN WOMEN.¹

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GONORRHOEA is such a frequent disease in women that it comes not only to the hands of the specialist of venereal diseases and to the gynecologist, but comes also abundantly to the hands of the general practitioner. Nevertheless, gonorrhœal infection in women finds very little space in our gynecological works. Neither Hart and Barbour, Lawson Tait, Fritsch, Schroeder, Chrobak, Hegar, Kaltenbach and Olshausen give any place to it; nor Zweifel, Winkel, Breisky, Thomas and Mundé ("An American Text-book of Gynecology"), Garrigues, Keating and Coe, Pozzi give any importance to this, one of the most frequent diseases. The following statistics will give you an idea of the wide spread of this infection in women. Noeggerath, for instance, mentioned once with enthusiasm that 80 per cent. (?) of all women treated by him had gonorrhœa. Oppenheimer found (in 1884), out of 108 pregnant women, 30 with gonorrhœa, *i.e.*, 27.7 per cent. Schwarz (in 1886) proved that out of 617 women, 112 had suspicious symptoms of gonorrhœa, of which 77 had the gonococcus of Neisser, *i.e.*, positively 12.4 per cent. Saenger considers that 12 per cent. of all our female patients are suffering from gonorrhœal infection; but, in my opinion, Schwarz's statistics of 12.4 per cent. should be considered the very minimum frequency of the disease, because, if he would have employed the present methods of examination for the gonococcus, he would have undoubtedly found the disease in a great many more of his suspicious cases.

Our gynecologists have devoted separate chapters to dysmenorrhœa, amenorrhœa, sterility, and many other symptoms, which are not diseases, but symptoms, and have neglected to give the proper place to this, one of the most common diseases; therefore, I selected this subject in order to give to the profession the missing chapter in the text-books on gynecology.

Etiology.—Neisser discovered the micrococcus which is the exciting cause of gonorrhœa in 1879, and proved that not only the gonorrhœal catarrhs of the mucous membranes were caused by gonococci, but also the inflammations coincident with gonorrhœa; also the suppuration of lymphatic glands, the parametric infiltrations, the perimetritic inflammations, the parenchymatous thickening of the tubes, the suppuration of the ovaries may depend entirely upon the activity of Neisser's gonococci. They are comparatively large, somewhat oval micrococci, which seldom appear singly, usually in twos, closely adjacent to each other, easily separable, constantly forming groups, but never chains; found in the free fluid or oftener found upon the pus cells and epithelia. By this description they

can be differentiated from many other micrococci. According to Bumm, the most positive sign for recognizing the gonococci is in the fact that they penetrate into the epithelial and pus cells, and multiply until the cells fall to pieces and the gonococci remain in round-shaped groups. The virulence of gonorrhœa depends upon the number and vitality of the gonococci.

Gonorrhœa is always contracted in the acute form; even the infection from a chronic case produces acute gonorrhœa, and when the infection is retransmitted to the chronic case it also will become acute.¹ Neisser and Wertheim made experiments by transferring gonococci from chronic cases upon patients, and produced acute gonorrhœa. Delicate and thin epithelium is predisposed to the infection. That is the reason for the more frequent and more serious affection of blondes and generally delicate women, pregnant women, girls, etc. The disease is usually transmitted through sexual intercourse, but can also be transmitted by cloths, linen, baths, and, according to Suchard,² even through bathing in a stream. He describes an epidemic of twelve cases, caused by bathing together in one place of a river. Weil and Barjou (Lyon) reported³ an epidemic of gonorrhœa in a hospital where the transmitting medium was the thermometer.

Bacteriology.—Since Neisser and Wertheim have proven that the gonococcus is the only cause of gonorrhœa in any part of the genitals and even peritoneum, the most positive diagnostic proof of gonorrhœa is the demonstration of the presence of the gonococcus. Although in a great many cases we are able to diagnosticate gonorrhœa clinically, still there remains a large share of them, especially those of a chronic nature, which can be recognized as gonorrhœal only by the aid of the microscope. Just as diphtheria of a seemingly malignant appearance, with very few Loeffler bacilli or none at all, will be considered a mild case of diphtheria or a simple local inflammation, so will a seemingly severe case of gonorrhœa change in our opinion to a mild one or a simple local inflammation, if the microscope should reveal very few gonococci or none at all. Microscopic examinations during the course of treatment are usually of great value, because the effect as to better or worse can be definitely determined during the course of the disease. Examination for the gonococcus is generally made microscopically. Culture methods, because of the difficulties attending their employment, are only used in exceptional cases. Although the demonstration of the gonococcus under the microscope means positive gonorrhœa, still the failure to find it is not absolutely negative, as gonococci may be so concealed in the depth of tissues, lacunæ, and folds, that the superficial secretion of a mucous membrane which is to be examined is free of gonococci. The value⁴ of the microscopical examination is especially great in cities, where hundreds of prostitutes are yearly withdrawn from their vagabond life and subjected to hospital treatment, who, without microscopical examination, would be pronounced healthy, and permitted to become from day to day the source of further infection.

Staining the Gonococcus.⁵—In cover-glass preparations made from the suspected secretions, the coccus is easily stained by watery solutions of the aniline dyes, preferably methyl blue. It is decolorized by Gram's method. Schwarz recommends staining cover-glass preparations for five to ten minutes in a saturated solution of methyl blue in five-per-cent. carbolic-acid

¹ S. Wertheim: Wiener klinische Wochenschrift, 1894, No. 24.

² Centralblatt für Gynäkologie, 1894, p. 1,105.

³ Weil and Barjou: Centralblatt für Gynäkologie, 1895, p. 774.

⁴ H. T. Brooks: The Post-Graduate, October, 1893.

⁵ T. M. Cheesman: "Reference Handbook of the Medical Sciences," vol. 9, p. 78.

¹ Read before the New York Academy of Medicine, section on obstetrics and gynecology, October 22, 1896.

water; then immersing for three seconds in dilute hydric acetate five parts, water, twenty parts, and washing thoroughly in water; contrast stain in a very dilute solution of safranin. V. Kahlden recommends staining two to three minutes in an alcoholic solution of eosin, and warming. The excess of eosin is absorbed with paper, and the film is then stained for half a minute in an alcoholic solution of methyl blue. Wash in water, dry, and mount in balsam. Sections should be stained in Ziehl's solution and washed in alcohol.

Biology of the Gonococcus.—After a number of experiments for determining the best culture media, the powers of resisting temperature, and the pyogenic properties of the gonococcus, Drs. Steinschneider and Schaefer¹ conclude that:

1. The best medium is blood serum or serous fluid of man, but the serum of the ox, sheep, dog, and rabbit may be substituted, and these media cannot be dispensed with.

2. Urine agar has not proved to be a reliable medium.

3. In Wertheim's plate method, a sterile camel's-hair brush may be profitably substituted for the platinum loop, in spreading the pus over the surface of the serum-agar plates.

4. Exposure to a temperature of 40° C. for twelve hours or more not only inhibits the growth but destroys the vitality of the organism.

5. When exposed to room temperature for not too long a period, proliferation is inhibited but not destroyed.

6. When gonorrhœal pus is mixed with water or urine, gonococci may retain their vitality for one to two hours; under favorable conditions even longer.

7. When introduced into the subcutaneous connective tissue, the gonococci do not produce suppuration.

Medico-Legal Remarks.—Dr. A. Haberd (Vienna)² allowed a few drops of gonorrhœal discharge to dry upon pieces of linen, and by making thorough examinations came to the following conclusions: 1. The gonococcus could be well recognized microscopically by its form, size, and staining after many weeks, and in thickly dried drops even after eight months. 2. Culture tests were successful only twice from thick-discharge stains, which dried in from three-quarters to one and one-quarter hours. Later the plates became sterile. This experiment shows that perfectly dry discharge loses its infectious character. 3. Inoculations upon the urethra by the dry gonorrhœal discharge (after one to four hours) constantly failed.

Latent Gonorrhœa.—Noeggerath (in 1872) was the first man to describe a certain stage of gonorrhœal infection and call it latent gonorrhœa. The wife of many a man, who at any time before marriage contracted gonorrhœa, becomes affected with latent gonorrhœa, which sooner or later makes itself known through some one of the diseases I am about to describe. Wertheim only recently was enabled to give a thoroughly scientific explanation of latent gonorrhœa. He says that only young gonococci³ are recognizable, as they are stained by aniline solutions, while old gonococci lose their typical forms by becoming granular spheres, variable in size and indefinite in outline. This change occurs whenever the culture medium is exhausted and no longer nutritious. He proves this by transplanting the afore-mentioned altered forms into fresh culture media and raising typical gonococci. The logical consequence is that patients proclaimed cured when the microscope revealed no gonococci may possess them in their latent form, which can be detected only when transferred to a better soil or culture medium, when the typical gonococci are raised.

The Organs that Become Affected.—Gonorrhœa in women manifests itself by one or a few of the following affections: Vulvitis, Bartholinitis, urethritis, vaginitis,¹ metritis,² perimetritis,³ parametritis, salpingitis,⁴ oöphoritis,⁵ and peritonitis.⁶ Sometimes the disease⁷ extends from the urethra, causing gonorrhœal cystitis, ureteritis,⁸ and nephritis. Also gonorrhœal proctitis,⁹ arthritis,¹⁰ phlebitis,¹¹ endocarditis,¹² pleuritis,¹³ meningo-myelitis,¹⁴ and conjunctivitis¹⁵ are met with, although located at a great distance from the original seat of disease. Albuminuria¹⁶ is reported to be observed very frequently in the acute stage of gonorrhœa.

Vulvitis.—Vulvitis comes usually in the acute form, and passes very rapidly. It manifests itself by redness and swelling of the labia majora and minora. The parts are covered with a thick, offensive, greenish-yellow discharge.¹⁷ Itching and burning in the external genitals, especially after urination, when the urine passes over the inflamed and sensitive parts, are almost constant symptoms, although the diagnosis can become positive only when the gonococcus is found in the secretion under the microscope. Prognosis is good, if not extended to the other genital parts, as it invariably tends to spread to the adjacent mucosa, resulting in vaginitis, urethritis, cervicitis, etc.¹⁸

Treatment: Since the reports of Dr. Neisser, of Breslau,¹⁹ of the experiments in his clinic, and Dr. Friedheim²⁰ (of the same clinic), in 1890, about the great value of nitrate of silver in gonorrhœa, in solutions of 1 to 4,000 to 1 to 2,000, this drug has become the ideal and most popular remedy abroad and here. The plan described by Dr. Pryor, of New York,²¹ is much in vogue in the United States. Nitrate of silver, a solution of twenty grains to the ounce, should be painted and allowed to dry upon the vulva, meatus urinarius, clitoris, and nymphæ. The vagina should be packed with twenty-per-cent. iodoform gauze, wrung out of a 1 to 5,000 solution of bichloride of mercury. The woman should bathe the vulva every four hours with a one-half-per-cent. solution of lysol. I have been in the habit of using permanganate of potassium in solution, 1 to 5,000 to 1 to 2,000, and it is especially recommended by Klein.²² Columbini²³ recommends five to ten per cent. of ichthyol in glycerin. Abstinence from all kinds of stimulants should be insisted upon. Frequent hip baths with sea-salt dissolved in the water, and frequent sea bathing in the summer, are very beneficial. Nitrate of silver, although very popular at present in the treatment of gonorrhœa, will probably be soon displaced by either

¹ Pozzi: "Medical and Surgical Gynecology."

² Ibid.

³ Noeggerath: *Annals of Gyn.*, vol. i., p. 582.

⁴ Pozzi: "Medical and Surgical Gynecology." Noeggerath: *Annals of Gyn.*, 1894 p. 775.

⁵ Challan de Belval: *Centralblatt für Gyn.*, 1894, p. 775.

⁶ E. Glunder: *Centralblatt für Gyn.*, 1894, p. 775.

⁷ B. Brown: *MEDICAL RECORD*, vol. xl., p. 640.

⁸ Mendelsohn: *Vratch*, 1895, p. 1,328.

⁹ Neisser (Breslau): *MEDICAL RECORD*, vol. xliii., p. 147.

¹⁰ Brodhurst (London): *MED. REC.*, vol. xl., p. 305. Stark: *MED. RECORD*, vol. xlii., p. 208. O. Resnikow: *Annals of Gyn.*, vol. viii., p. 69. Northrup, Welch, Shattuck, etc.: *MED. REC.*, vol. xlvii., p. 756.

¹¹ *La Presse Médicale*, December 7, 1895.

¹² *The Med. Bulletin*, vol. xvi., p. 106. W. Winterberg: *Centralblatt für Gyn.*, 1895, p. 927.

¹³ P. Faitout: *Vratch*, 1895, p. 1,272.

¹⁴ *MED. REC.*, vol. xl., p. 741.

¹⁵ Haga: *MED. REC.*, vol. xlii., p. 565.

¹⁶ P. Balser and Souplet: *Med. Bulletin*, vol. xv., p. 105.

¹⁷ B. H. Wells: *The International Journal of Surgery*, vol. iii., p. 207.

¹⁸ More Madden: *The Lancet*, January, 1896, p. 39.

¹⁹ Neisser: *MEDICAL RECORD*, vol. xliii., p. 147.

²⁰ Friedheim: *MEDICAL RECORD*, vol. xxxvii., p. 708.

²¹ W. R. Pryor: *MEDICAL RECORD*, vol. xlviii., p. 390.

²² G. Klein: *The Lancet*, October, 1895, p. 328.

²³ Columbini (Siena): *Centralblatt für Gyn.*, 1894, p. 776.

¹ *Berliner klinische Wochenschrift*, 1895, No. 45.

² *Centralblatt für Gynäkologie*, 1895, p. 145.

³ *American Journal of Obstetrics*, September, 1896, p. 383.

one of the two new remedies—argentamin and argonin. They answer more to the requirements of an ideal remedy for gonorrhœa; namely, while they destroy the gonococcus and penetrate deeply into the tissues, still they do no harm to them.

Argentamin¹ (ethylendiamin-silver-phosphate solution): A colorless, alkaline liquid, turning yellow on exposure. Antiseptic and astringent, like corrosive sublimate, but not coagulating proteids. It is highly recommended by Ashner, of Budapest,² Schaeffer, of Breslau,³ and Albertazzi, of Rome,⁴ in solutions of 1 to 4,000 to 1 to 2,000. It is very similar in its effects to nitrate of silver, with a special advantage, that it does not coagulate albumin. It does not affect, therefore, the epithelium of the mucous membrane, and can permeate into the tissue and attack there the deeply seated gonococci. The following are the conclusions arrived at in experimenting with argentamin:

1. Solutions of argentamin give no precipitate in the presence of albumin and sodium chloride.

2. They penetrate deeply into the tissues without altering them.

3. A solution of argentamin, 1 to 4,000, unfertilizes a pure culture of gonococci in from five to seven minutes of contact, *i.e.*, sooner than a solution of nitrate of silver, 1 to 4,000.

4. Injections of a solution of argentamin into the urethra, even as strong as 1 to 1,000, are well tolerated. The quantity of gonorrhœal discharge increases after a few injections, but afterward gradually and rapidly disappears.

5. Usually on the sixth or seventh day the discharge is already quite thin, and you can hardly find any cells with gonococci in them. If you stop the injections when the gonococci are not found, the discharge will disappear anyhow very rapidly.

6. The treatment with argentamin can be commenced at any stage of the disease.

7. The cases are usually cured within six to fifteen days, the length of the sickness depending also upon general dietary and hygienic conditions.

Argonin: A soluble silver-casein salt. It is a fine, white powder, soluble in hot water; ammonia increases its solubility. It is a non-coagulating antiseptic, like argentamin. Argonin is strongly recommended by Jadassohn, of Breslau,⁵ R. Meyer,⁶ and Schaeffer,⁷ in 1.5 to 2 per cent. solutions. This remedy, combining the good properties of argentamin with its additional advantage of being non-irritating in character, will probably become in time the most popular antigonorrhœicum.

Bartholinitis.—Bartholinitis gonorrhœica takes one of the following three courses:

First, the entire gland may rapidly suppurate. Within three or four days a tumor forms in the labium majus, which may attain the size of a child's fist or even greater dimensions. The labium becomes hard and red. Treat it like a phlegmon, by incision and antiseptics.

Second, the process runs a slower course, and the inner surface of the labium becomes more prominent. In this case the secretion of the vulvitis seals the efferent channel. The secretion of the gland cannot escape from the duct, expands it, and lies at the inner surface of the posterior third of the labium majus in the shape of a cyst, the size of a hazelnut or larger.

The secretion can often be forcibly expressed. In this latter case cysts also form which persist for years without incommoding the patients. These cysts contain yellow or dark brownish fluid, and do not refill if freely opened.

Third, the chronic kind of gonorrhœic bartholinitis is the most pernicious in its consequences, the form probably leading most frequently to the infection of the male. A moderate quantity of pus continually flows from the efferent duct. This pus covers the vulva in a thin layer. It is very probable that precisely the act of coition, owing to compression of the gland by the sphincter cunni or to accidental pressure of the tip of the penis upon the gland, leads to a more copious production of the infectious secretion of the diseased gland.

Treatment depends upon circumstances. Either dilate the canal by a sound and apply antiseptics, such as argonin, argentamin, nitrate of silver, etc.; or incise, if there is an abscess. Should the glandular body be affected, extirpation becomes the most rational treatment.

Urethritis, Cystitis, and Ureteritis.—Urethritis is almost always an accompaniment of gonorrhœal vulvitis. Bumm¹ and Luczny,² for instance, find it as frequently as in ninety per cent. of all their cases of gonorrhœa. Sometimes a periurethritis is developed, and usually in such cases the Skene's glands³ become affected. The glands surround the urethra, and their canals open on either side and behind the meatus urinarius. The gonococci are peculiarly prone to linger in these openings, and often long after all trace of the disease is supposed to have disappeared one or more drops of thick, yellow pus can be squeezed out of them. The gonorrhœal process can also extend from the urethra to the bladder, ureters, and even into the pelves of the kidneys, causing death through pyelitis and pyelo-nephritis. When the patient complains of a burning sensation during and after urination, your suspicion of a gonorrhœal infection should be aroused. Introduce a finger into the vagina against the neck of the bladder and withdraw it while pressing it against the urethra, and if a purulent discharge comes out of the meatus urinarius the diagnosis of gonorrhœal urethritis is positive, as there is no other urethritis that will produce a purulent discharge.

The urethroscope or endoscope, which is easily used in the female urethra, shows that the whole canal is inflamed, and in some instances discloses the presence of small ulcers. In order that an affected urethra may be better distinguished, I will give here a description of a healthy urethra as seen in the urethroscope:⁴ 1, The mucous membrane of the canal is traversed with radial folds; 2, the urethral orifice appears in the shape of a darkish spot; 3, with regard to color, the urethral mucous membrane closely resembles the oral; 4, muciparous glands are invisible. As the scope of this paper does not permit me to give more space to urethroscopy, I take the liberty of referring you to an excellent article on "Practical Urethroscopy," by Dr. Wossildo, of Berlin, Germany, published in the MEDICAL RECORD, September 7, 1895.

Treatment: The best plan of treating the urethra is by local applications daily, either of nitrate of silver, two to five per cent. solution; argentamin, 1 to 2,000 solution; or argonin, one-per-cent. solution.

Cystitis.⁵—When a patient who is suffering from a urethral gonorrhœa complains of severe suprapubic pain, with disturbances in urination, and when on a bimanual examination you exclude the affection of

¹ Manufactured by E. Schering, Berlin, Germany.

² Ashner: Wiener med. Wochenschrift, Maerz u. April, 1895.

³ Schaeffer: Centralblatt f. Gyn., No. 50, 1885, p. 1,333.

⁴ Albertazzi: Vratich, 1895, p. 874.

⁵ Archiv f. Dermatol. und Syphilologie, vol. xxxii.

⁶ Rudolph Meyer: Zeitschrift f. Hygiene u. Infektionskrank., 1895, vol. xl.

⁷ Schaeffer: Centralblatt f. Gyn., No. 50, 1895, p. 1,333.

⁸ C. Herbert: Centralblatt f. Gyn., 1895, p. 926.

⁹ H. Fritsch: "The Diseases of Women."

¹ Centralblatt f. Gyn., 1892, p. 729.

² Ibid., p. 572.

³ "An American Text-Book of Gynecology," p. 616.

⁴ Eberman: MEDICAL RECORD, January 6, 1894.

⁵ Centralblatt f. Chirurgie, March 14, 1896.

the uterus, you can make your diagnosis cystitis gonorrhœica, and your diagnosis will in all probability be correct; but you cannot be positive unless you resort to the use of the cystoscope.

A cystoscopic examination reveals pale red, irregular patches upon a healthy mucous membrane, mostly around the os urethræ. If one of the ureters is affected, an inflammatory patch can be seen surrounding its opening; the flow of urine from that opening is at much shorter intervals than from the healthy ureter.

Treatment: Wash out the bladder once daily. Pour one quart of a solution of permanganate of potassium, 1 to 2,000, into a fountain syringe; then introduce a disinfected catheter (not double current) into the bladder. After the urine has flowed out, connect the catheter with the rubber tube of the syringe and let the solution fill the bladder, until the patient states that she cannot stand it any longer. The catheter is then withdrawn, and the patient has to retain the fluid from one to three minutes. She then passes the muddy and discolored solution; or, if she is unable to pass it, she is catheterized. I have seldom seen a patient not cured within a week or twelve days by this plan. Should I meet an obstinate case of gonorrhœal cystitis, I would try argonin or argentamin.

Ureteritis, when detected cystoscopically, must not be neglected, or it may cost the patient's life. Check it immediately by a local application, by Kelly's method, of either nitrate of silver, two per cent.; argentamin, 1 to 2,000; or argonin, one per cent. The last may be the safest and most reliable gonococcicide.

Vaginitis.—Pathology: Although the pavement epithelium lining the vagina is not so easily penetrable for the gonococci, which is an established fact, and although, according to Doederlein, the acidity of the vaginal secretion depresses their vitality, still we meet a great number of cases of gonorrhœal vaginitis. These cases usually come together with vulvitis, and are called gonorrhœal vulvo-vaginitis; but we meet the affection of the vagina alone very often, especially of the posterior vaginal pouch, and also of the vaginal portion of the uterus, while no other genital part is affected. In the acute stage we find redness, swelling, œdema, erosions, swelling of the papillæ, and secretion of a serous, rapidly developing into a purulent, discharge.

Symptoms: Vaginitis is characterized by the sense of fulness and heat about the genitals, muco-purulent secretions, and slight febrile variations. Duration of the disease is from one to three weeks, and it seldom becomes chronic.

Diagnosis: The diagnosis of vaginitis is easily arrived at by the above symptoms, but the question as to its being of a gonorrhœal nature can be solved only by the microscope.

The speculum shows that the mucous membrane is inflamed and covered with a muco-purulent discharge; the redness is usually in the form of patches, but may be diffuse.

Treatment: My plan is as follows: I prescribe to the patient potassium permanganate in papers, four to seven grains in each, and order her to dissolve the crystals out of one paper in a quart of lukewarm water; then to pour the solution into a fountain syringe and make a vaginal irrigation, while lying on her back with a bed pan under her. If the patient is not ordered to be exact in this, she will very frequently make an injection in the sitting posture, which is certainly much inferior for a thorough washing of the vagina. About eight irrigations within forty-eight hours are made, and then I apply a solution of silver nitrate, thirty grains to the ounce of water, to all the inflamed surfaces through a bivalve speculum and tampon with either boro-glycerin or ichthyol-glycerin, ten per cent.,¹ on

¹ Columbini: Centralblatt f. Gyn., August 11, 1894.

absorbent cotton, or iodoform gauze, ten per cent. The patient removes the packing after twenty-four hours and continues to make injections of permanganate of potassium every six hours for two days. Then a second local application of silver nitrate is made as before. Treatment is continued on this plan until the patient needs no local applications but vaginal injections. Those are gradually diminished in frequency and strength until entirely dispensed with. For a short time I have been using a solution of argonin, two per cent., instead of the nitrate of silver, in my cases of vulvo-vaginitis.

Argentamin in solution of 1 to 1,000 as a local application will also be found more efficient than the nitrate-of-silver solution. Dr. R. T. O'Brien reports¹ a number of cases of gonorrhœa treated by means of injections of sea water. He had the injections given seven or eight times in twenty-four hours. The average duration of the disease under treatment was 8.87 days. Alumol is recommended by Chotzen, of Breslau,² as a good astringent and gonococcicide. Vaginal irrigations are made with a solution of one to two per cent.

Methyl blue, five-per-cent. solution, to moisten tampons, is said to act directly upon the bacteria in vaginitis, causing discharge and pain to cease.³

Pyoktanin and boric acid, in proportion of ten per cent. of the former, are found by Hulbert⁴ to be the most ideal and effective germicidal antiseptic yet presented for the cure of primary gonorrhœal vaginitis. After being cleansed with hot water, the cavity is freely and liberally dusted and packed with any mild antiseptic gauze to the hymen.

Uterine Gonorrhœa.—Pathology: Gonorrhœal endocervicitis is usually mild in its manifestations; the patient never suffers any pelvic lesions, because the cervical mucous membrane is dense, with few lymphatics, and drainage is readily obtained.⁵ The only and the most important danger is the tendency of the infection to spread to the endometrium. Gonorrhœal endometritis⁶ presents the pathological appearance of an interstitial inflammatory process of the mucous membrane of a purulent nature. In quite a number of cases there is an increase in the glandular supply of the mucosa, especially during a chronic course. This may be called endometritis glandularis gonorrhœica.

Gonorrhœal Metritis.—Dr. Max Madlener,⁷ of Munich, gives the following *résumé* of his investigations: Neisser's gonococcus is capable of passing from the endometrium into the muscular apparatus of the entire uterus and there setting up an inflammatory process. This inflammation may reach even to the point of abscess production. This result appears especially to occur in the puerperium. Usually the inflammation remains of moderate intensity. The gonococcus disappears quickly from the myometrium, in that it either perishes or wanders farther. By the introduction of germs into the uterine wall, even as far as the serosa, infection of the peritoneum from the endometrium with evasion of the tubes is a possibility, and in this way perimetritis in gonorrhœa without implication of the adnexa is explained. The uterus is next to the urethra in frequency of affection. Steinschneider found uterine gonorrhœa in fifty per cent. of his gonorrhœal cases, Neisser in sixty-one per cent., and Bumm in seventy-four per cent. It happens often that the uterus directly and alone becomes infected.

Symptoms: Uterine gonorrhœa usually sets in acutely. You can see through the speculum that the

¹ British Med. Journal, November 30, 1889.

² Centralblatt f. Gyn., October 26, 1895.

³ MEDICAL RECORD, March 17, 1894.

⁴ MEDICAL RECORD, April 1, 1893.

⁵ "An American Text-Book of Gynecology," p. 235.

⁶ Wertheim: Centralblatt f. Gyn., June 29, 1895.

⁷ Centralblatt f. Gyn., December 14, 1895.

vaginal portion is swollen, the mucous membrane tense, glistening, and red. In the external orifice of the cervix you can see the dark red congested mucous membrane. A green-yellowish, purulent discharge is flowing out of it, presenting a picture similar to the urethral gonorrhœa in man. In this discharge you will find gonococci as usual near and upon epithelial and pus cells. Uterine gonorrhœa may last from a few weeks to many months. During the second stage or subacute condition the pain, redness, and swelling gradually disappear, the discharge becomes thinner, translucent, and the disease gradually abates, leaving the usual healthy cervical secretion. In many cases the subacute stage gradually turns into the chronic, when gonorrhœa may become latent, disappear, and reappear when certain conditions influence it. Excessive sexual intercourse, alcoholic stimulants, etc., may produce exacerbations of an acute condition.

In gonorrhœal endometritis the muscular wall usually becomes affected before the gonorrhœa extends to the tubes and this is usually a cause for chronic metritis. On a bimanual examination you will notice pain, swelling, and hard consistency due to hyperæmia and infiltration.

There is no doubt that conception can take place after an attack of uterine gonorrhœa, but usually in these cases either an abortion or an abnormal development of the ovum is the consequence. When gonorrhœal infection and conception take place at the same time, there is less chance for the infection to spread to the tube, ovaries, and peritoneum, because by the agglutination of the decidua reflexa with the vera the uterine cavity becomes closed and protected from the spread of the infection. In this way the disease is limited to the lower part of the genitals and can be easily checked, but in case the disease is not cured in time there is extreme danger of its spread during the puerperal state, as the tubal openings are widely dilated and can freely admit the infection.

Puerperal gonorrhœal endometritis is a grave febrile affection, with a temperature often reaching 105° F., but it is not so fatal as the puerperal septic endometritis and therefore should be carefully differentiated.

Diagnosis: Endometritis gonorrhœica is usually a complication of gonorrhœal vulvo-vaginitis or urethritis, and is therefore diagnosed as gonorrhœal by its mere presence, but when there is any doubt the uterine secretions can be examined microscopically for Neisser's gonococcus.

Treatment: Local applications of silver nitrate, ten per cent., zinc chloride, twenty per cent., argentamin, five per cent., argonin, five per cent., or ichthyol-glycerin, ten per cent., are useful. Recently alumol¹ was introduced and considered as very efficient: either alumol gauze, five per cent., or an alumol antrophore, five per cent., is introduced into the uterus. My method is more radical and I claim for it positive success. When there is no complicating salpingitis present, I dilate the cervix, irrigate the uterine cavity with bichloride of mercury, 1 to 4,000, then curette thoroughly with a sharp curette, touch up the endometrium with ninety-five-per-cent. carbolic acid, pack the uterus with iodoform gauze, ten per cent., and tamponade the vagina with ichthyol-glycerin tampons, ten per cent. After forty-eight hours the tampons and packing are removed, and a few fresh ichthyol-glycerin tampons are placed in the vagina. One week later I examine the patient, especially her uterine secretions, and if the disease is still persisting I repeat the above procedure.

Salpingitis and Oöphoritis.—Pathology: (a) Salpingitis occurs according to Bumm in 3.7 per cent. of the gynecological practice, while Schauta finds it in 17.8 per cent. of his own carefully investigated cases.

¹ Dr. Chotzen (Breslau): Centralblatt f. Gyn., October 26, 1895.

The gonorrhœal affection of the tube is therefore less frequent than gonorrhœa of the uterus, probably due to the narrowness of the lumen in the tube. The mucous membrane becomes thickened and the ciliated epithelia are destroyed. In some places the destruction goes so far as to uncover the underlying connective tissue; infiltration then takes place in the intermuscular and submucous connective tissue, and thickening of the wall is the consequence. At times atresia or stenosis of the tube occurs. On account of stenosis in both ends of the tube a fluid accumulates. This is either purulent or serous, but very seldom bloody. We have therefore the pyosalpinx, hydrosalpinx, and rarely the hæmatosalpinx.¹ Wertheim succeeded in proving the presence of gonococci in the tubal wall and in its contents. The gonococci reach only the superficial layers of the connective tissue, which becomes exceedingly infiltrated with pus cells. No other pyogenic bacteria have been found as yet in these gonorrhœal inflammations of tubes, ovaries, and even peritoneum. (b) Oöphoritis: Gonorrhœal oöphoritis may be produced in two ways: either by route of the tubal lumen the gonorrhœal pus flows into an open Graafian follicle,² or the infection spreads from the tube to the peritoneum and then afterward to the ovary. Wertheim found gonococci not only in the pus of the ovarian abscess, but also in the solid tissue of the ovary.

Symptoms: Pain is complained of in the lower part of the abdomen and sacral region, extending down to the lower extremities. There is also pain at times in the chest and upper extremities. It may be either continuous or interrupted, simulating labor pains. Metrorrhagias are very frequent in these cases, also irregular and profuse menses. Painful urination and purulent vaginal discharge are seldom absent. Frequent peritonitic attacks, loss of appetite, emaciation, nervousness, constipation, painful defecation, and a general impaired nutrition can be observed. Hæmoglobin falls to twenty or thirty per cent. Sterility is most frequently the consequence. In case pregnancy is coincident with this affection, it becomes then a source of torture and danger to the patient. Either abortion is produced by the interference of the tumor with the rise of the uterus, or if pregnancy is carried to the full term a pelvic peritonitis is a probable complication in the puerperium.

Diagnosis: Salpingitis or oöphoritis is made out by the usual bimanual examination, like the simple inflammatory affections of the tubes and ovaries, and the question as to gonorrhœal infection is solved by the history of the case. Be guarded against mistaking the tumor for an ectopic gestation.

Treatment: First or acute stage: When a hard tumor is felt bimanually, but no fluctuation is present, when the heat and pain in the pelvis are severe, then an ice-bag full of ice kept on the affected side will subdue to a great extent the acute inflammatory process; morphine (one-eighth of a grain every two hours) will quiet the pain and comfort the patient; quinine or antipyrin will relieve the fever. Perfect rest in bed, ichthyol-glycerin, ten per cent. (a few ounces injected into the vagina t.i.d.), and fluid diet are indicated in this stage. If this plan does not improve the condition of the patient, several leeches or a blister may be applied to the affected side, and vaginal injections of permanganate of potassium, two grains to the pint, should be used. Second or subacute stage: Dilate the cervical canal and introduce an Outerbridge's wire dilator to allow the free exit of secretions from the uterus. Order warm linseed poultices to the abdomen and warm vaginal injections of bichloride of mercury, 1 to 4,000, twice or three times

¹ "Lehrbuch der Gynäkologie," Schauta, Wien, 1896.

² Menge: Centralblatt f. Gyn., July 20, 1895.

daily. Third or chronic stage: This may terminate in two conditions—one, the purulent affection, in which fluctuation is distinct; either a pyosalpinx or an ovarian abscess, or both, can be diagnosed on one or on both sides. Then the best plan is extirpation of one or of both appendages. Professor Schauta, of Vienna, practises simultaneous extirpation of the uterus, when both appendages are to be removed.¹ On the other hand the chronic stage may show a tendency toward improvement, especially in cases in which there is no fluctuation to be detected. In these cases mild saline laxatives, iodides, massage, glycerin tampons, sea-salt baths, or sea bathing will produce a decided effect.

Peritonitis and Parametritis.—Pathology: As long as the view of Bumm was in vogue, that the gonococcus could penetrate into cylindrical epithelium only, it was thought impossible that Neisser's gonococcus alone would be sufficient to cause peritonitis, but that streptococci and staphylococci would have to appear in the field of infection in order to produce a peritonitis. Wertheim by experiments upon white mice and guinea-pigs proved that within twenty-four hours after inoculation of gonorrhœa upon the peritoneum a sero-purulent secretion on the infected spot could be distinctly seen.

Peritonitis usually leaves behind many adhesions, which tie up the pelvic organs in different ways. Very often there are among the adhesions ensacculated accumulations of pus, blood, or serous fluid. Parametritis is one of the rarest gonorrhœal affections, and all that is known of it through operations is that it occurs usually as a sequela to long-standing or recurrent peritonitis.

Symptoms: There is a slight rise of temperature during the first few days, seldom above 101.5° F. Pain and tenderness are distinct, as in simple pelvic peritonitis, but the gonorrhœal peritonitis seldom lasts longer than four days. Cases of peritonitis produced by the sudden rupture of a gonorrhœal pyosalpinx are usually very grave and in most cases fatal. The symptoms of chronic pelveo-peritonitis are usually confused with those of the adnexa, and it is hard to say whether they belong to salpingitis, oöphoritis, or peritonitis. The symptoms of parametritis are also obscured by the affection of the adnexa.

Treatment: It should be the same as in all cases of circumscribed or pelvic peritonitis, namely, rest, ice, and morphine.

Prophylaxis.—(1) Early marriage. This would certainly strike the severest blow against prostitution, the agency of gonorrhœal distribution. I say "early" marriage from a social point of view; still, I mean "timely" from a physiological point—namely, if boys and girls whose sexual organs have completed their development should marry, they would have the least possible chance of falling into the paths of prostitution and be the least exposed to gonorrhœal infection. The pediatricist is frequently asked by the anxious mothers when they shall wean their babies and he wisely answers, as soon as they have teeth and can eat; but the gynecologist is never asked by the anxious mother when shall her daughter marry and what can he advise her? Shall he advise the girl to marry as soon as she menstruates, as nature designed, or shall he advise her to attend college, etc., and wait till she is a thoroughly accomplished woman? Certainly, with the present stage of civilization the latter advice, which is a transgression against nature's laws, is the most proper one. Nature though, as a rule, punishes her transgressors. She gives a tobacco heart to the smoker; provides the drinker with Bright's disease; surprises the mother who neglects the nursing of her infant with mastitis; turns the onanist into a weak and nervous imbecile; she curses the prostitute

with gonorrhœa, syphilis, etc. So also does nature punish society for its late marriages by hard child-births and by prostitution.

2. Isolation: As long as society will recognize the necessity of late marriages, so long will it have to recognize prostitution as an inevitable evil. Nevertheless, a great many people are not decided yet as to the propriety of permitting the establishment of "public" houses and the registration of prostitutes. They think that by such formal allowances they would give prostitution a recognition by which it would become a legalized profession. Nobody though can deny that prostitution does exist and does disseminate venereal diseases; why not have it in isolated quarters and under the supervision of the police and health departments, in order to prevent the spread of gonorrhœa and syphilis? Would this not be the most radical prophylactic? For instance, if all prostitutes should be examined by health inspectors as frequently as practicable and the sufferers from venereal diseases should be sent to a hospital, which they could not leave until positively cured, gonorrhœa and other venereal diseases would certainly become scarce.

3. Warning: The patients must be strictly warned against sexual intercourse or marriage as long as gonorrhœa is present. Many a man is base and careless enough to bring the disease home to his wife and even children. I treated quite a number of families in which all the members were infected. Some men have a superstitious idea that gonorrhœa can be gotten rid of by transferring it to a pregnant woman and they get their unfortunate victims. Lawson Tait¹ relates the cases of several girls who were infected at their first connection. They were victims of the brutal superstition that a man can get rid of his disease by conferring it on a virgin. The prostitutes, as a rule, do not restrain themselves from connection while infected with gonorrhœa, except when they are suffering pain. They are either glad to revenge themselves upon men for their wrongs, or they are compelled to earn their living whether sick or well.

4. Rational and thorough treatment of men by specialists is of utmost importance, bearing in mind the obstinacy of this disease, especially in the chronic and latent stages.

5. Instruments: Thorough cleanliness of instruments and antiseptic precautions should not be forgotten in the physician's office, as well as in the clinic or dispensary.

132 HENRY STREET.

The Blood in Pernicious Anæmia.—Dr. Cabot has published in the *Boston Medical and Surgical Journal* a study of fifty cases of pernicious anæmia. He concludes that the points most typical in the blood of this disease are: 1. A reduction of the number of red cells to about 1,000,000. 2. The absence of leucocytosis. 3. Possibly a relatively high percentage of hæmoglobin in some cases. 4. Increase in average diameter of the red cells. 5. The presence of large numbers of polychromatophilic red cells. 6. The presence of nucleated red cells, a minority being normoblasts. 7. The presence of myelocytes. 8. A relatively high percentage of small lymphocytes at the expense of the polymorphonuclear cells. Post-mortem examination in eight cases brought out nothing not already well known. Fatty degeneration and pallor of all organs were noted in all; the "tiger-lily" heart in six; pericardial and peritoneal ecchymoses in four. The spleen was slightly enlarged in two; no enlargement of lymphatic glands was observed. The marrow was examined in five cases, showing in all a notably red color in the shaft of the long bones.

¹ Lawson Tait: "Diseases of Women."

¹ The Lancet, p. 302.

REPORT OF A CASE OF MALIGNANT UTERINE TUMOR TREATED BY THE TOXINS OF Erysipelas AND BACILLUS PRODIGIOSUS.¹

By R. M. STONE, A.M., M.D.,

OMAHA, NEB.

I wish to present to the readers of your valuable journal a report of the only case of malignant uterine disease, so far as I can learn, treated by the erysipelas and prodigious toxins.

It is particularly appropriate just now, after the unfavorable editorial upon the subject in the *MEDICAL RECORD* of October 19, 1896.

The writer has endeavored to be perfectly scientific in his methods. He had the judgment of four physicians who, upon inspection, pronounced the case as malignant and inoperable. They agreed that the patient was apparently near to death. The opinion of three or more competent microscopists agreed that the specimens were malignant. He may be excused for a slight degree of enthusiasm when, after such conditions, he has seen the patient restored to apparent perfect health, to entire freedom from all symptoms, and to restoration of normal weight. He is not ignorant of the fact that but one year has elapsed and knows that permanent conclusions cannot yet be drawn.

He recognizes the danger of the injections, because an overdose nearly killed his patient.

He thoroughly agrees with the conclusion of the committee that as yet the use of the toxins should be confined to inoperable cases, but it should be noted that Dr. Coley himself has advocated the method only in inoperable cases, and practically only in inoperable sarcoma.

History.—Mrs. L. B.—, aged forty-two, a vigorous woman of excellent family history, the mother of five children, the youngest three years old, called upon me in May, 1895, stating that she was flowing and had been for two or three weeks. I asked her to call again, when not embarrassed by the flow, and let me investigate. In July she met me in a store and remarked that she had flowed very much since May and would surely come and see me soon. Early in November, 1895, six months after the first symptoms appeared, she finally came for examination. She reported that she was still flowing a little and had lost blood every day in October. Her normal weight was about one hundred and twenty pounds; she was now reduced to about one hundred and five. Her color was bad and she was very anæmic. Examination showed the cervix very large, its inner surface eroded, bleeding easily, and open sufficiently to admit the tip of the index finger. Malignancy was quite evident. The uterus was large and heavy, and there was infiltration of the right broad ligament. I called in my friend, Dr. Charles C. Allison, professor of rectal and genito-urinary surgery, Omaha Medical College, for consultation. He confirmed the diagnosis. We advised the curettage of the uterus and the amputation of the cervix. On November 12th Dr. Allison operated. When he took hold of the posterior lip with the volsellum it tore away. Curettage was done thoroughly and a large portion of the uterine tissue, which was found soft and friable, was removed. The anterior lip of the cervix was removed with the scissors. The cautery and the chloride of zinc were thoroughly used, as the hemorrhage from the cervix was profuse. Dr. W. R. Lavender, professor of pathology, Omaha Medical College, very kindly made microscopical examination of the cervix. He made about one hundred sections and found a "decidedly abnormal amount of fibrous connective tissue, in addition to the normal

tissue found in the cervix uteri. There were distinct groups of round cells with very large nuclei without connective tissue between the cells. There were small spaces in which were found red blood corpuscles, the walls of these spaces being formed by cells. A careful search for epithelioma proved negative. There was a hyperplasia of the uterine follicles at the junction of the cervix and the body of the uterus, but a decided absence of the characteristic invasion of normal tissues usually found in epithelioma." His diagnosis was "spindle-celled sarcoma." Unfortunately we were able to send but two sections to Dr. Coley for examination. Mr. B. H. Buxton, assistant pathologist to the New York Cancer Hospital and bacteriologist of the Loomis Laboratory, New York, pronounced the growth to be of epithelial origin. Whether it was epithelioma from stratified epithelium or carcinoma from the glands of the cervix was uncertain. It was probably the former. It certainly was malignant. Dr. E. K. Dunham, pathologist to the New York Cancer Hospital, director of the Carnegie Laboratory, and professor of pathology in Bellevue Medical College, confirmed Mr. Buxton's diagnosis.

To resume our history. Recovery from the operation was uneventful up to November 24th. During this period of twelve days the temperature was between 98½° and 100½° F. The pulse was of good quality and was between 80 and 96. She rested well, had little pain, ate well, and sat up in bed on the 22d, 23d, and 24th. She was cheerful, bright, and happy, with a prospect of rapid recovery.

Hemorrhages.—There followed a period of sixteen days, during which there were five almost fatal hemorrhages. The first occurred on the evening of the 24th, without warning, after a good day. Dr. Van Gieson, living nearer than I, first reached her bedside, and had the horrible hemorrhage under control before my arrival, having packed the vagina thoroughly with ropes of absorbent cotton. On November 28th and 29th and again on December 1st there were equally severe hemorrhages. The last one, somewhat less severe, occurred on December 9th. With reference to the packing I wish to say that the hemorrhages were so violent that they ran right through any ordinary packing. We found that ropes of cotton pushed with great force, completely filling the vagina, were the best. Gauze was too harsh. Packing daily to this positive occlusion of the vagina was continued for twenty-five days. The hemorrhages usually came on in the evening after the packing had settled somewhat. Packing to a moderate degree was carried on daily up to January 15th, both to prevent possible hemorrhage and to allay the nervous tension due to a dread of hemorrhage. During most of the sixteen days during which the five hemorrhages took place life was despaired of and exhaustion was profound. The temperature was within three-fifths of a degree of 100° F. all the time, except before the hemorrhage of November 29th, when it ran up to 102½° F., and before that of December 1st, when it ran up to 101° F. The respiration was from 20 to 30 and the pulse from 90 to 108, usually above 100. Bovine was the sole dependence for food during this period. Strychnine and tonics were freely used. On November 30th we called Dr. A. F. Jonas, professor of surgery, Omaha Medical College, in consultation. Examination by us all then showed decided infiltration and nodulation of both broad ligaments. Dr. Jonas concurred in the diagnosis of malignancy and our prognosis was most grave. Death in the near future seemed imminent. There was no possibility of the removal of the uterus, even if it were at all likely to be of value. The case was without question that of an "inoperable malignant tumor."

Use of the Toxins.—Under these most unfavorable

¹ Read before the Omaha Medical Society, June, 1896.

conditions we began on December 4th the use of the unfiltered toxins of erysipelas and bacillus prodigiosus, received from the Loomis Laboratory, prepared by Mr. Buxton. I began with three minims injected between the shoulder blades. No reaction followed. On the 5th I used seven minims; on the 6th, ten; on the 7th, fourteen; and on the 8th, twenty minims, with no reaction whatever, unless that perspiration, not before present, was a shadow of reaction, and except also that at once sleep was much improved. Communication was had with Dr. Coley, who was greatly interested and very kind with his suggestions. On the 14th I used in the morning two minims, in the evening four; on the 15th, seven minims; 16th, ten; 17th, twelve; 19th, fourteen; 20th, seventeen; all without reaction. During this period, December 4th to 20th, the temperature was between 99° and 100° F. on seventy-two observations; seven times in the morning it was $98\frac{1}{2}^{\circ}$ F. The patient's condition was improving, appetite was increasing, sleep was better. The elimination from the uterus was very free and of most offensive odor. Having failed to secure the sought-for reaction from the use of two to seventeen minims in the muscles of the shoulders, we decided to go closer to the seat of the disease. We had found no directions as to any change in dosage if we approached nearer to the tumor and so decided to keep on increasing our dose. On the morning of December 21st I injected nineteen minims in the vagina near the outlet. I had hardly driven out of sight of the house before trouble began. Rigor and chill were present in twenty minutes. By 10:30 the temperature was 101° F. The face became dark purple, the patient delirious, restless, and pulseless. A most extraordinarily anxious expression of countenance was present. Breathing became labored and exhaustion was profound. Total deafness was soon present. The urine was suppressed and by noon the temperature was $104\frac{1}{2}^{\circ}$ F., and death seemed very near. Dr. Allison and I were both away on surgical cases, and these most dangerous symptoms were met by the nurse, Miss Elmer, from Blockley Hospital, Philadelphia, who gave our patient most skilful and assiduous care for nine weeks and deserves very great credit. She used stimulants, hypodermic injections of morphine and strychnine, and bovine freely. By 12:30 the temperature was down to $103\frac{1}{2}^{\circ}$ F. By 1:30 it was $101\frac{1}{2}^{\circ}$ F. By 6:30 it was 100° F. At 1 P.M., when Dr. Allison and I reached her, the pulse had become perceptible, but barely so, and 120 beats to the minute. The deafness lasted six hours only. Seven ounces of urine were secreted in the following eighteen hours. Perspiration was slight. Nausea and vomiting were present all the afternoon. Intense redness of the face followed, accompanied by vertigo and headache. On the 23d, the third day, there appeared a violent herpes of the lips and tongue, which absolutely prevented the taking of any food for two days and caused very great distress for a week. Sleep was of course very restless and fitful. Vertigo from involvement of the semi-circular canals was present to an annoying degree from December 21st to January 3d. Our patient rallied very slowly from the terrible depression of the toxins injected in the vagina, and was not able to receive another injection until January 2d, when I used three minims in the vagina, in which locality all subsequent injections were made. On the 4th I used three minims; on the 5th, six. This produced a reaction fever of $102\frac{1}{2}^{\circ}$ F. with a pulse of 120. She was not able to bear an injection again until the 10th, when two minims caused a reaction of 100° F., and a pulse of 124. On the 13th two minims, on the 14th three minims produced no reaction. On the 15th four minims caused a chill, a temperature of 101° F., and a pulse of 120. At Dr. Coley's suggestion we now be-

gan the use of the filtered toxins. From January 21st to March 6th I used the toxins twenty-seven times on forty-seven days. The dose used was from three to twenty-three minims. There was a chill after nine of the injections. The temperature rose above $99\frac{1}{2}^{\circ}$ F. and as high as 103° F. on seven occasions. The pulse during the chill was from 116 to 138. On March 15th I began again the use of the filtered toxins injected in the gluteal region, using between this date and the 24th eight injections ranging from five to thirty minims, all without reaction, the only symptom apparently produced being malaise. On April 8th I began the toxins again, now using the unfiltered in the gluteal region. I used five injections, reaching ten minims without reaction except blueness of the finger nails. On May 11th the patient insisted on the injections being made at the vaginal outlet. I used two minims of the unfiltered and on the 22d five minims; neither caused reaction. On the 25th I used seven minims at 10 A.M. By noon she was suffering; at two o'clock there was intense headache with delirium; also pronounced cyanosis, with a very severe pain in the thighs and in a small spot under each breast; there were diarrhoea and vomiting. At three I saw her: she was again, as on December 21st, pulseless, anxious, but clear mentally. The skin was less cyanotic than at two, but was dusky red all over the body. The temperature was 103° F. Herpes labialis appeared the next day. This was the second reaction in point of severity, and the patient, as usual forgetful to a degree of the more alarming symptoms of the former reaction, pronounced this one even more severe.

General Conditions.—Our patient had passed through two critical periods. The first was that of hemorrhages lasting from November 24th to December 9th. Emaciation was extreme, anæmia was profound, the heart's action was very feeble and rapid. Vitality was almost exhausted. Under the use of the toxins elimination through uterine discharge was pronounced and copious. All conditions gradually improved, without reaction fever and chill, until the collapse due to the overdose of the toxins injected December 21st in too close proximity to the uterus. This most violent reaction came near being fatal, and yet most happy results were inaugurated by this overdose.

Menses.—The atrophy of the uterus had caused both Dr. Allison and myself to feel that there probably would be no further menstruation; but on March 5th to the 9th and March 28th to the 31st there was a show of blood. From April 17th to the 22d there was normal menstruation; from May 16th to the 18th there was menstruation, free on the 16th only.

Going back in her history to January 21st, elimination from the uterus had almost ceased and at this early period, only one month from the terrible reaction, neither Dr. Allison nor myself could find any nodulation in either of the broad ligaments and granulation tissue was fast disappearing from the site of the amputated cervix. On January 23d the patient sat up in bed for the first time; on the 26th she sat in a reclining-chair; on January 29th Dr. Jonas could find no nodulation in the broad ligaments. On February 2d she walked while supported. On February 20th she walked unsupported all over the house up and down stairs. On February 24th she rode out and dined. On May 4th Dr. Allison and I made a careful examination and were still unable to discover any infiltration in either broad ligament and the uterus was very much atrophied. The site of the cervical amputation was clean and entirely healed over.

Status præsens, October 31, 1896: The patient now weighs ten pounds more than her normal weight, is rosy, vigorous, eats and sleeps well, has neither pelvic pain, tenderness, nor dyspareunia. She has

resumed all her duties in the household. Her muscles are hard and her spirits are high. The malignancy of the tumor in this case cannot be questioned. It was apparent to both Dr. Allison and myself upon inspection. Dr. Lavender, Mr. Buxton, and Dr. Dunham all confirmed it with a microscope. Dr. Van Gieson and Dr. Jonas confirmed it upon their examinations. We may never know absolutely whether it was a sarcoma, as Dr. Lavender pronounced it, or an epithelioma, as Mr. Buxton and Dr. Dunham pronounced it. The fact that Dr. Lavender examined one hundred sections and Mr. Buxton and Dr. Dunham only two, would lead us to think the diagnosis of sarcoma more probably correct. The favorable results even so far obtained are marvellous, if it was a sarcoma. If it was an epithelioma or sarcoma, it makes our success, as Dr. Coley writes, "all the more remarkable." As far as the present literature upon the treatment of these malignant inoperable tumors by these toxins is recorded the case is unique, in that no other case of a uterine tumor is reported followed by such favorable results. Nearly all the favorable cases so far reported have been of sarcomata in visible regions.

Progress of Medical Science.

The Causation of Dropsy.—Dr. Ernest H. Starling in the Arris and Gale lectures on the physiological factors involved in the causation of dropsy classifies them as follows: I.—Factors causing increased transudation: *A.* Increased intracapillary pressure: (*a*) Venous obstruction. (*b*) Vasodilatation. (*c*) Plethora. *B.* Increased permeability of vessel wall: (*a*) Local injury by mechanical irritants. Local injury by thermal irritants. Local injury by chemical irritants. (*b*) Malnutrition. (*c*) General injury by circulating poisons (?). *C.* Watery condition of blood (hydræmia). II.—Factors causing diminished absorption: *A.* By lymphatics: (*a*) Paralysis of limbs. (*b*) Obstruction of lymphatic trunks. *B.* By veins: (*a*) Venous obstruction. (*b*) Watery condition of blood. (*c*) Concentrated transudations.

Pleurisy with Effusion.—Dr. C. H. Goodrich reports ten cases in the *American Medico-Surgical Bulletin* in only one of which was there a tuberculous family history. The treatment followed was rest in bed and a restricted diet. Potassium citrate and sodium salicylate were the only drugs used. Seven patients were aspirated. Nine of the ten patients were discharged cured. One died. Convalescence was slow. The conclusions were that hard and fast inferences cannot be drawn with the aid of points from only ten cases of pleurisy with effusion, but some evidence may be presented: 1. Delafield, Osler, Pepper Peabody, and others are decisive in commending the timely removal of fluid from the pleural cavity. The outcome of these cases bears witness to the wisdom of the procedure. Weeks or months, "perhaps years," some one has said, might elapse before sixty-four ounces of serum or even one-third that quantity could be absorbed by a serous membrane whose surface is coated by a thick layer of fibrin and whose meshes are choked and distorted by sero-fibrinous exudate and perhaps by the growth of some new connective tissue. 2. It seems reasonable to use sodium salicylate and like drugs in cases of pleuritic inflammation, because of the intimacy of the relations between acute articular rheumatism and inflammations of serous membranes, and because it surely relieves pleuritic pain. Further observations may teach us more on this line. 3. Although careful to include all the recognized methods in our examination, we failed to find any evi-

dence of tuberculosis in these cases. 4. The decidedly slow recovery of general health seems to indicate that there is room for improvement in the methods of treatment of cases of pleurisy with effusion after the removal of serous accumulations. 5. Empyema seems to be an unnecessary consequence of aspiration of the pleural cavity for pleurisy with effusion.

The Palliative Treatment of Cancer of the Cervix Uteri.—Dr. Marocco at a meeting of the Lancisian Society for the Hospitals of Rome (*Wiener klinische Rundschau*, August 9, 1896) reports good results from tamponing with gauze impregnated with tannin, iodoform (ten per cent.), and powdered quinine.

Heredity and Crime.—The following, taken from the *Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth. Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German government for maintenance and costs in the courts, almshouses, and prisons no less a sum than \$1,250,000; in other words, just a fraction under \$1,500 each. It would probably be difficult to find a more remarkable example than this of the evil effects of the transmission of hereditary defects.

Transfusion, Infusion, and Auto-Transfusion.—Dr. Schachner (*Journal of the American Medical Association*, September 12, 1896) compares their merits and indications and summarizes as follows: 1. In enormous hemorrhages the resulting dangers are more frequently due to the reduced intravascular pressure than to the actual loss of blood. 2. In view of this the indications point more decidedly toward infusion than transfusion. 3. That transfusion has not received the attention which its merits justify. 4. In transfusion we possess a measure which in the severest hemorrhages is the only agent capable of restoring the vital functions. 5. The indication for transfusion includes any condition which reduces the total quantity of blood to a fatal degree or which alters the character of the blood to such an extent as to render it incapable of sustaining life. 6. When the transfusion is performed for the relief of a poisoned condition of the blood it should be preceded by venesection. 7. Centripetal is to be preferred to centrifugal transfusion. 8. In centripetal transfusion the injection should be made with a slow steady stream, undue force being carefully avoided. 9. In withdrawing the blood from the donor the veins afford an easier, safer, and better source than the arteries. 10. Indirect transfusion with defibrinated blood is safer than direct transfusion with non-defibrinated blood. 11. In alarming hemorrhages infusion should be performed before transfusion; should, however, the improvement be transient in its nature, the infusion must be supplemented with transfusion. 12. In addition to hemorrhages the indications for infusion include any pathologic state attended with a feeble pulse which is dependent upon a relaxed condition and a diminished intravascular blood pressure, namely, shock. 13. Restoring the tone of the circulation by infusion is not wholly dependent upon the increase of the intravascular pressure, but is in part due to the stimulating influence which the salt solution has upon the heart. 14. In performing transfusion or infusion after an enormous hemorrhage, the use of an anæsthetic is not only unnecessary but absolutely dangerous. 15. In the auto-transfusion we have a valuable measure for combating shock and preventing accidents in anæmic subjects during chloroform narcosis.

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INTRA-UTERINE INFECTION OF SYPHILIS.

To workers in fields of science where knowledge is exact and definite, where laws are made which become true and unalterable for all time, where calculations can be made with that accuracy of mathematical precision which admits of no question or cavil, it must appear strange that there are so many questions in medical science which are still unsettled, though seemingly simple of solution. One of these problems about which opposing views prevail has been brought up by Dr. Abner Post, in a recent issue of the *Boston Medical and Surgical Journal*. The question is one very simply stated, but not, it would seem, so readily and satisfactorily answered: Can a woman who acquires syphilis during her pregnancy transmit it to the fœtus *in utero*?

The elements which have lent confusion in observations bearing upon the question are: The possibilities of hereditary syphilis from the father; of the mother being herself affected prior to the period of supposed infection or at the time of conception; and of the infant becoming inoculated at birth.

In analyzing the views advanced by most American authors, the writer of the essay gains the impression that "no one of them expresses an opinion based on his own experience," and that "all appear to speak from authority or to reason from anatomical facts."

And here lies, we believe, the chief reason for so much difference of opinion concerning a matter which should be definitely settled. It is the old story of negative evidence and the citation of instances admitting of doubt, which are allowed to weigh against the fewer carefully observed cases of a positive nature. The number of observations in which all the requirements for scientific accuracy are fulfilled must, of necessity, be limited. The few coming from observers of recognized ability and accuracy of statement must outbalance any theoretical considerations or laboratory investigations. We must, too, recognize the value of analogy as bearing upon the matter. Thus, it has been demonstrated that, while in the rule variola is not transmitted from the mother to her enwombed offspring, it occasionally is so transmitted. The writer also believes we are safe in saying, at the present day, that the microbes of anthrax, glanders, pneumonia, typhoid, tuberculosis, and the bacterium coli commune pass the placenta to attack the fœtus *in utero*.

The analogy is thus further strengthened for those who believe in the bacillary origin of syphilis. An acceptance of this theory by the writer is implied in the sentence: "Hence, we may infer that intra-uterine infection is not impossible in syphilis."

Three cases are reported in illustration of the possibility of such transmission, and, while they are not absolutely convincing, they add to the cumulative testimony which is of great value in strengthening the proof. The conclusions which are drawn are as follows:

1. It is universally admitted that there is normally no direct communication between the maternal and fœtal blood.
2. There is proof, however, that certain contagious diseases are conveyed to the fœtus *in utero*.
3. In some of these cases it is shown that hemorrhages have destroyed the original structure of the placenta and opened a path of communication.
4. It is, then, no longer possible to say that intra-uterine infection is impossible in syphilis.
5. Clinical observation shows that intra-uterine infection does take place in syphilis.
6. Whether such infection is invariable, or what its limitations are, we do not know.

How much better such a statement of the case would appear in the present state of knowledge than that made in a recent work by Culver and Hayden: "The syphilis of the mother acquired during pregnancy *cannot* be conveyed to the fœtus through the utero-placental circulation."

In 1883 Dr. Taylor wrote almost in the same words, in his revision of Dr. Bumstead's work. In his own treatise, recently published, it is admitted, however, that "full infection may in rare cases occur when the filtrative power of the placenta has been impaired by morbid changes."

Hayden, *plus royalist que le roi*, now says in his "Venereal Diseases," 1896: "Syphilis of the mother acquired during pregnancy may be conveyed to the fœtus through the utero-placental circulation."

When authors are in accord upon the greater question, let them take up the lesser one of the periods during which the offspring is liable to escape infection or to come into the world alive. In the mean time, statistical data from our readers are in order and will be gladly received.

THE DOCTOR'S WIFE IN A NEW RÔLE.

THE doctor's wife is the very essential part of himself. No one questions this who has any knowledge of her varied functions as the efficient and ever-ready help-mate. In season and out of season she is ever willing to fill in vacant spaces in his recollection, to regulate his unthrifty habits, and in various other ways to even out those little irregularities in his living which, being approvingly done, make him the acceptable, jovial, and contented mortal for outside exhibition and general adulation. If in the long run she finds herself with an elastic conscience, she rightly blames the peculiar environment which so necessarily fits the situation. The night bell, if it could speak on its

own account, would as often bring tears to the recording angel's eye as smiles to the father of lies—white lies, translucent fibs, we mean, that balance their imperative utility against the inexorable expediency of protecting the weary doctor on the one hand and punishing the thoughtless and improvident patient on the other. It is she who has settled with her own conscience the difference between in and out as applied to the patient who really needs the doctor and is willing to pay for an ugly night trip, as compared with the other caller who always waits for dark nights, bad roads, and believes in long-standing accounts.

It is reasonable to suppose that she is not solely responsible for these conventionally pardonable and innocent frauds. Oftentimes the man who is making up his mind to go or stay is at her side as the hidden, hesitating, and interested prompter, whose voice is not heard but whose influence is felt. In the darkness of the bed chamber at the proximal end of the night tube there is generally a consultation not accounted for in the bill, which results either in the expectant patient trotting for another doctor or gladly taking the one who is so conveniently found at home. The good creature, hardened to the pressing necessities of this common sin, becomes immune to all ordinary enticements for deception, and because we can so easily forgive her we gladly and heartily respect her.

Being a recognized silent partner in the business she necessarily claims certain privileges without corresponding restrictions. Under given conditions she often says what she thinks and oftener does as she pleases. Bound by no code of ethics, accountable to no committee on credentials, she gradually in her pleasantly assertive femininity becomes a law unto herself and generally equally so to her accessory part. Fortunately she is more discreet, more circumspect, and more diplomatic than most wives of other professional men. Thus there is peace in the family and society is generally safe.

She may in a limited and friendly circle joke of the incapacities of her husband, his social shortcomings, his irregular engagements, his waiting meals, his settled and stubborn indifference to her ailments, his opposition to medication in his own family, and to his careless and shiftless habits, all of which we would gladly forget in writing his obituary, but to the outsiders, cunning and lovable hypocrite as she is, she always pretends to a smiling confidence in the head of the firm and has an assuring word for every doubting Thomas. No one can blame her for this, as the proper motive is always present with the proper feminine discretion to balance it. While all this is true, judge of our surprise in hearing from a distant correspondent the following startling account of a novel way of representing the purely business interests of her husband:

"I want to request you, as a reader of your journal for many years, to devote a little space in the MEDICAL RECORD to the practice of the wives of some medical men, who with their husband's consent act as 'watchers' at the bedside of the sick—the patients of other practitioners.

"I would myself address a communication on the

subject, but I believe an impersonal review of the abuse would be more effective, if it be possible by any means to get beneath the pachydermoid consciences of those who practise this pettifoggery. The reason of my notice of the abuse at this time is the presence this very morning of two women—the wives of other doctors, watching each other and the patient of a third physician, with whom I was called in consultation. Charitably disposed women of this class are never found in the homes of poverty, but always at the bedside of some influential neighbor who does not employ her husband as family physician. A notice of this abuse is not likely to have widespread influence, because the criticism is of those who lack the delicate instincts of ladies and gentlemen, but we are told that there is great joy in heaven over even one sinner doing penance, and maybe some one mind may be broadened enough to appreciate his or her own littleness."

If this information did not come from a trustworthy source we should indignantly deny on the behalf of thousands of doctors' wives throughout the country the possibilities of such meanness. Fortunately we have only heard of two of these Sairey Gamps. They are merely veritable curiosities rather than dangerous examples. It is only in such a light that they deserve any notice whatever.

THE PAN-AMERICAN MEDICAL CONGRESS.

THE second Pan-American Congress, which was held during the past week in the City of Mexico, was a success, not only in point of attendance from distant countries of the continent, but from a scientific standpoint in the great number and variety of topics presented for discussion. The addresses treated on subjects of broad aspect, in which the philosophy of disease and the science of pathology were consistently applied not only to the needs of the individual but to the necessities of the public. In large and representative gatherings of scientific men expressions of opinion on matters concerning public health are always expected and are becomingly respected. It is in discussions on such topics that science shows its higher achievements and commands for itself its rightful dues of respect and authority. In this regard more particularly the congress has vindicated its right to be and has shown a proper appreciation of its high mission. Too much praise cannot be given our Mexican brethren for the earnest manner in which they systematized the work and made available the vast amount of material at their command. We take pleasure in presenting in this issue the first instalment of the proceedings, furnished by our special correspondent, who has been sent to Mexico for the purpose of obtaining an accurate report. In a future issue, when the work of the congress is given in full, the readers can be the judge of the variety and quantity of scientific work that has been done, and can form their own estimate of its value.

Colored Nurses.—A training school for colored nurses is to be established in connection with the New Orleans University Medical College.

THE "INS" AND THE "OUTS."

THE circumstances attending the relative positions of the men who are inside and those who are outside of a given privilege always give rise to radical differences of opinion. This is exemplified in every walk of life. Generally, in order to change the respective ways of thinking, it is only necessary to change places. In a newspaper item it is stated that an architect opposed to the construction of tall buildings was placed upon a committee whose function was to oppose such innovations. While his associates, with his active help, had prepared a suitable protest, the member in question, for some reason not at the time understood, voted to delay the report. This action on his part was afterward explained by the fact that he was not only an active competitor for the building of a so-called "sky scraper," but had actually secured the contract. The human nature of the action has an application to the doings of many a struggling practitioner, who is radically opposed to hospital extension and free dispensary practice, until a coveted position is within his grasp. The illustrations are too numerous to mention. We have known of many such, whose guns were turned by fortune in exactly an opposite direction. This time-honored method of silencing opposition to existing evils changes what would otherwise be defeat on the part of hospital and dispensary managers into a glorious victory for indiscriminate abuse of charity. Hence the independence of men who are in the position to do as they please with the profession. No sooner does a staff of any of these institutions resign, or a particular member drop out by death, than hundreds of aspirants run to their friends for recommendations for the vacant places and, with hat in hand, beg of the self-important managers for the eagerly sought preferment. If successful, the man alters with his change of position, and the evil goes on with one less opponent.

News of the Week.

Diplomas for Sale.—The Wisconsin Eclectic Medical College is still offering diplomas to practising physicians at "much reduced rates, \$35, all inclusive." The prospectus states that they come "as a boon and a blessing" to those who have hitherto practised medicine illegally.

Revolutionary Doctors.—Of the nineteen men who constitute the officers and board of directors of the "Oscar Primelles Club," whose object is to collect and distribute medical and surgical supplies destined for the revolutionary armies of Cuba and Porto Rico, all but three have the title of "doctor" and the great majority that of "M.D." They solicit contributions of drugs, instruments, appliances, and money, which may be sent to Dr. Gastón, the president, at 56 New Street. The club's name is taken from the physician who was the first in this war to seal his devotion to the cause with his life blood.

Deborah Nursery has been ordered by the board of health to vacate the premises occupied in One

Hundred and Sixty-First Street. It is reported that the cause of this action was the lack of care in isolating infectious ophthalmia at the institution, those affected, to the number of twenty-seven, being permitted to mingle freely with the other children. If this is the case, the radical measures employed are not too severe.

Indian Territory Medical Association.—The semi-annual meeting of this society will take place at Vinita, Ind. Ter., December 1 and 2, 1896.

Camden County (N. J.) Medical Society.—At the regular monthly meeting of the Camden County (N. J.) Medical Society, at Camden, on November 4th, Dr. H. A. Hare, of Philadelphia, read a paper on "Unusual Eruptions in Fevers."

Street Dogs.—The board of health has under contemplation the banishing of dogs from public thoroughfares. The lack of regard many dog owners show for the decency of our sidewalks, to say nothing of the public-health side of the matter, would seem to make some action justifiable.

Department of Charities.—On Friday, November 13th, a civil-service competitive examination was held for the position of general inspector, department of public charities. The number applying was necessarily small on account of the fact that candidates for the position must have had executive experience in hospital management and organization. Salary, \$3,000 per annum. Mr. Knowles, ex-superintendent of the City Hospital, Blackwell's Island, was appointed some time ago, his appointment being contingent upon civil-service rules.

The Late Dr. J. Murdoch.—At a special meeting of the Allegheny County Medical Society, held October 5, 1896, the following resolutions were adopted:

Whereas, Dr. J. B. Murdoch, a member of the Allegheny County, Pa., Medical Society, has been called by death from the scenes of his beneficent professional labors; and

Whereas, We realize that in him was typified the skilful physician and surgeon, the genial companion, the upright and honorable man, the good citizen and the Christian gentleman; and

Whereas, The loss to this society is deeply felt, being that of a member always devoted to its advancement in science, one invariably the supporter of the cause of right, of a friend to every colleague, and of a charitable and noble-hearted man: therefore, be it

Resolved, That the Allegheny County Medical Society place upon public record this expression of its sincere grief at the death of Dr. Murdoch, one of its most valuable and highly cherished members; and

Resolved, That these resolutions be spread upon the minutes of the society and copies be transmitted to the family of the deceased, to the medical press, and the daily papers of Pittsburgh for publication.

W. S. HUSELTON,
W. S. FOSTER,
W. H. DALY,
J. W. MCFARLANE,
J. J. BUCHANAN, Sec.

Committee.

Philadelphia Polyclinic.—Dr. W. Oakley Hermance has been appointed instructor in the administration of anæsthetics in the Philadelphia Polyclinic and anæsthetizer to the Polyclinic Hospital.

Roosevelt Hospital, New York.—In response to an invitation of the trustees of the Roosevelt Hospital, a large number of friends of the institution inspected on Wednesday afternoon, November 18th, the private patients' pavilion, located west of the main building.

Black Diphtheria in Pennsylvania.—In Carlisle, Pa., four children in one family have died from hemorrhagic diphtheria, and the father, two other children, and an aged woman have been attacked with the disease.

Contagious-Fever Van.—The Chicago board of health has had presented to it, by the Columbian ambulance association, a mahogany, rubber-tired ambulance, provided with basket stretcher and suspended swinging stretcher, for conveying contagious diseases to the hospital.

Vital Statistics of Philadelphia.—During the week ending November 7th, there occurred in the city of Philadelphia 374 deaths, 14 more than during the preceding week, and 51 more than during the corresponding week of the previous year. Of this number, 113 were in children under five years of age. Pneumonia and pulmonary tuberculosis were again the two largest individual causes of death, the former being responsible for 48 deaths and the latter for 36.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending November 14, 1896: November 11th.—Assistant Surgeon H. La Motte detached from the naval hospital, Norfolk, Va., and ordered to treatment at naval hospital, Philadelphia. November 13th.—Surgeon E. H. Marsteller detached from the *St. Mary's*, ordered home, and placed on waiting orders; Surgeon R. Whiting ordered to the *St. Mary's*.

Bellevue Hospital.—Last week plans were filed at the office of the department of buildings for a two-story brick boiler and laundry house on the grounds of Bellevue Hospital, the estimated cost of which is \$85,000; also on the same grounds a two-story brick isolating hospital at a cost of \$45,000. Bellevue is to be congratulated upon obtaining these much needed improvements. On Blackwell's Island, just west of the City Hospital, the city will erect a four and one-half-story brick and stone water tower at an estimated cost of \$15,000.

The New York State Association of Railway Surgeons, which is now holding its sixth annual meeting in this city, yesterday elected the following officers for the ensuing year: *President*, Dr. J. F. Valentine, of Brooklyn; *First Vice-President*, Dr. George Graves, of Herkimer; *Second Vice-President*, Dr. F. H. Peck, of Utica; *Secretary*, Dr. C. B. Herrick, of Troy; *Treasurer*, Dr. T. D. Mills, of Middletown; *Chairman of the Executive Committee*, Dr. George Chaffee, of Brooklyn.

Johns Hopkins.—Dr. W. S. Thayer has just received the appointment of associate professor of medicine.

Low Mortality.—In the week ending November 7th the smallest death rate ever recorded in Boston was reached, the number being six hundred and eighteen.

A Young Ovum.—In removing a uterus for carcinoma Professor Leopold, of Frankfurt, Germany, found an ovum the size of a lentil, which from facts elicited was pretty clearly eight days old. It will be examined and reported upon.

Rush Monument Fund.—The subscriptions to this fund have reached \$3,886.39.

Dr. Alice Bennett, who for sixteen years has held the position of superintendent of the woman's department of the Pennsylvania State Insane Asylum, has just resigned this office.

Bicycle Exercise for the Insane.—According to *La Médecine Moderne* of October 28th, the wheel has been introduced as a therapeutic measure, with marked success, in an institution for the insane at "Kahlmazov," Mich.

Tetanus Antitoxin has been placed under State control in Germany, and Professor Behring has announced that the Hoechst factory, which produces diphtheria antitoxin, is authorized to dispense it from the laboratory, under direction of Professor Ehrlich.

Obituary Notes.—THOMAS H. BURCHARD, M.D., of New York, died suddenly, aged forty-eight years, of cardiac disease, November 15th, at his home 7 East Forty-eighth Street. He had just returned from a trip abroad for the benefit of his failing health, and was resuming his practice when his fatal illness overtook him. He graduated from Bellevue Hospital Medical College in 1872 and soon after commenced practice in this city, spending his summer months in Saratoga, where he also became a leading practitioner. His genial disposition and kindly manner won for him hosts of friends, who mourn their untimely loss. Always active in professional pursuits, he was a ready writer, a fluent speaker, and an able teacher. His numerous contributions to surgical literature won for him an enviable reputation as an original thinker and necessarily kept him in advance of the less ardent workers of his class. He was a member of all the leading medical societies of this city and was also a surgeon to the Charity Hospital.—DR. HENRY HOLLENBACK died at his home at Burlington, N. J., on November 6th, at the age of eighty-four years. He had at one time been mayor of the city of Burlington.—DR. WILLIAM HAYWARD died at Cambridge, Md., on November 7th, at the age of seventy-eight years.—DR. F. H. RANKIN, formerly of this city, and of recent years one of the best-known practitioners in Newport, R. I., died in that city on the morning of November 9th. He was a graduate of the New York University, class of 1862, beginning practice in New York City in 1871, after serving as assistant surgeon in the German army during the Franco-Prussian war. He leaves a widow, but no children.

Society Reports.

SECOND PAN-AMERICAN MEDICAL CONGRESS.

HELD IN THE CITY OF MEXICO, NOVEMBER
16, 17, 18, AND 19, 1896.

(SPECIAL TELEGRAPHIC REPORT TO THE MEDICAL RECORD.)

First General Session—Monday, November 16th.

THE section work of the Second Pan-American Medical Congress began informally on the morning of Monday, November 16th, in different parts of the city, the formal opening being reserved for the general session. This was held in the evening in the National Theatre. The building was crowded to its utmost capacity by the native and visiting physicians, most of the former and many of the latter being accompanied by ladies, by the officials of the federal and municipal governments, and by many residents of the capital.

The first business after the opening of the session was the

Report of the Secretary.—DR. EDUARDO LICÉAGA, secretary-general of the congress, then read his report. He recalled the fact that the first congress of physicians of the western hemisphere was held in Washington in 1893. Its inception was due to the labors of Dr. William Pepper, who honors us this evening with his presence, to the tireless activity of Dr. C. A. L. Reed, and to the action of the United States Congress, which authorized the President of that republic to invite all the other nations of the American continent to send delegates to the medical congress. At one of the sessions of this congress the honor of holding the second meeting was granted to Mexico.

The Mexican Medical Society, which met in San Luis Potosí, in 1894, named an organization committee for this reunion. This committee found a ready assistant in the President of Mexico, General Díaz, and thanks are due to him for the readiness with which he assented to invite the other nations to participate in this congress.

All the ministers have also lent their valuable cooperation to make the meeting a success, and the various scientific societies have cordially accepted the invitation extended to them. Special mention should, however, be made of the international committee having its seat in the United States, for arousing and maintaining an interest in the congress in the United States and Canada, and for inducing so many to come from those countries to assist at this meeting. Thanks were also extended to the municipal and district authorities, for their part in receiving the delegates to the congress.

The invitation to attend the congress has been accepted by the United States, Canada, Guatemala, Nicaragua, San Salvador, Honduras, Costa Rica, Argentina, Venezuela, Ecuador, Uruguay, Cuba, Hayti, and the French and Danish West Indies. Special delegates have been sent by most of the countries named, by several of the States of the United States, and also by a number of the medical societies in various countries of the western hemisphere. Five hundred and fifty physicians, ninety-six of whom are to be accompanied by their wives, have signified their intention to be present. Titles have been announced of two hundred and ninety-four papers to be read.

We may hope that the scientific results of this congress will redound to the good of humanity. Meetings such as this offer a consoling spectacle to those who have the good of the profession at heart, for they advance civilization and they make one feel the bene-

fits of association and give us a practical proof of the universal fraternity of science. All who come here, those from the distant north and those from the torrid equatorial regions, will meet to discuss medicine alone, and will leave behind all race prejudice and all questions of religion or politics. Those who come here at the expense of separation from family, making long, fatiguing, and dangerous journeys, abandoning for the time their lucrative practice—all for the sake of science, pure and simple—present a pleasing contrast to the picture drawn by Lord Byron of the merchants and traders who run like risks and suffer similar inconveniences, not for the good of their fellows but in the unquenchable greed of gain.

In closing, Dr. Licéaga extended a most cordial welcome to the delegates, in behalf of the medical profession of Mexico.

The Presidential Address.—DR. MANUEL CARMONA Y VALLE, the president of the congress, then delivered his address. At the end of the fourth century after the discovery of America by Columbus, the happy idea of calling together the physicians of the western hemisphere originated and was carried into effect in the United States. This first Pan-American medical congress was a perfect success, whether from the point of view of members, of importance of papers read, or of the welcome accorded the visiting physicians. None who took part in that first meeting can ever forget the warmth of their reception, and in behalf of the other nations of America he would say *gracias! mil gracias!* and he hoped those present would find that the Mexicans knew how to reciprocate, if not with such opulence, at least with a sincerity of affection. It was the speaker's privilege and pleasure (solely, he feared, on account of his age) to have been selected to preside over this second congress and to welcome the visitors.

Medical Education in Mexico.—Dr. Carmona took for his subject the history of medicine and of medical education in Mexico. It had been said that Spain repressed education in her colonies, in order to keep them in subjection; but that was a calumny, as far as Mexico was concerned, at least. Eight years after Mexico fell into the hands of Cortés, the college of San Juan de Letran was founded. The first viceroy of New Spain, Don Antonio de Mendoza, in 1534—thirteen years after the conquest—petitioned the king to permit the establishment of a university, and this was obtained in 1553. The first faculties were of theology and law, since at that time the science of medicine was but little esteemed. In 1578, however, a chair of medicine was established, there being but one professor, who taught all the branches of medicine in a course of four years. Candidates for this course were required to study previously Latin, and to make the courses of arts and astrology or mathematics.

In 1599 a second chair of medicine was established, and, later still, others were added. The first professors were appointed by the viceroy, but later the chairs were given after a competitive examination. The chairs were retained for life, and if any professor became too old for his duties, an examination was held, and a temporary professor appointed to serve for four years; but no full professor was appointed until the old one died.

In 1768 a decree was issued for the creation of a Royal College of Surgeons, with four chairs. This school graduated phlebotomists, dentists, bone setters, midwives, etc. The surgeons graduated from this school were called Romancist surgeons, in contradistinction to the Latin surgeons or graduates of the university.

In 1821 Mexico obtained her independence, and for some years the university continued as before, the Royal College of Surgeons changing its name to the

National School of Surgery. In 1830 it was ordered that no one should be admitted to the surgical school who had not previously obtained the degree of bachelor of philosophy. In 1831 an end was put to the distinction between physicians and surgeons, but one diploma—that of both medicine and surgery—being henceforth granted. In 1833 the university was closed and a general board of education was established, a number of schools being created, among them that of medical science. Then came a series of political changes, during which the medical school suffered many vicissitudes, owing to changes in locality, to changes in the government, and to pecuniary difficulties.

In 1842 the name of the medical school was changed from "Institution of Medical Science" to "The National School of Medicine," a name which it now bears. The speaker entered the school in 1849, which then occupied a part of the College of San Juan de Letran. In 1850 the professors of the school were informed that by yielding \$50,000 of their already overdue salaries they could obtain a permanent habitation. This was agreed to, and for two years all was peaceful; but in 1853 the building was seized by the government for use as a barracks. Lectures were then resumed in the College of San Ildefonso, where the school was entertained as a guest; but a year later the director of the college imposed such conditions that the medical professors felt themselves obliged to leave. At that time it was ascertained that the old acquisition building could be purchased, and the professors again gave up \$50,000 of their unpaid salaries. The peripatations of the school now came to an end. The salaries of the professors were very irregularly paid, and they had to depend in great part upon fees for examinations and the like; but since 1857 the salaries of the professors have been regularly paid, and the number of chairs has been gradually increased, five new ones having been added during the decade ending in 1877.

Dr. Carmona then spoke of the great prosperity which had come upon the country under the wise and beneficent administration of President Diaz, who was a ruler as great in peace as in war. Under him Mexico was rapidly advancing in material prosperity, but not alone in that, for, under the favorable conditions offered by the present era of peace, education was advancing with equally rapid strides. The School of Medicine has progressed along with other schools. At the time it was founded it had eleven chairs, from 1833 to 1877 five chairs were added, but from that date to the present the number of professors has been increased by ten, and very many assistants have been appointed.

The speaker then referred to the requirements of medical study in Mexico. No one is admitted to the study of medicine who has not passed a successful examination in the preparatory studies of five years' duration. These studies include mathematics, French, English, Latin, Spanish, figure and landscape drawing, physics, geography, chemistry, Greek roots, botany, zoology, logic, morality, history, and national and general literature. The medical course is one of five years, and embraces the following subjects: Descriptive anatomy and dissection, normal histology, elements of pharmacy, physiology, surgical pathology (two years), medical pathology (two years), operative and minor surgery, *materia medica* and therapeutics, clinical medicine and surgery, hygiene and medical jurisprudence, medical meteorology, obstetrics, pathological histology, bacteriology, ophthalmology, gynecology, and diseases of children.

Nosological Reforms.—THE PRESIDENT then referred to some of the questions which might profitably be considered at the present congress. In the first

place, the recent advances in bacteriological science had brought confusion into nosology, and a new classification was needed. We ought either to suppress the idea of inflammation as a distinct symptom, or, if that is admitted, we must agree that it may be caused by a number of micro-organisms. Again, we must not lose sight of the fact that in some diseases the microbe appears to be the fundamental part, as in leprosy and tuberculosis; while in others the microbe takes a secondary place, its ptomain being the active injurious agent, as in diphtheria and tetanus. Then, again, there are other diseases which resemble those of microbial origin, and possibly or probably are such, yet until we discover the germ we cannot assert that they are due to the action of micro-organisms. Such diseases are rabies, syphilis, small-pox, measles, and scarlet fever.

Unjustifiable Surgery.—The second subject to which he would gladly call the attention of the congress, he would put in the form of a simple question: "In the present condition of science, can surgeons be so certain in their diagnosis and so certain as to perfect asepsis and antisepsis, that they are justified in undertaking operations for the sake of satisfying the patient, when the operations may be of such character that the slightest accident or carelessness will jeopardize the life of the patient?"

Proprietary Remedies.—The third question was that of the enormous increase in the use of patent medicines. Little by little the drug stores are being transformed into simple warehouses for already prepared medicines, and in many places the druggist has seldom to compound a prescription, all the drugs ordered being already put up in bottles or boxes. When a formula is thought out by an educated physician and compounded by a competent druggist, we have some guarantee that the product will be what it claims to be; but when we use drugs already put up by some foreign manufacturer, there is no guarantee of their genuineness, and the physician can never be certain what his patient is taking. But even with the best guarantee, we cannot make an already prepared remedy fit every case; patients have idiosyncrasies which must be met intelligently, and no drug nor any set combination of drugs will benefit every case of anamia, of tuberculosis, or of dyspepsia. Patent medicines and proprietary articles should be left to the vulgar crowd, to those opinionated individuals who think they can dispense with the services of a physician and treat their own maladies.

In closing, Dr. Carmona expressed the hope that all his hearers would have an agreeable stay in Mexico, that their scientific labors would be crowned with success, and that this would be but the second in a long series of congresses, which would enrich the science of medicine and increase its repute in all the Americas.

Aims of the Congress.—DR. WILLIAM PEPPER, of Philadelphia, president of the first Pan-American medical congress, then delivered an address. It was regarded as especially appropriate, he said, that the second congress should meet in Mexico, since the first had received such cordial support from the government and medical profession of this country. He referred in complimentary terms to the great activity now displayed in Mexico in all scientific and educational matters. The Pan-American Medical Congress was established with definite objects, the most obvious of which was to secure reunion at a stated interval of the medical men of America, in order that a spirit of fraternal relationship might be promoted and that the great current medical questions might be discussed in a broad continental spirit. Of late it had been the habit of the ignorant to decry medicines as uncertain in their action. Some had drawn invidious compari-

sons between the rapid expansion of surgery and the less rapid progress of medicine, but physicians could turn with pride to the advances made in bacteriology, in the study of the infections, of the morphology of the blood and the properties of the leucocytes, and to application of these studies in the prevention and treatment of disease. When we contemplated the discoveries of Pasteur, of Behring and Kitasato, and of Metschnikoff, we had passed before us a dazzling vista of the probabilities as to the power of fortifying the system against infection already acquired and even of overcoming constitutional tendencies, as shown by the action of thyroid extract in myxœdema; but at least equal gain had been made in the direction of accurate diagnoses. The speaker then related some experiments in which he was able to see distinctly the heart pulsations by means of Roentgen rays emanating from a specially constructed tube. Another no less important work of these congresses was the promotion of public health, and it was the duty of the members to urge the recognition of public medicine by the appointment in the cabinet of every government on this continent of a secretary of public health. Dr. Pepper then spoke of the superior board of health of Mexico and predicted brilliant results from its labors. He referred to the settlement of the Venezuelan matter as being of great promise for the future of the nations of America, and also spoke in approval of the proposed establishment of a Pan-American archaeological society, making effective the resolutions of the association.

International Sanitary Legislation.—SEÑOR DON JOSÉ M. GAMBOA then delivered an address with this title. He passed in review, first, the discovery and colonization of America by the Spaniards and later by the English and spoke of the conquest of liberty, first by the English and later by the Spanish. These historical points led up to the question which formed the title of his address. The existence of legislative authority in the different countries of America was guaranteed by their independence, but the problem was how to excite the necessary exercise of this authority. The legislatures should deal with all matters of quarantine and hygiene, and the speaker proposed the following as adapted to secure the desired result: First, the Pan-American Medical Congress should establish a permanent committee in each of the capitals of the American nations and should maintain also a committee of initiative in one capital, preferably Washington. Second, whatever measure seemed, in the judgment of one of these committees, to deserve legislative action should be referred to the committee of initiative. Third, the latter should have all these projects read at the next medical congress. Fourth, the congress should discuss and vote on these suggestions, and if the latter were approved they should be referred to all the permanent committees, in order that each of these might urge upon its respective government the enactment of the project into a law. The speaker believed that by a plan such as this it would be possible to bring about the adoption of necessary and uniform sanitary laws, by all the American republics.

The session was then closed by the president of Mexico, Gen. Porfirio Diaz, who delivered a brief address of welcome to the visiting physicians and their wives, and expressed the hope that the labors of the congress would redound to the benefit of all the inhabitants of the new world.

Second General Session—Tuesday, November 17th.

Yellow Fever an Obstacle to Civilization.—DR. JUAN SANTOS FERNANDEZ, of Havana, delivered the opening address. The discovery of America, he said,

was the greatest event recorded in history, but it had not borne its legitimate fruit in the warmer parts of the western hemisphere, owing to the menace which yellow fever offered to European immigration. The material prosperity and advancement of North America was not attributable to any superiority of the Anglo-Saxon race over the Spanish, but solely to the fact that North America was free from yellow fever. Except for this scourge, Spanish America would be as populous and as prosperous as the United States. The lack of a population of European origin was the cause of the backward condition of Latin America, and the only obstacle to European immigration was the existence of yellow fever in epidemic form. It lay in the power of his hearers, Dr. Fernandez said, to provide a remedy for this evil, and Latin-American physicians should form a league for the extermination of the disease. It had been said that the infection came from the soil, and that we were powerless to prevent it; but this was a grave error. Isolation was the sole means of preventing the spread of yellow fever. Although we were, it might be hoped, on the eve of discovering a means of conferring immunity against the disease, we ought, nevertheless, to insist upon strict isolation. In this way yellow fever could certainly be stamped out, and then the tropics would offer an immense field for European immigration and enterprise.

Bacteriology, Hygiene, and Medicine.—DR. E. P. LACHAPELLE, of Montreal, Can., was the next orator, taking the above title for his address. After a brief introduction, he spoke of the influence upon hygiene of Pasteur's discoveries. This investigator, in showing that water, air, food, and all our surroundings may contain pathogenic germs, had thrown a new light upon the etiology of an entire class of diseases forming one of the chief causes of mortality; and since by the same discovery he had demonstrated the importance and efficacy of prophylactic measures, he placed hygiene in the front rank of the medical sciences, hygiene being but prophylaxis in action. The speaker then showed that the studies of Pasteur had never had any other aim than protection, and that it was only secondarily that they had rendered such immense service to practical medicine. It was worthy of remark that Pasteur's early studies, those which, perhaps, helped most to turn medicine into new paths, were also those which had contributed most to the advance of hygiene. His studies on anthrax had proved the virulence and the inoculability of its germ, and, at the same time, the possibility of attenuation of its virus. Indeed, in all his labors he seemed to be guided primarily by the idea of prophylaxis, and it is this which has made Pasteur one of the great benefactors of the human race. He it was who made of hygiene an exact science.

Dr. Lachapelle then showed hygiene utilizing the facts presented by Pasteur and basing all its action upon the foundation of isolation and disinfection. Hygiene, having become an exact science, was now greatly extending its field of action. The preservation of food stuffs, which had become such an enormous industry, was but one of the many useful applications of Pasteur's discovery. After this rapid study of the progress which hygiene had made in utilizing bacteriology, Dr. Lachapelle then reviewed the advances which hygiene had imposed upon the theory and practice of medicine. Infant mortality had been greatly reduced by alimentary hygiene. Antisepsis was merely prophylaxis applied to surgery. Other points touched upon were the dysenteric origin of purulent hepatitis, the conveyance of cholera and typhoid fever in water, the cure of scorbutus by vegetable alimentation, industrial and food poisoning—in all of which medicine was indebted to hygiene. But

the field of hygiene was still widening. Its laboratories were now in the service of the physicians. It showed him the nature of the disease which he treated, and enabled him to prevent its spread. The importance and the strength of hygiene rested upon the fact that it had but one aim, namely, the preservation of individual and public health. Modern nations understood this, and everywhere hygiene was receiving greater public recognition and was being taught in all the universities. When we should have accomplished the diffusion of the precepts of modern hygiene, and should have popularized a knowledge of the conditions of the spread of infectious disease, we might then hope that the people themselves would second our efforts to preserve public health, and then the execution of sanitary laws would give results which would be the pride of civilized nations.

Orrhotherapy.—DR. RAFAEL LAVISTA, of Mexico City, then delivered an address, taking for his subject the treatment of disease by the injection of toxins and antitoxins. The question was of intense interest to all physicians, since it seemed to point a finger toward the goal to which all aimed and which was the ultimate object of every branch of medical study, namely, the cure of disease. The researches of Pasteur, Koch, Roux, Behring, and many others had paved the way for this new science, which was as yet in its infancy but which offered hopes of a wonderful future. It was as yet too early to speak with any positiveness of the results of orrhoterapy, but it was only by collecting and recording the experiences of many observers in many lands that we could obtain the necessary facts upon which to establish the indications for this method of cure.

Dr. Lavista said that he wished to record his own experience and that of his Mexican colleagues, and would not dwell upon the results obtained by observers in other countries, with which his hearers were already familiar. He therefore reviewed very briefly the principles upon which orrhoterapy was established, and proceeded to give the results obtained by him in the treatment of a number of infectious diseases, referring also to the methods employed when these differed from those in use elsewhere.

In tuberculosis a number of experiments had been made, but the results obtained were not of a satisfactory or encouraging nature. In leprosy also no distinct benefit had followed the injection of serum; in some cases there seemed to be a slight improvement, but it was usually very evanescent and the patients soon relapsed into their former condition. A number of injections of toxins had been made in cases of cancer with varying results. Like other observers he had obtained the best results in cases of sarcoma, but he had never seen any benefit follow when the neoplasm was an epithelioma. He had at times been pleased with the effect of double toxin injections in sarcoma. In syphilis quite marked temporary benefit had been observed as regarded an amelioration of the more distressing symptoms, such as the headaches, the pains in the bones, the skin eruptions, and the like, but a cure of the disease had not been obtained in a single instance. The fact, however, that the accidents of the disease could be controlled by orrhoterapy was one of great importance, and this would be a decided gain in the therapy of the disease, even if we never succeeded in eradicating it entirely from the system by this means.

Diphtheria was a very uncommon disease in Mexico; consequently the speaker's experience in its treatment had been slight; what he had seen of orrhoterapy was good, but he had seen so little of it that he would not venture to formulate an opinion concerning it, in the presence of those of so much wider experience. Typhoid fever was also rare. The results of serum

injections in typhus had hitherto been *nil*; in mild cases the patients recovered, in severe ones they died, and as yet no specific treatment had been discovered. Experiments with serum were being continued, however, and it was possible that with a greater approach to perfection in the methods of preparing and using the serum more satisfactory results might be obtained.

In septicæmia no great benefit had been obtained thus far, and of his personal experience the speaker could say nothing, for he had had none. In tetanus he had employed antitoxic serum to some extent, but his best results had been obtained by the use of corrosive sublimate in fairly large doses.

Dr. Lavista then spoke of the use of injections of normal salt solution after extensive hemorrhage, and as a preventative of shock after surgical operations. His results had been almost uniformly excellent. He had employed the intravenous method chiefly, but had occasionally passed the fluid into the subcutaneous connective tissue of the abdomen. The latter method was more troublesome, and the results obtained were no better; the injection directly into a vein was easy and perfectly safe if the proper precautions were employed.

Leprosy in America.—DR. RICARDO CUTIRREZ LEE, delegate from Colombia, took "The Prophylaxis of Leprosy" as the subject of his address. He spoke first of the danger for the future that there was in the continual spread of leprosy unless prophylactic measures were speedily adopted. In Colombia, especially, the situation was grave by reason of the increase of this disease, but there was no occasion to despair. He compared the condition of that country to that of England, France, and Germany in the fourteenth, fifteenth, and sixteenth centuries, when leprosy prevailed to an enormous extent. He believed the spread of the disease could be checked by the adoption of certain economic and social measures: first, obligatory public education; second, the opening of ways of communication so as to facilitate communication between different countries and different parts of the same country; third, immigration of people of the white race from Spain or elsewhere, this immigration being encouraged by government bounties. In this way new blood would be introduced and the habits and customs of the natives would be changed. Leprosy would no longer find a soil favorable to its growth and it would die out, as it had done under similar influences in European countries.

(To be Continued.)

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, October 22, 1896.

SIMON MARX, M.D., CHAIRMAN PRO TEM.

An Alloy for Instruments.—DR. GRISWOLD presented some gynecological instruments, including a vaginal speculum, cast from what he said was an alloy of silver, but which had about the weight of aluminum. Its elasticity was represented to be about that of brass. It did not tarnish. The cost was about one dollar and a half per pound.

Residual Water in Cystoscopic Work.—DR. P. A. HARRIS presented an instrument with which to withdraw the residual water when doing cystoscopic work. He said the method which Dr. Kelly employed, it seemed with entire satisfaction, had resulted in his hands causing a little injury to the bladder surface, attended by slight hemorrhage. That method consisted in withdrawing the small amount of residual water or urine by suction. Others had absorbed the water by a piece of cotton held in forceps; but there

was danger of losing the cotton in the bladder, and difficulty in causing it to absorb the water when compressed in the blades of the instrument. The instrument presented by Dr. Harris to replace the other methods, some of which have been mentioned, consisted of a glass tube with a conical distal end. Into this tube a pledget of cotton was inserted down to and projecting beyond the end. The somewhat narrowed opening of the tube would prevent the cotton from escaping into the bladder. It readily absorbed the water. Tubes of two or more sizes were made.

DR. POLAK said he used, as a means of taking up the residual urine, an ordinary applicator carrying cotton.

DR. VALENTINE used uncut match sticks, ten inches long, in the male urethra. Cotton could be wound on both ends, each end being used in succession in drying out the posterior urethra. He thought it might be a desirable method in cystoscopy of the female bladder.

DR. VINEBERG performed cystoscopy on the female with the patient in the knee-chest position. In this position any residual water in the bladder flowed toward the fundus, and there was no necessity for using any of the instruments spoken of this evening.

Infantile Uterus; Sterility.—DR. BERNARD GORDON presented a woman, twenty-seven years of age, in illustration of a condition which was seen every day in clinics for the diseases of women—infantile uterus. She had been married six years, had had no children, no miscarriages; had first menstruated when fifteen years of age, a year later had her second menstrual period, after which she was regular until her marriage. She menstruated a few weeks after her wedding, then ceased altogether. When he examined her and found the cervix measured an inch, the body but half an inch, he was surprised that with the uterus in such an infantile state she had menstruated regularly five years.

Gonorrhœa in Women.—Dr. Gordon then read a paper on "Gonorrhœa in Women" (see page 740).

The Birth of a New Remedy Gives Him Pain.—DR. F. C. VALENTINE said he must confess that the birth of a new remedy for gonorrhœa gave him pain—not because he believed there was but one remedy for the disease, but because of the scores of disappointments which we had had in the employment of new drugs. His experience with argentamin had been as short as it was not sweet. The patients did not improve. A friend of his in Berlin wanted him to try argonin, and he did so religiously; but his patients damned him irreligiously. In fact, he failed to see what was to be gained by using a drug which was directed toward killing the gonococcus. His belief, founded on experience, was that there was only one method of destroying the gonococcus, namely, to remove its pabulum—destroy its culture medium. To direct remedies against the gonococcus itself would fail. He did not propose to dwell again upon hydrostatic irrigation, nor would he assert that hot water and permanganate of potassium would cure all cases; but those who tested them would not waste time on other methods. In some cases it was necessary to use nitrate of silver, 1 to 5,000 or 1 to 2,000, and it was necessary at times to add to the permanganate of potassium corrosive sublimate. Regarding prevention of gonorrhœa, if early marriage would do it, what would become of specialists in this line of work? Marriage did nothing of the kind. The author had spoken of regulating prostitution. There was no place where it was better regulated than in Berlin, yet in that city there were only two thousand regulated, while there were twenty-five thousand who were not regulated. One of his assistants had asked each of his patients where he had contracted gonorrhœa, and

the answer was almost exactly in accord with statistics published by a European author: venereal disease, especially gonorrhœa, was oftenest contracted from, in the order named, factory girls, house servants, seamstresses and milliners, married women, kept women, lastly, prostitutes. It was the prostitute's business to keep herself clean, and she was more likely to do it than the other unfortunates named. If it was intended to regulate the female disseminators of gonorrhœa, let it be directed toward those who did the largest amount of harm. He would rather the author would permit the general practitioner to treat gonorrhœa, but would teach him to do it properly. If the work were thrown entirely upon the specialists, they would have to labor forty-eight hours a day. Regarding marriage and contamination of the wife, Dr. Valentine thought that any man who loved a woman enough to give up his liberty, his life, for her, ought to be willing to spare half an hour for several days before the wedding, to be cured of all signs of urethritis.

Gonorrhœa in Children.—DR. LOUIS FISCHER said said he had not seen in children more than five cases of true gonorrhœal discharge, such as was seen in the adult, in seven years. They had, however, in the last two years treated at a large city dispensary not fewer than forty-two cases of true vulvo-vaginitis in children, and in twenty-four of these the gonococcus was found. In the majority of the cases the disease was a sequel of other diseases, especially diphtheria. The most obstinate of the cases came after diphtheria. In ten per cent. there was ophthalmia as well as vulvo-vaginitis. Dr. Valentine's statement that treatment should not be directed to removal of the germ was in accord with the views held for years by the speaker, that one should rather seek to bring the system up to as near the normal point as possible in all germ diseases, in order that the germs might have no culture medium suitable for their propagation. His treatment had been, in addition to constitutional treatment, thorough irrigation of the vagina twice a day with warm salt solution, a teaspoonful of table salt to a pint of water, and wearing a pad of sterilized gauze during the intervals. Sometimes he used a solution of pyoktanin, 1 to 10,000; sometimes of bichloride solution, 1 to 10,000.

DR. VINEBERG said surgical treatment should not be employed in the first attack of acute gonorrhœal salpingitis. Surgery should be reserved for recurring attacks, and then the sooner the diseased tube and ovary were removed the better; otherwise, the other side would be likely to become involved.

DR. R. A. MURRAY did not believe that gonorrhœa was the cause of so much salpingitis as some persons had claimed. He thought gonorrhœa was usually cured; otherwise, instead of there being few women sick with salpingitis, there would be few who were not so affected. The working classes were more exempt than the upper classes. It was the people at the top of the social ladder who had kept the disease going, and it was mostly in that class that we saw the effects of gonorrhœa. The first thing to insist upon when one saw a case was to carry out the treatment to the end. The physician should have his own medicine and require the patient to come for his treatment. If he were given a prescription, it would pass from one patient to another, and would be applied in stages of the disease when it ought not to be used. He believed thoroughly in the antiseptic method. Cleanliness could be secured only when aided by antiseptics. The uterus should be entered only when it was infected; otherwise, the doctor would be the cause of infecting it. He again mentioned six cases of gonorrhœal salpingitis reported by him, in which the tubes emptied pus into the uterus, were cured, and the women subsequently bore children. In all of them certain gynecologists had said the tubes would have to come out.

Dr. Murray used permanganate-of-zinc solution in gonorrhœa in preference to permanganate of potassium, believing that it not only cleansed the parts, but was beneficial in contracting the mucous membrane and preventing penetration of the gonococci. He had seen four deaths from acute endocarditis, occurring less than two months after contraction of gonorrhœa. For cleansing, he first required the patient to irrigate with quarts of borax solution, then employ permanganate of zinc, one grain to the pint to begin with, increasing up to one grain to the ounce. For the urethra he made the applications himself.

Dr. SELL reported a case of gonorrhœa in a woman from the South, who went on to have all the "itis's" one could think of, and who, after having been abused by certain advertising specialists, came to New York and, under long and painstaking treatment, mostly constitutional, finally quite recovered.

A Disease Principally of Filth.—Dr. H. L. COLLYER regarded gonorrhœa as a disease principally of filth, and it thrived on a filthy soil. But not all filthy women had it. He did not believe it was present in so many as eighty per cent. of gynecological cases. One writer had divided the cases into three classes, according to the depth into the tissues that the gonococci had penetrated. In the first stage, when only the epithelium was affected, the disease could be easily eradicated in women. He had not seen gonorrhœal salpingitis relieved short of removal of the tubes. He did not believe in early marriage as a prevention, nor in establishing assignation houses, for prostitution was not a necessity.

Dr. GORDON said, in some concluding remarks, that gonorrhœa was a local disease and required local treatment. A treatment, such as he had mentioned, might be appropriate in women when not in men. He had not recommended early marriage, but simply had stated that it would be more physiological. The general practitioner had a right to his livelihood, but he thought the specialist could treat gonorrhœa more successfully.

Bladder Tuberculosis Successfully Treated by Kelly's Method of Direct Medication.—Dr. JOHN O. POLAK read the history of the case. It was that of a girl, about eighteen years of age, who had been treated eight years in early life for hip-joint disease, which healed with limited motion and shortening. She menstruated at fourteen. About three years later, when in an anæmic state, she began to suffer from frequent and painful micturition and hæmaturia. She was seen by several specialists, who diagnosed urethral fissure and chronic cystitis. Dr. Polak was called in in an attack of hæmaturia, when more than the usual quantity of blood was lost. He gradually dilated the urethra, introduced Kelly's speculum, but the source of the hemorrhage could not then be determined by direct inspection. The finger was introduced, and an ulcer the size of a silver dollar was detected at the base of the bladder, including part of the trigone. It was raised, and ragged, and studded with tubercles. They were removed with the finger. The treatment until cure was effected consisted of washing out with boric-acid solution and applications to the ulcer of iodoform in linseed oil or glycerin; later, of strong nitrate-of-silver solution, and irrigation with salicylic-acid solution. Tubercle bacilli, which had been present in the urine, entirely disappeared, the ulcer healed, and urination became normal.

Dr. VINEBERG related two cases with bladder symptoms, which had been attributed to disease of the kidney, etc.; but cystoscopic examination showed fissure near the ureteral orifice, which he proceeded to cure by direct applications of nitrate of silver. In ninety-five per cent. of cases of supposed bladder trouble, he

had found the difficulty located near the base of the bladder, which showed how useless it was to make general injections when the disease could be much more satisfactorily treated by direct applications.

Dr. P. A. HARRIS related a case of tuberculosis, in which he thought bladder trouble was secondary to tuberculous degeneration of the kidney.

Dr. VALENTINE asked a question, and Dr. POLAK closed the discussion.

SECTION ON GENERAL SURGERY.

Stated Meeting, November 9, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Plastic Operation on the Ear.—Dr. W. W. VAN ARSDALE presented a child, six months old, which was brought to him four weeks ago with congenital deformity of the left ear. The left face was also small. The ear was drawn down; the tip and back were adherent in front of the meatus, so that the child could not hear on that side. He freed the attachment in front, but the ear then drooped, and in order to overcome this he took out a piece here and there until it had come to stand up fairly well and was of good shape. He asked for suggestions how best to maintain the lobe so that it would not droop. There was also tendency to contraction, as usual after such operations. The external auditory canal and meatus were now free, and the child could hear on that side.

Tuberculosis of Axilla following Tuberculosis of the Hand.—Dr. R. A. SANDS presented a boy who last spring cut his hand with some object in a back yard where a tuberculous patient was in the habit of expectorating. The boy was brought to Dr. Sands in July, with a sluggish sore of the hand and a swelling in the axilla. He let out pus from the axillary abscess and scraped the sore on the hand, but was surprised in September to find that the wounds were not healed. Tuberculosis being suspected at this time, microscopic examination was made and this diagnosis was confirmed. He then cleaned out the parts more thoroughly and the wounds healed. The case was of interest as being probably one of tuberculous infection from wounds of the hand by a contaminated instrument and spread of infection through the lymphatics to the axilla. There was no family history of tuberculosis.

Result of Bassini Operation.—Dr. W. B. COLEV presented a man in illustration of permanent good result from a double Bassini operation for hernia after failure by another method practised previously. The cure had existed three years and seven months.

Irreducible Hernia Complicated by Inflamed Appendix in the Sac.—Dr. JOHN B. WALKER presented a boy of seventeen years, who was said to have had a rupture since a baby. He wore a truss from time to time. In 1895 the hernia became irreducible, and at times would be larger and cause pain. Dr. Walker operated in October of this year, found a large mass of omentum and another mass, the size of his thumb, which proved to be the appendix, inflamed and club-shaped at the lower end, adherent to the testicle, and containing over a drachm of sero-purulent fluid. The adhesions to the sac and omentum were firm, and the probability was that the pain from which the boy had suffered had been caused by pressure of the truss upon the appendix. Dr. Walker excised the appendix and performed Bassini's operation for closure of the inguinal canal with complete success.

Hydatids of the Back.—Dr. SAMUEL LLOYD presented a man on whom some weeks ago he had ope-

rated, removing a large and many smaller hydatid cysts from the back. Among the points of interest in the case was the fact that the patient had letters from many surgeons, stating that they regarded the tumor as inoperable sarcoma. The man was paraplegic, both as to motion and sensation, caused, as the neurologists informed him, by pressure on the cord in the region of the seventh or eighth dorsal vertebra. The tumors extended from the sacrum to the right scapula. Dr. Lloyd said he was at first misled by the letters to think it was sarcoma, but on reflection it seemed hardly likely there would be multiple sarcomatous tumors up the back and not elsewhere. Hydronephrosis was thought of, but was not sufficient to explain the chain of tumors. Some fluid being withdrawn, it was shown to be hydatids. An extensive incision, reaching from over the right scapula down to the sacrum, was made and the hydatid cysts were removed. The man recovered both from the operation and the cord symptoms. The active symptoms had dated from 1889.

Discussion on the several cases being in order, Dr. CURTIS said he then had a case of deformity of the ear similar to that in Dr. Van Arsdale's case, except that there was no bony canal, and all that could be done was to straighten the ear for the cosmetic effect.

Dr. WYETH suggested anchoring the ear to the scalp to prevent drooping. He also thought a strip of platinum might be inserted between the outer and inner skin near the edge of the ear, whereby it could be made to assume the desired form. Platinum did not corrode, and would remain indefinitely if introduced with all aseptic precautions, so that primary union would result. Such had been his experience in operations on the nose.

Dr. LLOYD, referring to Dr. Sands' case, said that in New York tuberculosis had been found limited chiefly to certain houses occupied at a prior time by consumptives. The case related pointed to the danger of local infection.

The chairman, Dr. CURTIS, mentioned the case of a woman whose husband died of tuberculosis. She had nursed him and broke the spit cup, which infected a wound of the hand and caused tuberculous inflammation of the tendinous sheaths. The parts healed after he removed the diseased structures. She had been in good health in other respects, and was well when last seen after the operation.

Dr. TUTTLE mentioned the thinness of the hernial sac in the uninfamed area in Dr. Walker's case.

Dr. COLEY spoke of the indication for removal of the appendix vermiformis when in the hernial sac. He had seen about eight cases, but had removed the appendix in only two, and then only for gangrene or strong adhesions. Ordinarily he would leave it.

Dr. WALKER concurred in this view.

THE CHAIRMAN remarked that it was rather contrary to the practice of some who always removed the appendix on sight, whether it were diseased or not. In one case the chairman had found the appendix in a left inguinal hernia and returned it, and Dr. Erdman had yesterday made an autopsy in such a case.

Dr. COLEY had seen the appendix in a left inguinal hernia in a child.

Dr. Coley had seen Dr. Lloyd's case of hydatids of the back, had considered it inoperable sarcoma, and congratulated Dr. Lloyd on his correct diagnosis and very successful operation.

Formalin in the Treatment of Septic Wounds.

—Dr. EDWARD M. FOOTE read a paper relating experience with formalin, dried in gelatin and powdered, in the treatment of wounds, more especially suppurating wounds. Schleik had reported two hundred wounds treated by filling them with this preparation, and claimed that in every case he had obtained aseptic

union—blood clot formed with the gelatin in the wound and union took place without any suppuration. Dr. Foote had had no such results, yet they had been very satisfactory. He had chosen suppurative wounds, forty-five cases, because if the powder would destroy sepsis and cause healing in these, it was more than probable it would prevent formation of pus in clean wounds. He had been able to follow thirty-five of the cases. In three of these it was a failure; in the remainder the gelatin dried the wound up, checking suppuration, and led to healing in a comparatively short time by granulation. As was well known, formalin was antiseptic, and when dried in gelatin it remained a longer time in the wound. The powder disappeared as the wound healed, perhaps partly by absorption, partly by drying up. It caused a little pain. Acetanilid was tried in a few cases, was painless, but did not prevent suppuration. The author concluded that formalin in gelatin powder was a marked advance in the management of suppuration, and was of special benefit when there was moderate cellulitis in the case.

Dr. Foote presented a man with glanders infection of a wound on the chin, to which this powder had been applied. There was now no suppuration, but swelling and induration had increased rather than decreased. Constitutional symptoms were absent.

Dressing of Balsam of Peru in Castor Oil.—Dr. GALLANT called attention to a dressing which Dr. W. W. Van Arsdale had used for wounds over ten years, consisting of about five per cent. of balsam of Peru in castor oil. Gauze was soaked in this and introduced into suppurative wounds or abscesses. Many abscesses when simply emptied and filled with this dressing became entirely free from pus within three days and healed. Cellulitis nearly always subsided in twenty-four hours and pain disappeared at once. Of twenty-eight thousand cases so treated, ten thousand six hundred and thirty-three were of abscess. Drainage was not necessary with this dressing.

Dr. COLE thought the formalin dressing did more than simply permit drainage; it seemed to act by antiseptics and removal of the suppurative process, after which healing took place as when a scraping operation had been performed.

Dr. DEGARMO said he had had occasion to use formalin gelatin in a case at the hospital last spring, and the result seemed to be so remarkable that he spoke of it to the house surgeon, who had since employed it in a number of cases with, it seemed, equally satisfactory results.

Dr. R. A. SANDS had tried the formalin gelatin in a few cases and had been very much disappointed. In some cases the wounds healed rapidly, but in a number there was scabbing, which he thought was not desirable in suppurative wounds, and in some there were more disagreeable results. It did not control the cellulitis. He had used the dressing of Dr. Van Arsdale, balsam of Peru in castor oil, with decided benefit.

Dr. JOHN ERDMANN had used formalin solution on a sinus following removal of the inferior maxilla, and he thought it would kill his patient, for within two hours it began to produce hardening and most disagreeable results.

Rupture of the Bladder.—Dr. John Erdmann related a case of rupture of the bladder in a man, without known cause. The patient was brought to the hospital drunk, and while in the hospital symptoms pointing rather indefinitely to rupture of the bladder manifested themselves. He made abdominal section and after considerable search found an opening of three-eighths of an inch in the bladder, which had permitted leakage into the peritoneal cavity. The man recovered.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting, November 10, 1896.

F. K. OTIS, M.D., CHAIRMAN.

Initial Lesion of Syphilis on the Hand.—DR. G. K. SWINBURNE presented a man with the initial lesion of syphilis on the hand, followed by roseola and other symptoms of syphilis. The epitrochlear gland was enlarged. The source of infection was probably from inoculation of a sore, present on the hand, by using a towel which a fellow-workman who had syphilis used.

THE CHAIRMAN remarked that when he first saw this lesion there was some question of its being syphilitic, but at present it was perfectly typical of chancre.

DR. J. BLAKE WHITE had found on investigation that when one or both epitrochlear glands were enlarged in cases of suspected syphilitic lesion the diagnosis of syphilis could be made with safety nine times in ten.

Healing of a Chronic Suprapubic Sinus without Operation.—Dr. Bangs being absent, the case was shown by DR. PETERSON. The patient had come to Dr. Bangs in July, with a history of operation for stone in December, 1895, and a second operation subsequently. Both suprapubic and perineal cystotomy had been performed. The sinus above the pubes refused to heal, but the patient had had such disagreeable experience with operations that he refused further operative interference. By rendering the urine bland and making patient use of simple measures the wounds had quite or nearly healed.

Whalebone Filiform Urethral Dilator.—DR. GUI-TERAS presented Dr. E. A. Banks' whalebone filiform dilator. The instrument was of filiform size at the distal end, and gradually enlarged. The small end, which would pass through a narrow stricture, coiled up in the bladder as the instrument was pushed farther along to dilate the stricture.

Trocar and Cannula.—Dr. Guiteras presented a trocar and cannula, the latter being a modification of the grooved director, for use in perineal operations for tight stricture. The knife could be passed along the groove.

Stone Obstructing the Urethra in a Child.—DR. SAMUEL ALEXANDER presented a stone which he had removed by operation from the urethra of a child, three years of age, after symptoms of urinary obstruction had existed for three months. The urinary symptoms had gradually increased until only one or two drops would pass every few minutes. The stone was phosphatic with an oxalate nucleus. The latter had probably passed down from the kidney and lodged in the urethra, where it increased by phosphatic deposit. He removed it through an incision into the membranous urethra, pushing it back to that point with a staff.

The chairman, DR. OTIS, thought stones could best be removed from the urethra by pushing them back into the bladder, there crushing them, and washing them out.

DR. ALEXANDER would agree with the chairman if the stone was in the first place in the membranous urethra and the canal was large enough not to require dilatation.

The Treatment of Strictures of the Male Urethra.—DR. JOHN A. WYETH read the paper. He would deal only with organic strictures due to fibrillation of the connective tissue which resulted from cell proliferation under the stimulus of an infectious inflammation, specific or non-specific. Clinically strictures of the urethra might be divided into three groups, according to their location: 1. Those in the anterior half-inch of the urethra; 2, those between this point and the bulb; 3, those in the bulbo-membranous portion.

A true organic stricture of the meatus was rare, but narrowing out of proportion to the lumen of the urethra was not infrequent. The majority of cases in his experience had resulted from the abuse of urethral syringes in the hands of the patient. Applications of corrosive substances were also causes. As a rule, he incised these strictures along the middle line of the floor, but when there was considerable cicatrization he did not hesitate to incise the roof or sides. Interrupted dilatation was the after-treatment. He treated stricture in the second division either by direct incision or by modified divulsion. When the stricture would admit the Otis urethrotome, after carefully locating the anterior and posterior boundaries, he put the stricture fairly well on the stretch and passed the blade back and forth once or twice along the middle of the roof. He then separated the bars of the instrument still farther, and practised divulsion if the stricture bands yielded readily, otherwise the still unyielding fibres were divided. It was his aim not to wound the urethra more than half an inch in front of and behind the stricture. If the Otis urethrotome would not pass, he made partial preliminary dilatation with the dilating filiform bougie of Dr. E. A. Banks—one of the most useful instruments ever invented.

Stricture of the bulbo-membranous portion was far the most difficult to deal with satisfactorily. In the rare cases in which the Banks dilating filiform bougie would not pass, or in which there was perineal abscess or urinary fistula, he performed external urethrotomy or perineal section.

A large proportion of strictures at the bulbo-membranous junction could be relieved by a modification of the internal cutting operation. For the last ten years he had practised this method in a large number of cases and in not a single instance had he met with a result which contraindicated the procedure, and he was firmly convinced that perineal urethrotomy was done in many instances when a less formidable procedure would suffice. The method was as follows: Presuming that the stricture would not admit the urethrotome, the anesthetized urethra was injected with sterilized sweet oil, some pressure being used in order to force a small quantity through the obstruction. As was well known, the cut-off muscle readily yielded to hyperdistention of the urethra. A Banks dilating filiform was introduced and the stricture partially divulsed until it would admit the urethrotome, the straight instrument being used, as for the anterior portion. It usually required a little force for its passage. He then gave the compressor urethra two or three minutes to get tired of the grip with which it seized the instrument, after which a better idea of the density and tightness of the stricture could be obtained. Without any separation of the bars of the instrument, the knife was drawn from behind forward along the roof of the membranous portion of the urethra. The bars of the instrument should now be separated, and, if the bands yielded readily under ordinary pressure, divulsion was accomplished, the fibres tearing in the line of the partial incision already made. If the instrument blocked as the screw was turned, the effort at divulsion should cease, the blades be approximated, then separated very slightly, and the incision repeated. Divulsion could then be accomplished accurately and satisfactorily, without danger of breaking the instrument.

This modified method of divulsion was to be preferred to the simple divulsing instruments which were used without incision, because in the one the surgeon intelligently selected the line of cleavage, while with the other it was blind explosion in any direction. After divulsion as described, interrupted dilatation was carried out. For this purpose he preferred the straight sound to the curved instrument. In broad dense

strictures it might be necessary subsequently to pass a sound once or twice a month to prevent recurrence. When early reconstriction took place, requiring so much attention as to be annoying to the patient, a perineal section should be advised.

Regarding sterilization of the urethra before operating, the author effected this by local cleansing and rendering the urine sterile. For the latter purpose he administered twenty drops of a mixture of two drachms of oil of gaultheria and one drachm of salol three or four times a day. This would sterilize the urine in twenty-four hours. Locally he irrigated the urethra with permanganate of potassium, 1-3,000, for five minutes before the operation, or by ballooning the canal three or four times under sufficient pressure to overcome the cut-off muscle and thus reach the whole canal.

Anæsthesia could be secured from the meatus to the compressor urethræ by using from one to three drachms of a two to four per cent. solution of cocaine according to the susceptibility of the patient. Anæsthesia of the membranous portion could be obtained by carrying the Keyes-Ultzmann syringe point down to the cut-off muscle, pushing it slightly within, and injecting ten to fifteen minims of a four-per-cent. solution. Anæsthesia beyond the cut-off muscle was practically impossible, because the urine was in contact with the cocaine, diluting it.

Hemorrhage was controlled by external pressure, using a compress of cotton and bandage.

Dr. Wyeth had not used electrolysis. When it could be proved that cicatricial tissue could be dissolved by an electrical current without of itself producing an eschar, he would be compelled to accept the superiority of electrolysis over urethrotomy. Until then he would believe in the operation just described.

DR. R. W. TAYLOR opened the discussion. He had never seen strictures of the meatus due to injections. They were usually caused by venereal lesions. He was unalterably opposed to overdilatation or dilatation of the urethra. He thought the large number of cases of crooked penis seen of late years were due to turning up of the urethrotome and cutting, and that most of the mischief was done by the overdilatation rather than the cutting. The cut would heal up; the injury from overdilatation would remain. When dilatation alone was not sufficient, a cutting operation might be resorted to, but it was only a prelude to dilatation at best. Overdilatation should never be made. He had had considerable experience with Fort's method of electrolysis, and had found it a very valuable method in many cases.

DR. ALEXANDER agreed with Dr. Wyeth in the treatment of stricture at the meatus and in the anterior portion of the urethra. In stricture at the bulbo-membranous junction he followed his teacher, Dr. Keyes, and dilated. The results were as permanent as by incision. But if the patient could not spare the time he cut; also when the stricture was dense and broad he used the knife, but in marked cases it was best to make perineal section and dissect out the stricture material. First he would treat the urethral discharge, get the urethra in fairly aseptic condition, then overcome the stricture, and then it would be possible to cure entirely the existing inflammation.

DR. CULVERT no longer believed in using the very large sounds, and had learned while in Vienna that Ultzmann was satisfied to get the urethra up to No. 26.

DR. SWINBURNE avoided instrumentation of the urethra until the canal had been put in as healthy a condition as possible without it. After cleansing treatment and reduction of inflammation in the urethra and bladder, strictures could be treated with much greater safety.

DR. F. C. VALENTINE had treated ten strictures by Fort's method of electrolysis, with two absolute fail-

ures and eight successes. He thought those who followed the method of treatment of Oberländer had no reason to complain of their results.

DR. KLOTZ agreed with Dr. Taylor that strictures in the anterior portion or at the meatus were due to chancres or chancroids. Overdilatation in the anterior urethra resulted in leaving the urethra as a bag without any elasticity, so that the patient was unable to expel his urine properly.

DR. EUGENE FULLER feared that those who should read the paper would be led to cut too much, although that might not be the author's practice. The last few years there had been too much cutting of the urethra. Yet there was a place for cutting, especially in the deep urethra. He thought abundant diuresis would be of more benefit than attempts to render the urine sterile by administering drugs by the mouth.

DR. GREEN said that at clinics he had observed some of the unfavorable results of cutting operations: 1, cases in which the Otis urethrotome had been used and was followed by deformity; 2, in which external urethrotomy had been done, some nerve cut, and the patient left impotent; 3, in which nearly the whole lower portion of the urethra had been a mass of cicatricial tissue and an operation (divulsion) had led to destructive sloughing. Many strictures could be prevented by attention to a urethritis accompanied by small ulcers.

DR. WYETH thought there was not a great distance between himself and Dr. Taylor or the other speakers. He had for a long time practised simple dilatation, but by the method described in the paper he got as good a result in a much shorter time. He believed if there had been deformities the patients would have returned. He had seen no deformities. Organic stricture was never absolutely cured, but there might be no subsequent obstruction. Cicatricial tissue always remained wherever present.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GASTRIC VARIX—RESECTION OF DILATED SIGMOID FLEXURE—NEPHRECTOMY FOR RUPTURED KIDNEY—VAGINAL HYSTERECTOMY—THE MEDICO-CHIRURGICAL DINNER—HOSPITAL REFORM—BERIBERI AGAIN—LIBRARIES FOR HOSPITALS—DEATH OF DR. GEORGE HARLEY.

LONDON, October 30, 1896.

A RARE case was brought before the Clinical Society of London on Friday by Dr. Cronier Lancaster, of Swansea. It was gastric varix which ruptured, bringing about fatal hæmatemesis. He showed the part of the stomach containing the varicose veins. The bowels acted twice on the day of admission (July 28th), the stools being dark and tarry. From the history gastric ulcer was diagnosed. On August 7th the patient, a married woman aged thirty-six years, became unconscious and remained so until her death at 11:30 P.M. She had not vomited once while in the hospital. The bowels acted on August 5th and 6th; the stools were pale and formed; but on the day of her death she passed one stool containing freshly poured-out blood. At the autopsy, sixteen hours after death, the principal points observed were as follows: 1. Several branches of the gastro-epiploic veins in the great omentum and gastric submucosa were typically varicose. 2. The largest of the gastric varices presented on its upper surface a small circular smooth-edged aperture about the size of a pin's head. 3. Except for the varices the mucosa of the whole of the digestive tract was healthy. 4. No cause for the

varicose state of the veins was discovered; the thoracic and abdominal viscera were healthy. 5. There were no left kidney and no left adrenal. Dr. Lancaster said that varix of the veins of the stomach was apparently of extreme rarity, but suggested that a certain number of cases supposed to be of gastric ulcer, cases in which hæmatemesis is the only prominent symptom, might in reality be cases of varix.

Mr. G. H. Makins observed that if physicians could diagnose this condition in the stomach the arrest of the hemorrhage might be effected under far more favorable conditions than in the case of ulceration, and the operation would not be much more dangerous than for the removal of a foreign body.

Dr. Kingston Fowler, referring to the cases of pseudo-hæmatemesis in association with cirrhosis of the liver, in which blood came from the veins of the œsophagus and cardiac end of the stomach, mentioned that in a recent post-mortem examination at Middlesex Hospital this condition was found to exist.

Mr. H. H. Clutton related a difficult case of resection of dilated sigmoid flexure for chronic obstruction. The patient was a lady, aged fifty, who had suffered as long as she could remember from chronic constipation and occasionally from attacks of distention accompanied by pain. During the last five years she had had frequent attacks of obstruction, lasting from five to ten days, accompanied by great distention of abdomen and occasional vomiting. Her trouble increased so much that in hope of obtaining relief she gladly submitted to operation. On November 19, 1895, a very large dilated sigmoid flexure was removed, and the two ends of the divided bowel were united by a Murphy button. The operation was perfectly successful except for the fact that the button remained *in situ*. She has had no attacks of obstruction since the operation, and has led an ordinary life. She has been so comfortable, indeed, that she declined even to submit to an examination under an anæsthetic to determine if the button was movable. Lately she developed gradually increasing symptoms of obstruction, and last Sunday Mr. Clutton performed median laparotomy; the small intestines were collapsed and empty, but the large intestine was enormously distended with liquid fæces and practically filled the abdomen. He could feel the button high up in the splenic flexure. He made an incision and evacuated two basinsful of liquid fæces, and then he managed to move down the button as far as the site of the original operation, but no farther. He therefore cut down upon it and took it away. At the line of junction left from the previous operation there was a stricture admitting the finger, so he made a longitudinal incision, which he sutured transversely. The operation was done under great difficulties, and took nearly three hours.

Mr. J. C. Wallis then related a case of abdominal nephrectomy for ruptured right kidney in a groom, aged twenty-two. On February 27, 1896, he fell through a distance of twelve feet from a ladder on to a spiked railing. On admission he was conscious, but in evident pain and somewhat collapsed. One of the spikes—three inches in length—had pierced the abdominal wall, nearly an inch below the tenth costal cartilage on the right side. On operation a lacerated wound of the peritoneum was seen, through which bruised intestines presented. The peritoneal wound was enlarged and large masses of blood clot were turned out of the abdomen. Sponges were inserted and the sides of the abdomen held apart by two long silk ligatures. The under surface of the liver and gall bladder were exposed and found intact. The intestines were then examined in the wound track and were seen to be bruised; one piece of small intestine had the external coats torn, and the mucous membrane bulged through the opening. No fæces could

be seen nor fæcal odor detected. At the bottom of the cavity the kidney could be felt torn almost in two; blood welled up through the wound at a great rate. The left kidney was next sought for and its presence made out. The peritoneum was now divided along the outer edge of the ascending colon and this portion of the gut pushed in toward the middle line. The left hand being passed in behind the colon, the kidney was rapidly freed and brought out of the wound. The ureter was clamped, tied, and cut; the vessels were treated in the same way, and the kidney was removed. The deep muscles were considerably lacerated and bled freely. Sponges were temporarily inserted, and the abdominal cavity was washed out with saline solution. The wound was packed with iodoform gauze in strips, dressed with cyanide gauze and blue wool, and bandaged. The patient, being greatly collapsed after the operation, was left on the table for an hour. He rallied from the shock very rapidly during the next twenty-four hours, and made an excellent recovery, the wound being thoroughly aseptic throughout. The gauze was removed on the fifth day after operation and the stitches were removed on the tenth day. The patient was discharged on April 13th quite well, and has been seen three times since. He is now at work as a groom.

A few years ago vaginal hysterectomy for cancer was pronounced an unjustifiable operation. Now, as stated by the president of the Gynecological Society, it is a "recognized procedure and even in cases in which the disease seems most advanced there is often no recurrence." This statement was made after a paper by Mr. Jessett, who from the results of seventy-five cases offered the following conclusions: 1. In all cases of leucorrhœal discharge a vaginal examination should be insisted on. 2. If on examination discharge is seen escaping from the os in a woman at or past the menopause, which discharge is occasionally slightly colored or offensive, the canal should be dilated and the cavity of the uterus curetted for microscopic examination. 3. If the report is unfavorable, total extirpation should at once be urged. 4. Even in advanced cases, so long as the uterus is movable, much relief can be afforded and life prolonged by vaginal hysterectomy. Dr. Purcell presented a table of sixty-three cases with twelve deaths. This was a higher mortality than Mr. Jessett's, but it included early operations before the technique had been perfected. Dr. R. T. Smith congratulated Mr. Jessett and Dr. Purcell, and said they had fully justified their position as surgeons to the cancer hospital—a sentiment generally accepted.

The Royal Medico-Chirurgical Society met on Tuesday and the next evening there was a dinner at which about one hundred and fifty fellows and friends were present. The president, Dr. Howship Dickenson took the chair, and was supported by Sir R. Quain, Dr. Wilks, and other leaders. The toast of the evening was proposed by Mr. Hutchinson, who quoted from the first volume of transactions. He coupled with the toast the name of the president, who in reply remarked that fifty-nine volumes of transactions had appeared in the ninety-one years of the society's existence, and gave examples of the exceeding importance of some of the papers they contained.

A "Hospital Reform Association" has been started in London on the initiation of Dr. Garrett Horder, of Cardiff. It is not proposed to confine membership to medical men, but to enlist all philanthropists who see the evils of the out-patient system and are willing to join in the effort to abate them. The subscription is only five shillings. It is hoped to enlist the public press in the cause and to circulate pamphlets, etc. The managers of hospitals and the Sunday and Saturday funds are to be appealed to. I am sorry the new

association will not keep clear of the Charity Organization Society, which so many regard as useless and meddlesome, and which seems to exist chiefly for the benefit of its officers.

Beriberi has again broken out in the Richmond Lunatic Asylum, Dublin. Some eighty cases have appeared. You will remember I apprised you of the epidemic of two years ago when it occurred, and mentioned that the asylum was overcrowded. This is still the case, and the lesson of the last outbreak seems to have been lost. At an inquest lately held, Dr. Norman had to give evidence and stated that there were seventeen hundred patients in the asylum, the nominal capacity of accommodation being ten hundred. Dr. Norman has again and again called attention to the overcrowding, but so far without effect. Both phthisis and dysentery have prevailed in this institution, and a searching inquiry is called for.

The West Haven Public Library gives books and papers which are withdrawn from circulation to the hospital for infectious diseases. Simple rules have been adopted and circulated. Both patients and staff are said to highly appreciate the boon. The committee and librarian may be congratulated on having organized this considerate scheme.

I have again to report the death of a distinguished and honored member of the profession. Dr. George Harley, F.R.S., aged sixty-seven years, died suddenly on Tuesday from rupture of a coronary artery. His remains are to be cremated this afternoon. I knew him for many years, a genial and cheerful companion, whose intense interest in the scientific aspect of medicine never abated. You will remember his researches on the urine and on the liver, and important as these were he made many others of equal value. He was a very highly trained scientist. After graduation at Edinburgh he spent two years in Paris under Magendie and Claude Bernard. Then he took two years in Germany, working under Scherer, Kölliker, Virchow, and others. On returning he was appointed to the chair of histology and practical physiology at University College and physician to the hospital. Soon for his elaborate researches, among which those on the chemistry of respiration had great influence, he obtained the scientific blue ribbon, F.R.S. He naturally became a fellow of both the Edinburgh and London colleges of physicians. He had to fight against ill health for a long time, and he did it with a courage deserving of admiration and sympathy. I remember his attack of glaucoma, for which, on account of the state of the other eye, extirpation was advised; but he retired to a darkened room for several months to try what rest would do and recovered sight in both eyes. He recorded a number of observations he made on his vision as he recovered. He was always ready to experiment on himself, and on more than one occasion he ran considerable risk from doing so. A careful, exact experimenter and fluent lecturer, his pupils had the greatest respect for his work, and many will mourn the loss of an ardent devotee of scientific medicine and a cheerful, skilful, and learned physician.

OUR PARIS LETTER.

(From our Special Correspondent.)

ALCOHOLISM ON THE INCREASE IN FRANCE—ALCOHOLIC CHILDREN—GOVERNMENTAL ACTION—THE MILK EXHIBITION—THE GENERAL ASSOCIATION OF PARIS STUDENTS—SUICIDE OF PROFESSOR HANOT.

PARIS, November 1, 1896.

ALCOHOLISM threatens disaster to the French race. The danger is greater than ever before, because the distilleries and absinthe shops are more numerous, the use of wine is more general, and the habit of drinking

any of the numerous liqueurs or *apéritifs*, as they are called, is more common. French doctors and writers have accused the Americans of burning their stomachs with alcohol in the form of whiskey, the effects of which upon the stomach and circulation are far less deleterious than those of the sweetened mixtures used by Frenchmen. These are nothing more nor less than pure alcohol of very inferior quality, into which is put a large quantity of a powerful essence, such as anise, absinthe, mint, or coriander, all having convulsive and stupefying properties, affecting less the stomach and circulation than the brain and cerebro-spinal nervous system.

The government has several times seriously discussed the question, and it is thought that by limiting the number of licenses and, above all, guaranteeing that the alcohol used in the manufacture of drinks, cordials, and liqueurs shall be of the highest quality, some check will thus be put upon this steadily increasing evil.

The Chamber of Deputies did, it is true, express quite recently, in an order of the day, the desire that the minister of finance should study the subject. Accordingly, he appointed an extra-parliamentary committee—that is, a committee whose members are not deputies. This is a very convenient way of shelving an embarrassing problem, and it is thought to be the end of the matter, notwithstanding the fact that the minister assures the chamber, and the public as well, that he is endeavoring to eradicate the fraud and protect the public health. This is the tenth attempt of the kind that has been made, and it is destined to prove, like the others, fruitless.

On October 25th, Mr. Algaive held a conference at Rouen, under the patronage of the Normandy Society of Hygiene, presided over by Dr. Cerné, on the monopoly of alcohol and its importance from a hygienic standpoint. Many doctors and men of science were present. There was also a goodly showing of wine merchants and liquor dealers at the meeting, and these became so uproarious when it was proposed to take really serious action in the matter, especially financially, that the meeting was adjourned. It seems as if all efforts in this direction are doomed to be alike futile, and distillers are to be allowed to go on manufacturing their poisons and the public absorbing them to its own detriment.

Another beverage, at times as dangerous if not more so than alcohol, is just now attracting official attention. We refer to milk—that has not unfrequently been the direct cause of typhoid fever, cholera, and tuberculosis; and as several children, whose ages vary from eight to thirteen years, are now under treatment in the hospitals of Paris for confirmed alcoholism, it would be interesting to know exactly how many began to acquire the habit unconsciously at the breast of an alcoholic mother or nurse. There have been so much adulteration of milk and so much consequent falling off from the standard, that it has become urgent for the public to know where that nourishment, so indispensable to infants and children generally, to which also many adults are obliged to resort, can be best obtained fresh, pure, and unadulterated. Some of our most distinguished physicians and professors have, therefore, decided to organize a competitive exposition of milk—a *concours de laiterie française*—to which milk and dairy men and women near Paris, and those keeping cow stables, also milk venders in the city, are invited to send their wares. The jury will be composed exclusively of physicians, pharmacists, and veterinarians. A committee of patrons is to be appointed, consisting of deputies, municipal councilmen of the Seine, and the presidents of the syndical chambers of alimementation. Prizes, such as bronze works of art, pieces of silver, etc., will be given to those furnishing the

best specimens of lacteal fluid. Manufacturers of milk apparatus of all kinds are also invited to take part in the concourse. No doubt the very best and purest milk will be exhibited, but will it guarantee to the consumer that the milk furnished every day throughout the year is up to the exhibition standard as an article of nutriment, leaving septic germs and sterilization out of the question? At any rate, the *concours* will undoubtedly be productive of much good as regards the sale of adulterated milk, and not without beneficial influence on public health and hygiene.

The Students' General Association of Paris has just treated us to another one of those scholastic revolutions so common in the Quartier Latin. The president and all the other officers have just resigned in a body, because the members of the association had blamed them for expending, without having consulted their comrades, certain sums necessary for participation in the recent Franco-Russian festivities. It seems that for some time past the direction of the affairs of the association had been in the hands of an executive committee, composed chiefly of students at the Sorbonne, whose rule the association at large found tyrannical. The new president, officers, and executive committee are students in medicine, pharmacy, law, etc., but not one of them is from the Sorbonne. The new *régime* ratified at once, purely, simply, and without discussion, the credits spent during the Franco-Russian fêtes, the whole movement having been only a manœuvre to get rid of the old management.

We have just lost by suicide one of our most prominent (*agregé*) professors at the Faculty of Medicine—Professor Hanot. He had returned to his apartment in the Rue de Rivoli on Tuesday evening last, after having lunched with one of his students, and went directly to his study, where his servant saw him open a work on medicine, and retired, leaving him, as he supposed, at work, according to his custom. When he went to call his master for dinner a few hours later, he found Professor Hanot stretched upon the floor, his body lying upon the right side, the head under an armchair, the right hand holding a small vial. A confrère was called in at once, and stated that death was due to poisoning by cyanide of potassium. Dr. Hanot's appointment to a full professorship in the chair of external pathology had been decided upon for some time, and to prepare for his new field of labor he had given himself up to such excessive mental work as to bring about a state of constant cerebral hyperæmia, accompanied by melancholia of long standing, and in a moment of aberration he committed the regrettable act. Professor Hanot was very highly esteemed by the profession and friends, who mourn alike his loss at the early age of forty-five.

THE MOSCOW INTERNATIONAL MEDICAL CONGRESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: *À propos* of an editorial in this week's MEDICAL RECORD, entitled "Politics and Medicine in Russia," I desire to ask for some space in your esteemed and most widely circulated journal in order to express my opinion upon the subject. My at first, perhaps, somewhat startling opinion and advice is that the members of the medical profession throughout the world should, collectively or individually, resolve to have nothing to do with that congress, to ignore it completely. This opinion is shared by quite a number of my colleagues, and the reasons upon which it is based are as follows: A country in which the popular and higher education is in the palm of the hand of Constantin Pobyednoszeff, a narrow-minded, marble-

hearted bigot, as cruel as Torquemada, with the only difference that he does not burn his victims at the *auto da fé*—this being out of fashion now—but sends them instead to pine their young lives away in the Siberian mines and prisons; a country in which the students are watched and spied upon like penitentiary convicts; a country in which the most brilliant university professors are treated like lackeys, discharged and exiled at the caprice of the above-named autocrat; a country in which the possession or reading of the Declaration of Independence or of the constitution of the United States is considered a heinous crime and is punished by from three to five years' solitary confinement in a prison or subterranean dungeon (this is fact, not fancy); a country in which citizens of the highest ability and integrity are debarred from university education, from certain professions and positions, on account of professing a certain faith; a country which in the last quinquennium of the nineteenth century establishes a school of medicine for women and inserts a clause rigidly excluding women of Jewish faith from entering its portals—such a country, I say, should not be honored by the holding of an international medical congress in one of its capitals. And in this opinion I do not stand alone. When in Berlin I spoke to many physicians upon the subject, and several of them who participated in previous congresses expressed their resolution to have nothing to do with the Moscow congress, neither as readers of papers nor as visitors. And if the entire medical profession throughout the world decided to do likewise, the rebuke would have a wholesome effect upon the pitiless Northern despot.

The case of Erismann is not by any means unique. Many a Russian professor has been forced to resign or has been exiled, only to be received with open arms by the universities of Switzerland, France, and Germany.

WILLIAM J. ROBINSON, M.D.

112 EAST ONE HUNDRED AND TWENTY-EIGHTH STREET.

THE LEPROSY COMMISSION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In an editorial of November 7th you say: "Would it not be well to have a national leprosy commission appointed to determine what is to be done with the leper here at home before we send delegates to an international leprosy congress in London to decide upon what to do with the lepers of the entire world?"

You must permit me to observe that the question what we shall do with the corporal's guard of lepers at North Brother Island is just one of those questions which will be presented to the congress. It is to frame laws suitable to this country and to every other country that we wish such a congress to meet. If the decision is left to each country separately, one country will set the lepers loose, as our health commissioner here proposed to do; another will pen them up like animals, in utter disregard of such human and religious rights as certainly ought to be left them; another country will put its leper asylum in a moist climate, like Louisiana, for instance, which favors the multiplication and propagation of the bacilli, and also that of innumerable species of insects, which all may contribute to the spread of the disease, etc.

No State board of health (I have already put myself on record with this statement) should have anything to do with the disposition of a leper. The local authorities will, in many cases, wink at the escape of lepers, or let themselves easily be persuaded that they are not dangerous. Our national government should have full authority to take from every State its lepers, and put them in a national lazaretto or reservation. No

better place could be found for this than some part of the Yellowstone Park, where the climate is unfavorable to the lepra bacillus and where there is plenty of room for leper colonies, that is, for the lepers and their families, if the latter chose to follow them.

According to Hansen, the tubercular leprosy is found in moist climates, the maculo-anæsthetic form in dry climates, and the only difference between the two forms is in the degree of virulence and multiplication of the microbe. Wherever "cures" have been reported, it was always in the maculo-anæsthetic type. This type has a natural tendency spontaneously to "cure" without any medication whatever. (By "cure" is meant here only the cessation of the activity of the disease, the anæsthesia and previous ravages, of course, remaining.) Now, if we put all our lepers in the driest climate to be found in the country, away from the seacoast, whose influence is baneful, we must of necessity prevent the multiplication of the lepra bacilli in the human body and diminish their activity.

It is not likely that any government will formulate laws in accord with this scientific statement, unless urged to it by such an imposing body as would be formed by the competent and official representatives of all the countries of the world.

Let me add this: The opinion of a man in anything pertaining to this question can have weight and authority only if he has for a considerable time lived in countries where lepers are very numerous, where they are counted by the thousands, ten thousands, the hundred thousands, and where the population has for many centuries been compelled to observe the disease, to fight against it, etc.; and the studies made during a few days, on five or six lepers, entitle no man to speak with authority on any such question. All the competent men say that the disease is inoculable and that isolation is indispensable.

ALBERT S. ASHMEAD, M.D.

A SIMPLE MEANS OF THROAT EXAMINATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is well known that many children have a dread of the doctor's visit—especially should the visit be made because of throat disease. The fears are increased if a spoon or tongue depressor is thrust down into the throat without ceremony. All of this may be overcome by a method used by me for the past twenty years, which can be successfully practised in nearly every patient over three years of age. It consists in simply teaching the child to use the index finger of either hand, thrust back along the tongue as near the base as possible, with the injunction to open the mouth wide and press down the tongue. In this way can be secured, after one or two attempts, a perfect view of the tonsils and in many instances even of the epiglottis and the adjacent folds.

The reason why this is preferred is based on, first, the fact that a child, or even an adult, does not fear any injury from his own finger; second, his own effort will not provoke emesis or straining, as a trial will convince the reader; third, there is no danger of contamination by a dirty spoon or depressor, and no possibility of auto-infection, and finally, the fingers are always at hand. This plan of course is impracticable in the moribund and in infants, but at least ninety-five per cent. of all instances of acute and chronic disease of throat or of foreign bodies can be more successfully examined by it than by any other method. The purpose of this note is particularly directed to the busy every-day doctor and not to the specialist.

J. D. MILLIGAN, M.D.

PITTSBURG, PA.

Therapeutic Hints.

Bites of Bedbugs, Fleas, and Mosquitoes.—

R. Ol. olivæ	20
Ung. styrac.....	25
Bals. Peru.....	5

Or,

R. Naphthol β	5-10
Ether sufficient to dissolve.	
Menthol.....	0.25-1
Vaseline	100

—BROcq AND JACQUET.

Salicylate of Methyl locally applied in subacute and chronic rheumatism, during painful paroxysms, acts at times as well as when salicylates are given by the mouth.—LANNOIS AND LINOSSIER.

Trional, in from one to two grain doses shortly before bedtime, gave favorable results in thirteen cases of insomnia. It may be given in warm milk. No bad effects upon the heart were noted.—KOSTER.

Carbonic Acid in its nascent state is a new agent in the treatment of blennorrhagic vaginitis, proposed by Piéry (*Abeille Médicale*, No. 23), for which much is claimed.

Large Doses.—Do not enter into competition with the object of seeing who can give the largest dose. A small quantity will often do all that is required of a drug, and a large dose may do harm.

Antitoxin.—Dr. Billings' observations upon the hæmatic effects of antitoxin prove that the corpuscles and hæmoglobin are diminished less with the injections than without them.

Asafœtida.—The tincture, combined with milk of magnesia, furnishes the best remedy for colic due to intestinal acidity. As a diffusible stimulant in catarrhal pneumonia and capillary bronchitis, it is exceedingly valuable.—*Pediatrics*.

Inoperable Cancer.—Dr. Snow, surgeon of the London Cancer Hospital, says that morphine, associated with cocaine, given in large doses for a long time, exercises a favorable and curative action upon carcinomatous neoplasms and retards recurrences.

Puerperal Eclampsia.—Norwood's tincture of veratrum viride in large dose (ten to twenty minims), preferably by hypodermic injection, is said to be distinctly an American practice. The initial dose can be safely followed, in from thirty minutes to an hour, if necessary, by a dose of from five to eight minims.—BAUER.

Pertussis has been successfully treated for fifteen years by Dr. Josset (*La Méd. mod.*, March 28th), with the aid of hypersulphurous baths, seventy-five centigrams of polysulphate of potassium per litre being employed. The temperature of the bath should be 36° C., and the duration twenty-five to forty-five minutes, according to the age. Fifteen baths are, at most, required.

Unusual Effects of the Bromides.—In certain epileptics the prodromal signs of an attack and the subsequent manifestations take on an intensity altogether unusual when bromides are being employed in high dose. In cardiac epileptics the bromides are likewise injurious, cardiac asthenia leading to a state of collapse. In children paralytic phenomena with ptosis, loss of memory, etc., have been noted. Homicidal tendencies and melancholia with attempts at suicide may be observed.—S. WEIR MITCHELL.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 14, 1896:

	Cases.	Deaths.
Tuberculosis.....	161	83
Typhoid fever.....	22	7
Scarlet fever.....	85	8
Cerebro-spinal meningitis.....	1	2
Measles.....	66	4
Diphtheria.....	173	27
Small-pox.....	0	0

Small-Pox in the German Army.—Only two soldiers in the immense German army have died from small-pox since 1873, owing to the strictness with which vaccination is enforced. During the Franco-German war the Germans lost only three hundred, compared with a French loss of twenty-three thousand four hundred men from small-pox.

Curious Pharmacy.—Toward the end of the sixteenth century, Sir Henry Unton was sent on a mission to the French king in Paris, and there became ill, whereupon the court physician gave him a "*confectio alcarmas*"—compounded of musk, amber, gold, pearl, and unicorn's horn, "with pigeon's dung applied to his side, and all other means that art could devise, sufficient to expel the strongest poison, and he be not bewicht withal." It is almost needless to add that, after the administration of this extraordinary medicine, the ambassador promptly expired.—*British and Colonial Druggist*.

A Ring on Penis for Fourteen Years.—An extraordinary case of a ring buried in the penis for fourteen years has recently been reported. In September last Dr. Leflaive was called to a patient who complained of not being able to urinate except by drops and with exquisite suffering. On being questioned, the patient confessed that when twelve years old, at school, he passed his penis through a brass curtain-ring, when the organ swelled considerably, so that the ring could not be withdrawn. In spite of his sufferings the boy kept the matter quiet. By degrees the ring ate its way through the skin into a circular groove and in course of time the parts healed completely over it, so that it was lost to sight, his sufferings being all the while almost intolerable. Twelve years afterward the patient married, but at the first attempt to fulfil his marital duties the penis became greatly inflamed and contact very painful. He bore valiantly with his infirmity for two years longer, but at last had to appeal for medical aid. When examined, the prepuce and the glands were found to be enormously swollen and of a phlegmonous aspect. It was impossible to find the meatus, and all attempts at catheterism increased the agony. About the middle of the penis could be seen a circular white band representing a cicatrix, and at this point could be felt the ring, embracing the cavernous bodies. After having chloroformed the patient, Leflaive made a longitudinal incision through the dense cicatricial tissue, which gave issue to a certain amount of pus; at the bottom of the wound could be seen the ring. A director was passed under it, and the foreign body was cut through by means of bone forceps and thus removed. The patient recovered quickly. Nowhere else in the annals of medicine can be found a case of a metallic ring thus buried for so long a period without calling for surgical interference.—*Medical Press and Circular*.

Epileptics recover in this country in one per cent. only, while in Germany, under the village system, between five and six per cent. recover, and more than half of those admitted are greatly benefited.—*Philadelphia Polyclinic*.

Anatomy an Explanatory Science.—The *New York Medical News* publishes an article by Dr. Stiles, in which he writes as follows: "To the zoologist you owe the transformation of anatomy from a descriptive into an explanatory science. He has already solved the riddles of many of the rudimentary organs of the human body. You are no longer taught that the pineal gland of the brain is an unexplained organ, possibly the seat of the soul; but you are told that it represents a rudimentary third eye, which has been traced through a long series of animals until found developed to such an extent in certain reptiles that it is probably capable of perception of lights and shadows, while the paleontologist has here come to our aid and shown that in certain fossil reptiles this organ must have been a comparatively well-developed interparietal eye. You no longer learn a minute description of the plica semilunaris and then wonder what it is, for you are told that it is a third eyelid, very rudimentary in most human races, slightly better developed in the Malay, while it is well-developed and functional in birds and frogs."

The Prosecution of Quacks.—A quack of the name of Thomaso, though fortified with the usual bogus American diploma, was fined £20 last week at the Southwark Police Court, under the apothecaries act, for practising medicine. It is only by the byway of this ancient enactment of 1815 that a quack can be punished for practising in England. In Ireland no such protective enactment exists, for which reason quacks can do as they please in that country, as long as they do not publicly represent themselves as registered practitioners. Fortunately there are, in Ireland, practically no quacks. The good St. Patrick banished them along with the toads and other venomous animals, and since then, though many of the tribe have sought to effect a lodgment, they have always died of inanition.—*Medical Press and Circular*.

Magical Remedies.—In former times many curious remedies were used in the treatment of disease. Thus, the magi or priests of the Persians, the wise men of the East, knew of herbs which, wrought into pills and swallowed in wine, would make the guilty confess their secrets. They also had an herb for begetting good and handsome children, and a wort to revive old love, even when it had turned to hate. All these had magic names. They thought highly of the common mole, and taught that, if any one swallowed its heart, palpitating and fresh, he would become an expert in divination. The heart of a hen, they said, placed upon a woman's left breast while she slept, would make her tell her secrets, if only her memory served her. The magi also taught to drink the ashes of a pig's pizzle in sweet wine, and so to make water into a dog's kennel, adding the words, "Lest he, like a hound, should make urine in his own bed." If a man, in the morning, they said, made water a little on his own foot, it would be a preservative against *mala medicamenta*, or drugs intended to do him harm. Pliny mentioned many curious remedies. Thus, speaking of ague, he tells us how to cure it by amulets; by the dust in which a hawk has rolled; by the longest tooth of a black dog; by a solitary wasp caught in the left hand; by the head of a viper cut off, and by its living heart cut out and wrapped in a piece of cloth; by the snout and tips of the ears of a mouse, and so on. Marcellus recommended, in order to avoid inflamed eyes, that when you see a star fall or cross the heavens

you should count quickly, for you will be free from inflammation for as many years as you count numbers. If a man, he says, have a white spot or cataract in his eye, let him catch a fox alive, cut his tongue out, let him go, dry his tongue, and tie it up in a red rag, finally hanging it round the neck. For toothache you are requested to spit in a frog's mouth and tell him to make off with it. Ettmüller is conspicuous for recommending disagreeable and even revolting remedies, a prominent feature of his treatment being the employment of the excrement of various animals. *Album canis*, or album græcum—in other words, the “whites of dogs”—he recommended for bleeding, and also as a gargle for sore throat.—WILLIAM MURRELL, in *A Manual of Pharmacology and Therapeutics*, p. 2.

Malaria.—The importance of careful microscopic examination of the blood in obscure cases of illness cannot be overestimated. It is futile in many instances, but invaluable in others. We must not assume, however, that antimalarial treatment will correct grave functional derangements, even when these are primarily due to the disease.—F. S. JOHNSON.

A Full Stomach.—A paragraph is now going the rounds which states that a gastrotomy performed on a woman in a hospital at Odessa disclosed the following objects in a state of incomplete digestion: A fork, a piece of iron, two teaspoons, a needle, a piece of lace with the crochet needle, two two-and-one-fourth-inch nails, four pieces of glass, eight buttons, and a key.—*Boston Medical and Surgical Journal*.

Dispensary Abuse.—The following extract from a London letter by Dr. Boyes to the *Occidental Medical Times* is worth a moment's thought: “In America, even more than here, there are many such issues that are becoming burning questions in these days of excessive competition on all sides. There seems, and with great good reason, to be a feeling abroad that many things demand rectification in our profession, which, by the way, has increased out of all proportion to population in most localities. We need but turn our attention for a moment toward our general environment to observe that the majority of the institutions founded so generously and conducted so zealously for the benefit of the sick poor, whether on charitable or co-operative principles, are entering into keen competition with us, and that, of course, greatly by our help. The association instances Birmingham, England, showing that the hospitals and dispensaries treated last year a grand (?) total of about one hundred and twenty-eight thousand patients, out of a population of five hundred thousand. Just think what it means. Imagine what inroads must have been made in the incomes of the rank and file of the profession. And remember that such detriment is at the hands of their brethren. Nor is this an isolated instance, but rather the rule, with amazingly few exceptions, in the towns and cities of Europe and America. It is a spectacle for the gods to laugh at—a body of learned men exerting their best efforts toward their own undoing. The worst of it all is that this philanthropy gone mad, this misguided generosity, has gone a long way toward pauperizing the public at the expense of the profession. It simply destroys the prospects of many medical men who otherwise could get along nicely and with benefit to the community. Assuredly it is a great injury to allow numbers of wage earners to profess the need of charity and to demean themselves as paupers to avoid paying fairly and in accord with their means.”

Progress at Craig Colony During the Eight Months Since the Opening.—This has been the crucial year in the evolution of Craig Colony. All of

the buildings which were in the Shaker settlement at the time of its purchase by the State for dependent epileptics have been thoroughly remodelled and put into complete order for the reception of patients. A perfect system of water supply, sewerage, plumbing, heating, and electric lighting has been installed, and on February 1, 1896, the colony was informally opened for patients. One hundred and forty-nine patients have been received thus far, and as soon as the hospital building now in course of construction is completed, and the west group of buildings heated, the accommodations of the plant, as it now stands, will be ready for a population of over two hundred epileptics. In spite of the shortness of the time now elapsed since the opening of the colony, two very important facts have become evident: First, that remarkable improvement has taken place in the condition of the patients admitted; and secondly, that the economic success of the scheme is assured. Nearly every subject has gained in weight and in general health. In all cases the epileptic seizures have diminished in frequency to a marked degree, and in some instances this has been even extraordinary. The expression of the inmates has altered, so that, instead of the dull, hopeless look of the almshouse epileptic, one sees on all sides happy faces, in which intelligence and hope are being re-awakened. The school has been successfully started for fifteen or twenty of each sex. Much of the printing of the colony is now done by two or three epileptics in the colony's own printing-office. Carpentry, sewing, painting, etc., are being carried on by the patients. They have their own epileptic blacksmith. Naturally, the great work of the inmates of both sexes is in the field and garden. Eighty-three per cent. of the males and seventy-six per cent. of the females have given us eight hours' daily work. This labor has had a great effect upon the income of the colony, demonstrating the economic value of the scheme. From the report of the superintendent and steward for the year ending September 30, 1896, we learn that the products of the farm and garden for the year 1896 amounted to \$14,230.20. The cost of maintenance of patients, from the date of opening, February 1, 1896, to October 1, 1896, a period of eight months, was \$28,258.24. The colony has, therefore, actually produced already one-half of the cost of maintenance. Appropriations are asked for this year, to increase the productivity of the agricultural department especially, because upon this the economic success of the scheme depends so largely. At the same time there is most urgent need for accommodations for the hundreds of patients seeking admission. There are nearly a thousand patients still a public charge in the almshouses, insane asylums, and various charitable institutions, who need to be provided for at Craig Colony. The managers will ask the legislature to provide, this coming year, dormitory accommodations for at least three hundred more patients.

The Physician's Relation to Society.—The trusted physician sees intimately many classes of society, whether he live in the country or the city. In the city he sees the well-to-do in their houses and the poor at the hospitals and dispensaries. In the country he visits all the different kinds of people in the town. The experienced physician is familiar with the causes of poverty and misery, and he is equally familiar with the ill-effects of wealth and ease unaccompanied by mental and spiritual cultivation. He can recognize the socially normal and the socially abnormal, and distinguish unerringly between them. In the city he knows the evils which result from crowded tenements, and dark, ill-ventilated workplaces; in the country he knows all about the wet cellars in which decaying fruits and vegetables are stored;

the bad cooking; and the careless disposition of the household sewage on the surface of the ground near the dwelling. He should be the best adviser on all social defences against the physical evils which the greed, ignorance, or carelessness of individuals inflict on the community; on the building of hospitals, large or small, in city or country; and on the training of competent nurses, whether for hospital or family service. The physician should be the chief defender of society against the superstitions which still prevail and the impostures which still thrive. His training being essentially the training of the naturalist, he should be the defender of the community against all forms of unreason. If the physician have the needed persuasive force, no one can defend society so effectually as he against those unreasonable persons who are constantly protesting against dissection, vaccination, and vivisection; for no one can understand so well as the physician the benefits which these processes have conferred upon the human race. The medical profession has before it an entrancing prospect of usefulness and honor. It offers to young men the largest opportunities for disinterested, devoted, and heroic service. The times are past when men had to go to war to give evidence of endurance, or courage, or capacity to think quickly and well under pressure of responsibility and danger. The fields open to the physician and surgeon now give ample scope for these lofty qualities. The times are past when the church alone asked men to devote themselves patiently, disinterestedly, and bravely to the service of their fellow-men. The medical profession now exhibits in highest degree these virtues. Our nation sometimes seems tempted to seek in war—that stupid and horrible savagery!—for other greatness than can come from vast natural resources, prosperous industries, and expanding commerce. The pursuits of peace seem to pall for lack of risk and adventure. Would it might turn its energies and its longing for patriotic and heroic emotion into the immense fields of beneficent activity which sanitation, preventive medicine, and comparative medicine offer it! There are spiritual and physical triumphs to be won in these fields infinitely higher than any which war can offer, for they will be triumphs of construction and preservation, not of destruction and ruin. They will be triumphs of good over evil, and of happiness over misery.—*Dr. Eliot, in His Address before the Medical Society of the State of New York.*

Anæsthetics.—The subsequent history of the men who introduced anæsthesia is instructive—and encouraging. Wells, after his failure at Boston, went home disheartened, and was long ill and unable to practise his profession. He gave up dentistry and went into picture dealing. He tried to get some reward for the priority of discovery, but was constantly disappointed, and finally committed suicide. Twenty years afterward his statue was set up in Hartford; and five years later, his widow being destitute, a subscription was raised on her behalf. Dr. Long lived quietly and little known till 1878, when he died. He received no reward nor honor of any kind. Jackson was equally unsuccessful in his endeavors to obtain recognition, and finally ended his days in a lunatic asylum. Simpson was made a baronet; had a statue erected to him in Edinburgh, and a bust in Westminster Abbey.—*WILLIAM MURRELL, in Manual of Pharmacology and Therapeutics, p. 233.*

The Tribulations of a Big Head.—Dr. Max Nordau's name was originally Dudfield, and Nordau was at first simply a pseudonym, which, with the consent of his father, he afterward legally assumed. He lives in Paris, above a wineshop, and here is his description

of his modes of work: "I spend my day in paying visits to my clients and receiving visitors. In the intervals I attend to my journalistic duties, for I am the Paris correspondent of the *Vossische Zeitung*, of Berlin, and I also contribute to the *Frankfurter Zeitung*, writing on all subjects. It is not till after dinner—that is to say, at about half-past eight—that I sit down to my table to write books. I then write till eleven o'clock, or midnight, as the inspiration goes. When I set pen to paper, I am as sure of the last word of what I am going to write as I am of the first. But I find it hard sufficiently to concentrate my mind at first, and the work of the first hour is about equal to the work of a quarter of an hour later."—*Literary Digest.*

Good Old Age.—On October 26th, died at Fitchburg, Mass., Mrs. Berube, at the ripe age of one hundred and nine years. It is said that her grandfathers lived to be respectively one hundred and fifteen and one hundred and five years of age. Her eldest son lives at Marlboro, Mass. He is eighty-seven years of age.

Obituary.

JAMES COOPER MARTIN, M.D.,

KANSAS CITY, MO.

DR. JAMES COOPER MARTIN, a leading practitioner and prominent citizen of Kansas City, died November 7th, aged sixty-four years. He had been in failing health since February, 1895, when he suffered a severe attack of pneumonia, which developed into consumption. A few months ago he went to San Antonio, Tex., and, although he derived some benefit from the change of climate, yet his advanced age precluded the possibility of his recovery. He was born in Fayette County, Pa., in 1832. When a young man he took up the study of medicine. The first course of lectures he attended was at the Ohio Medical College in Cincinnati, in 1861. He then went to Long Island Medical College, New York, and, upon graduating from that institution in 1866, went to Madison County, Ill., near the city of Alton. There he was engaged in the practice of medicine a number of years, and it was there he was married to Miss Jennie W. Gadd, a sister of Joseph H. Gadd, of Kansas City, Mo.

Dr. Martin went to Kansas City in 1880, and began practising in the city of Wyandotte. Although he was not a politician in any sense, he took an active part in municipal affairs. He was nominated for mayor of Wyandotte by the Democrats in 1885, and defeated Thomas C. Foster, the Republican candidate, at the election held in April of that year. About that time the cities of Wyandotte, Armourdale, and old Kansas City, Mo., were growing rapidly, and during Dr. Martin's administration the movement to consolidate them into one municipal government assumed definite proportions, resulting in the issuance of a proclamation by Gov. John A. Martin, on March 6, 1886, under which the three cities were merged into one, to be known as Kansas City, Mo.

Dr. Martin occupied the mayor's chair until April, 1886, when Thomas F. Hannan was elected mayor at the first election held in the new city. Dr. Martin then served as a member of the common council three years, when he retired from office. As a public official his acts were free from criticism, and during his administration there was not a shadow of suspicion of corruption.

Dr. Martin was an elder of the First Cumberland Presbyterian Church of Kansas City, Mo. He was one of the founders of the Y. M. C. A. in Kansas City, Mo., and was at one time its president.

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MEDICAL ADDRESS AT THE TWENTY-NINTH ANNIVERSARY OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK, NOVEMBER 18, 1896.

BY T. GAILLARD THOMAS, M.D.,

PRESIDENT OF THE MEDICAL BOARD.

MR. PRESIDENT AND LADIES AND GENTLEMEN, GOVERNORS OF THE WOMAN'S HOSPITAL: In these days of national ambition and cupidity, our ears are from every side saluted by the echoes of conventions called for congratulation and rejoicing over the great victories accomplished by the terrible and bloody hands of war. Of late England, Germany, Russia, and the United States have rung with pæans of praise for the success of their contending armies. We meet here to-day to glory in a victory of peace; to give thanks for one of its triumphs, the growth, development, and fruition of which we have watched with anxious eyes; and with fervent sincerity to join hands over its cradle and pledge ourselves to cherish, sustain, and honor it.

Happy is the nation which can with complete sincerity accept the grand truth which is beautifully expressed in the epigram: "Peace hath her victories no less renown'd than war." For the reception and full admission on the part of a community of this truth, so charming in its setting of poetic diction, testifies to a signal advance in civilization, refinement, and Christianity. "The normal state of man," says Hamilton, in his great work upon "Military Surgery," "is war." In the normal state of man peace hath no triumphs at all comparable with those of war. For the hospitable reception of the seed of such doctrine as this the land must be prepared. Upon no rough and inclement soil will it germinate; in the bosom of no cold, harsh earth will it "burgeon and blossom." The minds of men have been prepared for it by civilization and Christianity. It was the Christian era which made its real appreciation possible among men. In the stirring ages which antedated this era, the eyes of all were so intently fixed upon moving hosts of mailed warriors, their ears so filled with the martial cries of contending armies, and their senses so inflamed by the lust after plunder and revenge, that he who had then pronounced these words would have made himself an object of ridicule and contempt. But now, two thousand years of accumulated evidence have convinced us of their truth, and caused us to imprint them in letters of gold upon the banners of advancing civilization. Two thousand years of trial of the doctrines emanating from the Man of Nazareth have taught us to turn with loathing from the grim and awful visage of war, and to hail the fair and smiling face of peace with the enthusiastic declaration, truly, truly, "Peace hath her victories no less renown'd than war."

Of all the glorious triumphs of peace, so great in their number as to baffle enumeration, not one out-values the hospital, that outcome of the brotherhood of man, which is of such recent development that no

evidence of its existence in pagan times rewards the searcher of ancient literature.

We have met here to-day to honor the anniversary of one small hospital out of the immense number which are performing beneficent work in every city, nay, even in thousands of small towns, throughout this and every other civilized country in the world. And yet, while I acknowledge in these words our apparent insignificance, I shall be greatly disappointed if I do not in the end make you feel proud of the institution which you have fostered, satisfied with the service of your medical colleagues, and astonished at the great work which in this world and the next must be already credited to your account.

It is not often that, in our self-seeking and aggressive age, any body of men and women can be charged with want of appreciation of the good which they have accomplished; and yet I hope to show you, ladies and gentlemen of the governing board of the Woman's Hospital, that I shall to-day sustain myself in such a charge against you. Forty years ago that department of medicine entitled gynecology, which is to-day saving millions of lives annually, assuaging pain and sorrow for millions of women, and shedding the light of happiness in millions of households throughout the world, did not exist. Its benefits lay dormant in the minds of medical men, even as the magnificent diamonds of South Africa have lain fallow and useless for centuries in the bowels of that land. Let me tell you as simply as I may, the story of the early beginnings of modern gynecology. All great things have small beginnings. The lifting of a kettle's lid suggested steam to Count Rumford; tropical plants floating upon the ocean gave to Cristobal Colon the idea of a new continent; a Yankee printer's kite introduced the world to electricity; and a Boston dentist, by a kind of accident, stumbled upon anæsthesia—"magnum Dei donum." So, forty years ago, a country doctor from Alabama brought here to New York and offered free to certain men and women living here, some new views and new methods concerning the practice of this department of surgery. These views were appreciated, and for their carrying out this Woman's Hospital was built, and here it stands to-day. The man who came out of the far away South with a gift in his hand was called Marion Sims; and the men and women who have aided him in trying his methods stand before me now as the authorities who guide the destinies of this institution. Sims worked out a great result for science and humanity; but it was by your aid that he did so, by your generous assistance that through the instrumentality of this hospital he attained his ends. You were offered a glorious opportunity, and you were wise enough to embrace it. Come what may in the future, nothing can ever deprive you, or Sims, or this hospital in the wards of which we now stand, of the glory of having inaugurated a beginning which has led up to grand results.

Great discoveries in medicine are not by any means always recognized and appreciated, either by the medical profession or by the public. Were you to ask me to-day what I consider the greatest discovery which has ever been made for clinical medicine, I would answer, the use of the clinical thermometer; and were

you then to ask what I regarded as the greatest advance in the treatment of that deadly affection, typhoid fever, I would tell you, the use of cold bathing for the control of high temperature. You will be surprised to learn that about a century ago, Dr. Curry, of England, made both these discoveries, employed them generally, and wrote a large volume for their dissemination; and that both were utterly ignored until about a quarter of a century ago, to be rediscovered then and to be recognized as sheet anchors, one in diagnosis, the other in treatment. You were better advised, and the world reaped the benefit of your wisdom.

Many years ago a prophetic philosopher declared that the evolution of medicine was becoming, after a slumber of centuries, so rapid and promising, that the day was not far distant when all that was old would become effete, and what was new would be contained in prophylactic or preventive medicine and surgery. Truly, his prophecy seems advancing to fulfilment. The remedies which have lived and flourished for diphtheria, tetanus, small-pox, and a rapidly growing list of other diseases are being thrown aside in consequence of antitoxins, vaccine, and the like. So that loathsome surgical affection, incurable until the times of Sims, which more than anything else incited the erection of this hospital, is now rarely seen within its walls. Its prophylaxis, or prevention, has been accomplished by the improved teaching of obstetric medicine, ignorance of which, in the olden time, betrayed the confidence of woman in the grandest moment of her existence. But this is a digression, and I return from it to the line of my argument. When, forty years ago, "The Woman's Hospital in the State of New York" was built and devoted to the surgical treatment of the diseases peculiar to women, no similar institution existed or had ever existed in any part of the world—not in England, France, Germany, Scandinavia, nor in any country of Europe; not in America, nor any of the Eastern lands. To-day there are, in New York City alone, twenty-five public hospitals devoted in whole or in part to this special work; while similar institutions exist in Brooklyn, Jersey City, Albany, Buffalo, and almost all the cities of this State. The same statement holds true as to the large cities of our whole country: Boston, Philadelphia, Chicago, Cincinnati, St. Louis, San Francisco, and others too numerous to mention. Now, add to these the cities of Europe: London, Paris, Berlin, Vienna, St. Petersburg, etc., and you will begin to appreciate that the keynote which was struck here only forty years ago has resounded throughout the realms of civilization. If those who were so fortunate as to have been identified in so grand an enterprise as this do not feel their hearts swelling with honest pride, they must surely be either more or less than human.

During these forty years, the medical men to whose hands you have entrusted the fortunes of this hospital have worked, with such capacity as has been accorded them, to advance its interests and those of the department of medicine which it represents. In simple justice to themselves, they declare that they stand before you to-day, proud of the outcome of their labors, and firm in the consciousness of honest effort and faithful endeavor. That their tenure of office in connection with this hospital has given them a vast deal of pleasure and profit, they acknowledge with willingness and gratitude; but, from the very nature of their position, the very history of this institution, they have been exposed to trials which up to this very moment they have borne in silence. Would that their vindication had a stronger advocate than I; but "truth is strong and will prevail," without reference to its enunciator.

One of the most uniformly fulfilled laws of human nature from the infancy of time has ever been this: Every man, every society of men, and every institution

which has done for the world great work and bestowed upon it lasting obligation has sooner or later been subjected to detraction and misrepresentation. Had this hospital not been accorded this proof of its bestowal of benefits, I would not have dared to write what I have just read to you; for I should have felt doubtful as to the authenticity of my statements. As it is, I feel that I stand upon strong ground and need have no misgivings. You have heard from various sources that the results obtained by the Woman's Hospital in major operations are and have been much worse than those of similar institutions throughout our country; that the shortcomings of its surgeons as to the matter of success have been by comparison lamentable; and that it behooved those in charge of its interests to examine and reform the existing state of affairs.

It is quite evident to you that these reports, kept up for years, are calculated to prove injurious to the hospital, unpleasant to your board, and not absolutely agreeable to your surgical staff; and that it is high time that the charges should be met. Anxious to inform you upon this momentous subject, and determined to report the facts in the case "without fear or favor," I requested my friend, Dr. Freeborn, the pathologist of this hospital, to make me a full and impartial statement for presentation to you to-day. To the uninitiated an appeal to statistics carries with it the idea of mathematical accuracy, perfect certainty, and an assurance against fraud or misrepresentation. But the initiated know that statistics are either perfectly reliable or absolutely misleading, in accordance with the method of their preparation. So wonderful are the effects which may be produced by juggling with figures, so passing strange the deductions which may be drawn from their manipulation, that the wittiest of Englishmen, Sydney Smith, was induced to remark, "There is only one thing more unreliable than figures—that is facts." Sometimes the calculation of the statistics of a hospital is made up by some youthful and inexperienced subordinate who is deeply interested in a creditable display of success. In the Woman's Hospital this work has always been allotted to the pathologist of the institution, who takes no especial interest in the facts, except as they bear upon pure science. For many years our statistician was Dr. William Welch, whose name has been rendered famous in connection with the Johns Hopkins University of Baltimore; and for a long time, ever since his resignation, the place has been filled by Dr. George C. Freeborn, who is too well known in New York to need introduction to you from me. The latter of these gentlemen, having carefully made out the statistics of this hospital for the year 1894, compares them for the same year with those of six equally large institutions of this city and Boston, selected at random, to the following effect.

The following table represents the statistics of abdominal sections published by the seven hospitals, the names of which appear, for the year 1894:

	Number of Cases.	Re- covered.	Died.	Percentage of Deaths.
Boston City Hospital	24	18	6	25.
Roosevelt Hospital	66	50	16	24.24
New York Hospital	67	52	15	22.37
New York Cancer Hospital	104	86	18	17.3
Mount Sinai Hospital	55	46	9	16.36
Massachusetts General Hospital.	114	96	18	15.79
Woman's Hospital, New York..	153	130	23	15.03

In a note from Dr. Freeborn accompanying these statistics he says: "The tables are made up from the published reports of these hospitals." There are three points connected with them to which I desire before we proceed to draw special attention. 1st. That all

the hospitals with which comparison is made are large and highly respectable ones, having as surgeons the ablest men in the medical profession in America. 2d. That of the seven hospitals the statistics of which are quoted the Woman's Hospital has very much the largest number of capital operations accredited to it, one hundred and fifty-three being thus accredited, while one hundred and fourteen represents the next largest number; and 3d, that this institution has the best statistics recorded by Dr. Freeborn. The only reason for the choice of the year 1894, for taking the statistics, was that the report for that year was the latest publication from the seven hospitals which was obtainable. To make the matter of statistics still more certain, Dr. Freeborn has further put at my disposal the statistics of the Woman's Hospital for the last thirteen years, carrying the inquiry back to the days when antiseptics, the sheet anchor of the surgeon of to-day, was just being discovered, and when it was of very little use. During these thirteen years 1,391 abdominal sections were performed, with a death rate of 22.43. Remember that one of the six hospitals with the statistics of which comparison was made for the year 1894 reports a death rate of 25 per cent., another of 24.24, and still another of 22.37; and then decide whether you need feel ashamed of our statistics, extending back thirteen years, which give a percentage of only 22.43 deaths.

The surgical staff of this hospital has absolutely nothing to do with the making of its statistics. Dr. Freeborn, the pathologist of the institution, and not a member of its medical board, is entirely responsible for them. The statistics of the hospitals with which comparison is made are gotten from their own published reports, and the books of the Woman's Hospital are at the disposal of all for investigation. Surely the truth can be ascertained with absolute certainty, under circumstances so favorable for investigation, and truth once being recognized should not fall a victim to the attacks of falsehood.

It gives me great pleasure to state that Dr. Freeborn's report for 1895 has just been handed in by him and that it is better than that for 1894, which I have just read to you. During the year one hundred and eighty-four capital operations (abdominal and intrapelvic sections for removal of diseased organs) have been performed, with a mortality of twenty-six, making the percentage of deaths 14.02.

Once upon a time a Jew who lived in Venice, by name Shylock, turned to his hostile and biased judge and asked this question: "Are you answered?" I imitate that outraged old Hebrew merchant to-day, and ask of those who have traduced this hospital, "Are you answered?"

But I am admonished that I have in the performance of a labor of love, this effort to defend the Woman's Hospital from misrepresentation and wrong, imposed upon your patience. Let me hope that the justice of my cause may plead my pardon.

May that happiness which is born of an approving conscience reward your faithful labors, and may your noble work which has accomplished so much good in this world find favor for you in that solemn hour when you cross the threshold of that which is to come.

Strangulated Hernia.—Many a case of strangulated hernia has been overlooked and the patient has been treated for colic, epididymitis, bubo, and even for "idiopathic" peritonitis, until at last the almost fatal symptom of fecal vomiting appeared. It is wise in all cases of acute abdominal disease to examine for hernia, and, by the way, do not forget that this condition is not limited to the inguinal regions.—*International Journal of Surgery.*

SUPPLEMENTARY NOTES ON TENDON GRAFTING AND MUSCLE TRANSPLANTATION FOR DEFORMITIES FOLLOWING INFANTILE PARALYSIS.¹

BY SAMUEL E. MILLIKEN, M.D.,

NEW YORK.

At the last annual meeting of this association I presented a successful case of tendon grafting for infantile paralysis (see *New York Medical Record*, October 26, 1895). My other cases of a like character at that time were too recent to call for other than a passing comment. However, at present it affords me great pleasure to state that the past year's experience has brought forth results beyond the expectation of the most ardent advocate of this comparatively new treatment.

While the operative technique has not been changed, the applicability for such surgical interference has proven to be much wider than I had first expected. In other words, the number of patients with the various group or individual muscle paralyses due to anterior poliomyelitis can in many instances be relieved by tendon grafting or by muscle transplantation when other measures, such as electricity, mechanical appliances, and even tenotomy, have furnished only temporary or partial restoration of the function of the paralyzed member.

Since February 14, 1894, I have performed fourteen operations upon nine patients afflicted with various degrees of deformity due to infantile paralysis. Of this number, five of the patients required one operation, three patients two operations each, and in only one case were three distinct tendon graftings performed.

Operations.—Class I. Partial or complete transplantation of the sartorius muscle into the sheath of the paralyzed quadriceps extensor of the thigh. (Twice performed.)

Class II. Grafting of the extensor proprius pollicis to the paralyzed tibialis anticus. (Five times.)

Class III. The gastrocnemius was attached to the paralyzed peroneus longus and brevis. (Twice.)

Class IV. Extensor longus digitorum was attached to the paralyzed tibialis anticus. (Once.)

Class V. The tibialis anticus was attached to the paralyzed extensor longus digitorum. (Once.)

Class VI. The extensor proprius pollicis was attached to the paralyzed extensor longus digitorum. (Once.)

Class VII. The flexor longus pollicis was transplanted on to the anterior surface of the leg and attached to the tendon of the paralyzed tibialis anticus. (In one instance.)

Class VIII. A graft was taken from the deltoid and attached to the tendon of the paralyzed triceps of the upper extremity. (Once.)

It will be seen by the above that of the fourteen operations upon nine patients eight distinct forms of paralysis were encountered.

In my first paper I emphasized the importance of asepsis and minute technique in dealing with the tendon grafts and also the preservation of their respective sheaths, as it is essential that we should obtain primary union of the wound throughout, thus insuring the greatest degree of usefulness for the grafted or transplanted muscle upon which additional work has been placed.

In but one of the fourteen operations did I fail to obtain the union between the transplanted muscle and its new attachment, and that was in my first attempt to transplant the sartorius muscle on to the anterior sur-

¹ Read at the thirteenth annual meeting of the New York State Medical Association, October 15, 1896.

face of the thigh, with the hope of supplanting the quadriceps extensor, which was paralyzed. This failure of obtaining union between the sartorius muscle and its new attachment, the patellar sheath, might be accounted for in part by the fact that the flexors of the leg on the thigh were greatly contracted, thus making too much tension at the site of union.

However, my second attempt at supplanting the paralyzed quadriceps by transplanting two-thirds of the sartorius into the sheath of the vastus internus and attaching it to the patella is best shown by the patient whom I present to-day (see Figs. 1 and 2).¹

The operation just described was performed on December 19, 1895. A previous operation, that of taking a graft from the extensor proprius pollicis and attaching it to the tibialis anticus, had been done by me on November 4, 1895.

This little patient was referred to me by Dr. W. A. Goodall, of this city. The history of the patient was that usually given in cases attacked with anterior poliomyelitis, which is too well known to call for any

power in these two muscles rapidly increased, and since June the faradic current has not been applied and we are depending solely upon the natural use of the limb, together with massage, which is carried on by the mother.

The atrophy of the quadriceps extensor clearly demonstrates that without the second operation, that performed on the sartorius muscle, our patient would otherwise be compelled to wear a brace which would stiffen the knee in order to walk. The fact that the limb is somewhat abducted is due to the partial attachment of the sartorius at its original site on the inner side of the tibia, and in my future operations for this deformity I shall transplant the whole muscle instead of, as was done in this case, taking only two-thirds of it.

Of the second series I have been able to follow all five of the cases, and it has been clearly proven that the extensor proprius pollicis can be sufficiently developed to carry on the work of the paralyzed tibialis anticus.¹

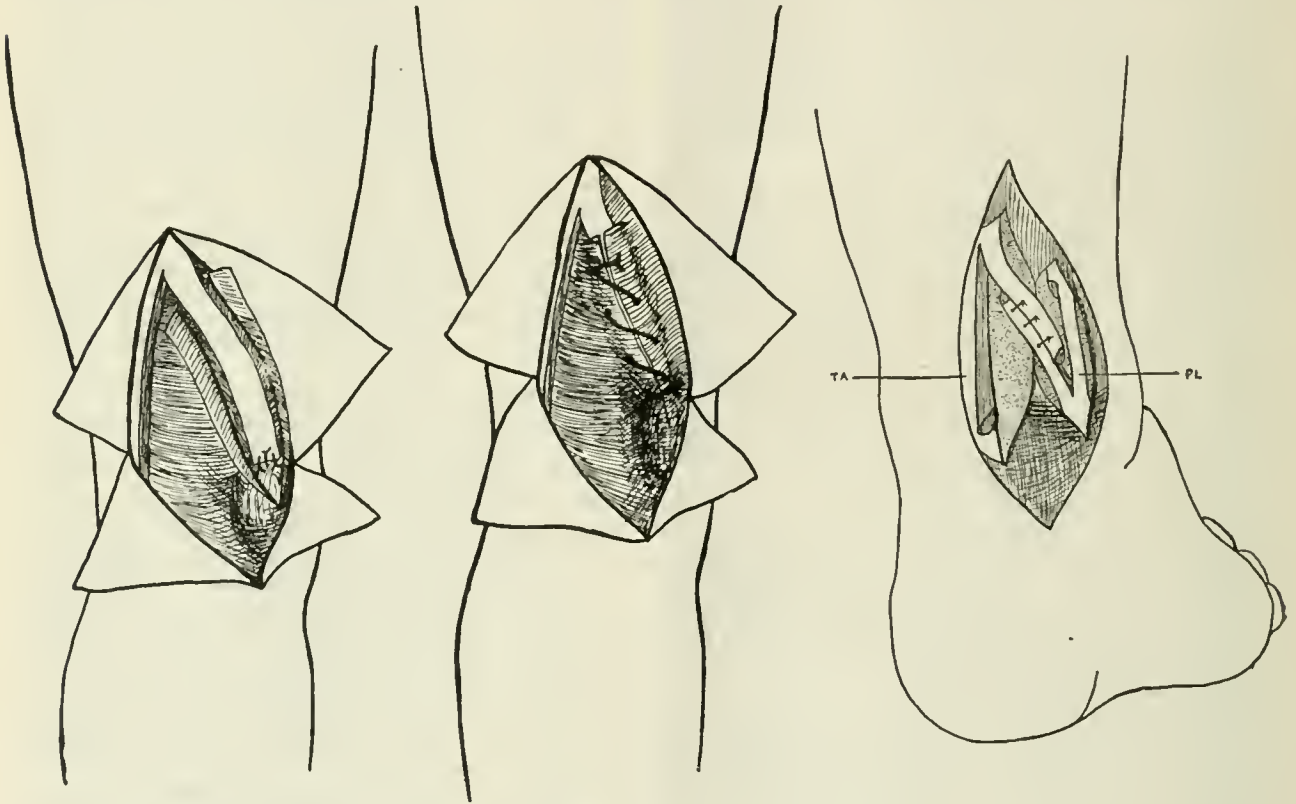


FIG. 1.

FIG. 2.

FIG. 3.

description. The attack occurred August 2d, which was about eight weeks before I first saw the patient, and resulted in the loss of the use of the left lower extremity so far as the ability of the child to walk was concerned.

This very flattering result I consider can, in a certain measure, be attributed to the fact that the operation was performed while the patient was yet young, only two and a half years of age, and before the usual contractions and distortions had resulted.

In this case a long spring was worn until June 1st, a little more than five months after the second operation, which enabled the patient to walk by stiffening the knee. During those five months the faradic current was applied twice a week, together with the daily use of massage to the sartorius and the extensor proprius pollicis muscles.

As soon as it was found that the patient could walk without the use of the brace, it was noticed that the

Third series: In the two cases in which the gastrocnemius was made to supply the peronei both patients were kept under observation for over twelve months, and the apparatus in each instance was left off and the walk was greatly improved (see Fig. 3).

Fourth series: In the one case in which the healthy extensor longis digitorum was attached to the paralyzed tibialis anticus there was a decided improvement in the position of the foot, when I saw the patient some three months after the operation. This patient was operated upon by me before the members of the Dutchess County Medical Society, in Poughkeepsie, on January 8, 1896, the patient having been referred by Dr. John S. Wilson, health officer of that city (see Fig. 4).

Fifth series: Just the reverse of the above, that of taking a graft from the tibialis anticus and attaching it to the paralyzed extensor longis digitorum, was performed on one of the cases of Series III.

Sixth series: The extensor proprius pollicis (Fig.

¹ See MEDICAL RECORD, October 26, 1895.

¹ For the accompanying illustrations I wish to thank my friend, Dr. Sidney Yankaur, of New York.

5), which was once made to supply the paralyzed extensor longus digitorum, was the other case of Series III. in which there was paralysis of the peroneal muscles. This case, it will be seen, required three distinct graftings in order to re-establish the normal symmetry.

Seventh series: In the one case in which the flexor longus pollicis was transplanted on to the anterior surface of the leg and attached to the tendon of the paralyzed tibialis anticus the wound healed primarily, but I question whether the result justified the operation, although I have not been able to follow the case as the patient resides in Providence, R. I.

Eighth series: The little boy of two and a half years whom I am happy to present to-day was referred to me by Dr. W. A. Goodall, of this city, on March 30, 1896. The history was that of infantile paralysis occurring one year previous, and affecting the triceps of the right upper extremity. On April 28, 1896, a graft was taken from the deltoid muscle and attached to the tendon and sheath of the paralyzed triceps, although not with the hope of obtaining such marked improvement as is shown. The atrophy of the triceps remains, but the deltoid seems now to be carrying on the work fairly well.

Conclusions.—1st. Infantile paralysis in the major-



FIG. 4.

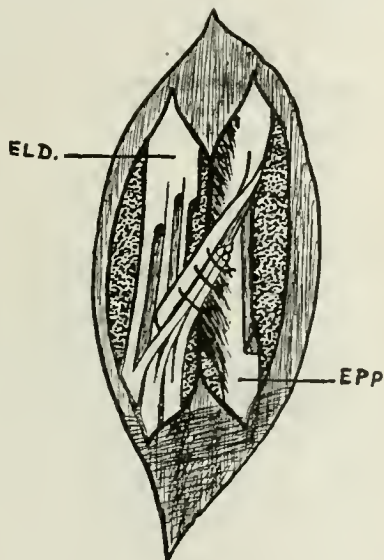


FIG. 5.

ity of instances attacks groups of muscles or an individual muscle of a group.

2d. Operative interference should be practised with the hope of re-establishing the symmetry of the limb and can be accomplished in one of two ways:

(a) When the whole group is paralyzed a healthy muscle with the proper origin must be transplanted and given the insertion of the paralyzed group.

(b) When only part of the group is involved tendon grafting should be performed; that is, making one or more muscles do the work of those paralyzed.

3d. Animal suture material, preferably kangaroo tendon, should be employed on the tendons and muscles and in the closure of the sheath. As this material requires twenty-one days for absorption, it will usually be found that at the expiration of that time perfect union will have been obtained.

4th. The skin wounds should be closed with interrupted catgut and the sealed dressing of cotton collo-dion applied.

5th. Perfect immobilization of the limb can best be obtained by the plaster-of-Paris splint.

6th. The best results of such operative procedures can be obtained only in young subjects, so as to take

advantage of the natural growth of an otherwise undeveloped muscle, upon which we place additional work, as it would be unreasonable to expect a man who has led a sedentary life up to the age of fifty to assume at that time the arduous labor of a mechanic.

640 MADISON AVENUE.

THE TECHNIQUE OF INTUBATION OF THE LARYNX IN CHILDREN, WITH SOME REMARKS ON THE TIME FOR OPERATION AND AFTER-TREATMENT.

By THOMAS J. HILLIS, M.D.,

NEW YORK.

It is not the object of this paper to treat on the history of intubation, nor to follow the progress of its development, from its infancy to the present time. That could not be crowded into a short paper like this; indeed it would take a volume to do the subject justice.

While, then, confining myself to the practical aspect of the case, in passing it is impossible not to pay tribute to O'Dwyer, whose energy and intelligence have inspired this operation with a new life and whose marvellous mechanical skill overcame obstacles to others insurmountable. The brilliancy of his genius has shed lustre on the profession to which we have the honor to belong. He has bequeathed to posterity a heritage rich in amelioration of human ills and built for himself a monument imperishable in the hearts and affections of a grateful profession, and now, while he is still pointing the way to further progress in the higher development of our art, it is our privilege to follow in his footsteps and profit by his example.

To begin, the larynx of a child differs widely from that of an adult. Speaking broadly, seen from above down, the larynx of the adult has the appearance of a mortar hod, the handle of the hod not inaptly representing the trachea. In the young child there is seen a pealike slit behind the hyoid bone at the base of the tongue. This is the larynx. Immediately above and, as it were, looking down is an eminence, the epiglottis. In a child from one week to two months old the glottis and epiglottis are very apt to be overlooked. It must be understood we are working in the dark and only by the sense of touch, our objective point the glottis, our guidepost the epiglottis.

The ability to do good and rapid work entirely depends upon the recognition of those landmarks by the operator. If he dilly-dallies, beats about the bush, and chases after the larynx with the index finger of the left hand, while the right, armed with the introducer, is prodding the adjacent tissues in a vain effort to enter the glottis, he must surely fail by finally slipping his tube over into the œsophagus, the graveyard that hides his incompetency. To avoid this grave mistake, keep ever in mind the anatomical difference between the larynx of the child and that of the adult. Again, the larynx of the adult is much more deeply set than that of the child. Before any attempt to intubate is made, the physician should practise on the cadaver and be able at a moment's notice to place the tip of his finger on the spot where the larynx is supposed to lie. In short, he must locate the glottis. If he is not able to do this he has no business to try. It will bring defeat and humiliation on himself, and increase the sorrow of the family.

The instruments used in intubation from their nature are frail. If ever the word "handle with care" had any meaning, it is in this case; for either any jabbing or shoving is sure to be resented by the breaking of the instrument, or else, if the operator is unlucky enough by accident to get into the larynx, he will tear

the ventricle, wound the cords, or punch a hole in the wall of the trachea, probably the anterior wall.

It would be well for any one intending to practise intubation to make himself acquainted with his instruments, to spread them on his office table, and take note of each joint and hinge, and every weak and strong point they may possess, and by various passes and motions practise on some phantom subject.

In order to use his instruments well, he must know them well, they must have an active place in his mind. A good swordsman is acquainted with his steel. A huntsman knows the points of his rifle. The Arab is attached to his steed; he knows the horse and the horse knows him. Between them there is a mutual understanding and from this understanding the best results are attained. Then, finally, the operator must know and understand the tools he is to work with, more particularly when it is known that any bungling on his part may mean death to a fellow-being.

The operation is said to be most simple and easily accomplished after a little experience. I cannot quite agree with this opinion and regard it as hedged in with difficulties and dangers. In fact there is no branch of medicine or surgery in which the technique is so easily forgotten as this one now under consideration, and in order that it should not be forgotten the operator must keep in touch with the cadaver as well as with his instruments, and not lose sight of it unless he has unusual opportunities of practising on the living subject.

While the sense of touch is of the first importance, it is not all. There is the faculty, as it were, of seeing in the dark and being dexterous in manipulation. The trained finger of the gynecologist loses its cunning here, and the laryngologist, so well acquainted as he is with the topography of this region, this land of his adoption, the pillars of the fauces, the roof of the mouth, the base of the tongue and the walls of the pharynx, at his first attempt to introduce a tube into the larynx of a child suffering from croupous laryngitis is beaten on his own ground. His efforts end in signal failure. He cannot locate the larynx, and will not be able to do so until he studies the technique of intubation.

Preparing the Child.—If the surrounding conditions permit, the child should be stripped naked and with neatness and dispatch rolled in a piece of strong muslin or other cloth. It is much to be referred to the bulky and clumsy blanket usually employed. It should be arranged so as to have it pinned behind—the arms hanging by the sides, forearms and hands crossed on the abdomen. This is done to keep them off the chest, as any bulging or enlargement here is apt to interfere with the movements of the operator, who wants a clear field.

The child now recognizes that something is being done and grows more fretful and uneasy, but will in a short time be reconciled to the situation.

The child is now held by a nurse, a trained nurse if possible, upright in her lap. She grasps the child's legs between her knees, facing the operator. The assisting physician standing behind holds the child's head firm and binds, as it were, nurse and child to the chair. The position is now directly upright, and, as the saying goes, the child is hanging as it were from the top of his head.

Placing the Gag.—The vast majority of children develop croup between the eleventh month and fourth year, so for this reason the gag must be brought into requisition very frequently. It is a powerful instrument and looks not unlike bulldog forceps, and is provided with a groove above and below for the reception of the teeth of the upper and lower jaws.

The physician is assumed to be right-handed. He

may have to force the mouth open with a spoon or tongue depressor, but, as a rule, in croup and stenosis of the larynx the mouth is involuntarily open, the nose and mouth making strenuous efforts to drink in the particles of air.

The operator places the gag quickly to the left, opening it gradually and carefully and sliding its grooves over the teeth far back between the jaws; in fact as far as it can be got. By this method there is less liability to dislocate or break the jaw, an accident that happens not infrequently, than by first carrying the instrument to the angle of the jaw and suddenly and abruptly opening it. If the gag is properly placed the handles will not lie snugly on the side of the cheek, but pointing a little outward.

Too much stress cannot be laid on the value of placing the gag; in fact it is the first step toward success.

Now we are ready to introduce the tube. The physician should sit on a chair or stool, preferably the latter, as in sitting there is more composure, more self-possession, and the operator is more at ease. The assisting physician holds the gag firmly by the handles so that it cannot slip off the cheek. The mouth is now open wide. Let us look for a moment at this open mouth. We can see the gag filling up a not inconsiderable space to the left. Above, the teeth look angrily down, while the right corner is reserved for the index finger. From this it can be seen that there is little space left and that the operator must utilize this space to the very best possible advantage. There are now two ways of proceeding:

First Method.—First slip the index finger of the left hand rapidly but gently along the floor of the mouth. Keep as much as possible to the angle of the jaw. Draw the hyoid bone upward and forward, the so-called hooking up of the epiglottis process. Then with dexterity push the finger to one side, of course the outside, and with the right hand introduce the tube riding on the obturator, travelling under the roof of the mouth exactly in the median line to the chink of the glottis, which it enters just behind and below the base of the tongue. Elevate the handle of the introducer as the tube enters the glottis until its perpendicular is at a right angle to the plane of the floor of the mouth. After the cricoid cartilage is reached, the direction is downward parallel to the plane of the long axis of the trachea. It is easy to observe these points when their value is appreciated, as maintaining these planes and perpendiculars will keep the tip of the tube off the walls of the larynx and greatly, wonderfully facilitate its introduction. When the tip of the tube engages in the glottis, push it gently but with a firm hand by the trigger which plays in a groove running up the handle of the director. When the collar is caught in the grip of the larynx, hold it by the margin of the finger and withdraw the obturator. The tube is now in place.

Second Method.—The operator, sitting or standing as suits him best, tilts the child's head a little on the shoulder of the nurse and gently thrusts his left index finger backward along the margin of the tongue until its tip recognizes the slitlike aperture known as the glottis. Then he slips the instrument transversely across the tongue until its nose comes in contact with the finger. After righting the director and elevating the handle, he passes the instrument along the finger as a guide, when it will become immediately engaged in the larynx. Then he pushes off the tube with the side of the finger and withdraws the obturator. Now, as before, the tube is in place. If it require any considerable force to press the tube down, stop at once; there is something wrong. It is of the first importance to know when to stop, indeed second only to knowing how to do the operation well.

The peculiarities of the second method are, first, that the tube lies flat across the tongue, the convexity of the instrument just touching the gag; second, the median line need not be considered at all; third, the instrument is made to right itself as it travels backward toward the larynx; fourth, the tilting of the head, while altering the anatomical lines and angles, will put the tissues of the part on the stretch, thereby increasing the facilities for recognizing the larynx. Further, by tilting the head we have the teeth a little out of the way. These teeth are a formidable obstacle in the path of the operator, hampering him from above and often pinching the first phalanx of his index finger, causing annoyance if not actual danger from blood poisoning. Then again, by the tilting process the chin is lifted from the breast, which is an advantage of supreme importance when accurate and rapid work is the thing desired.

It may seem strange to depart from the median line when the objective point is the terminus of that line; but, however paradoxical the assertion may appear, a straight line is not always the shortest distance between two points, especially if a mountain intervene. In that case it is easier to go around than to climb the mountain; in the other it is easier to enter the mouth with the instrument on the flat, resting across the tongue, than in the perpendicular and median line; in short, the object of the second plan in passing from without inward is to take advantage of and be accommodated by the most favoring conditions.

How to Take Out the Tube.—To do this there are four ways. The first is very simple; the string being attached, pull in the direction of the median line, when the tube slips out easily.

The second way is called expressing the tube. If the child is under a year old, the cartilaginous rings of the trachea are yet soft and yielding and respond to manipulation. Place the child on his back, as in Silvester's method for artificial respiration. Put a small block or pillow under the neck and press the head back. This will bring the trachea prominently into view. Now manipulate the sides of the trachea, as in delicate massaging. Direct your force upward and backward, with the tip of the index finger of the right hand on the larynx to steady the tube; then turn the child on his side, elevating the buttocks, and slip the index finger and thumb into the mouth, when the tube can be easily and quickly withdrawn.

Third, for this purpose there is an instrument called an extractor. By placing the nose of this extractor in the mouth of the tube and pressing with the thumb on a spring, the nose or jaws open widely, biting the calibre of the tube and holding it tightly in its grip. Now withdraw the instrument and the tube comes also. There is an old saying that the best way of catching a bird is by first putting a little salt on its tail. The same way with the extractor. First put it into the tube, and as with the salt on the bird's tail the catching is easy. Now, how are we going to put salt on the bird's tail, or the nose of the extractor into the mouth of the tube? They are both very difficult undertakings, and require agility and tact. At present we will confine ourselves to considering the latter proposition.

The gag being in place, the tip of the index finger tries to locate the collar of the tube, which may be hidden or embedded in a mass of organized deposit or adventitious membrane. That very often practically buries the tube. The metallic click of the instrument when it touches the collar gives warning, and by delicate play the finger may direct it into the lumen of the hidden tube. Some clever operators and writers have argued ingeniously that the arytenoid cartilages may assist in locating the tube, but this is very doubtful, for the reason that those cartilages are in

the child rudimentary and soft, and sometimes require the most delicate and exquisite sense of touch to be recognized.

Since it is so difficult to enter the mouth of the tube with this instrument, and since while trying to do so much injury may be done to the larynx and adjacent tissues by opening and closing the blades of a mechanism that has such tremendous leverage, it has been considered wise to discard it altogether. To this end a tireless and ceaseless worker in this field, Dillon Brown, adjunct professor of diseases of children at the New York Polyclinic, has invented an ingenious little instrument in the shape of a ring open at the centre with a small perpendicular bar having a hook at its extremity. This little ring is placed on the index finger of the left hand, so arranged that the hook will look up from the palmar surface. The tube is the same as before, only that a semicircular thread of wire rises from the centre of the collar and passes upward and backward, its convexity about two lines above and parallel to its posterior wall.

Now slip the finger armed with this ring in the median line to the root of the tongue, when it will at once become engaged in the segment of the wire rising from the head of the tube; then the extraction is easy.

The only disadvantage of this method is that the tube, especially if too large, may rotate and bring the loop parallel to the median line, thereby increasing the difficulty of hitching on to the wire. Even with this drawback, it is immeasurably superior to the clumsy and dangerous old extractor. The wire loop, so valuable in the fourth method, will not interfere with the field of operation of the few who prefer the third style of procedure.

The Time for Operation.—There is no duty connected with his profession that weighs so heavily on the mind and heart of the physician as this one—when to interfere mechanically to save the child. He is confronted by three problems, namely: Can the child get well without interference? Is it too early to interfere? Or is it too late? He has ghostly memories of meddlesomeness on a previous occasion, when in his excitement he mistook simple for croupous laryngitis and laryngismus stridulus for stenosis of the larynx. These memories haunt him. The spectre clings to him. Now these grewsome recollections contribute not a little to make him nervous and unhappy. He wishes this time to make no mistake, and will not by keeping in mind the following suggestions:

He is called suddenly into a sick-room; there is a child suffering from croup. He knows nothing of the previous history or treatment. The child's skin may be cold or hot. There is clammy perspiration with cyanosis, often not marked. The face may or may not be anxious and drawn; the pulse is feeble and beats irregularly, whether fast or slow. On percussion, over the region of the back on both sides there may be slight or marked dulness, according to whether air or water or both are in the pulmonary cells.

To the ear the normal vesicular murmur is wanting. The sounds are those transmitted from the trachea, now the seat of riot and turmoil, and they are mixed, coarse, irregular, without vibration or interval of repose. Further, he sees the diaphragm, the great fly-wheel of the respiratory system, slow down to a few revolutions per minute, and he observes that the seat of respiration has been transferred from the thorax or chest to the trachea and larynx—the so-called shallow breathing.

Then the efforts of this new respiratory system at inspiration are long, vibrating, and labored, while expiration is short, shallow, and jerky. At every effort at inspiration the auxiliary muscles of respiration at the root of the neck contract violently, drawing the

head downward and forward on the chest, making great gaps and depressions in the supraclavicular and suprasternal regions. The heaving of this region is like the rolling of the billows, and as regular as a clock. The *alæ nasi* contract and expand and flap like sails in a cross-wind. The mouth may be in repose, or the lips slowly move in unison with the nose and muscles of the neck.

It takes some time to describe these symptoms, but the physician will take in the situation at a glance and recognize that the time to act is now or never.

Since it is a bloodless operation, he will have no difficulty in gaining the consent of the family, and even if his efforts are not crowned with success, he may still be able to command their confidence and gratitude, in that he at least lightened the labors of their little one and that the last moments of their darling were those of repose.

The After-Treatment.—How long should the tube be left in the larynx? Just as long as it is necessary—until the danger of the development of false membrane has passed. As a rule, more danger is encountered by taking it out too soon than by leaving it in a little longer than required. The danger of the tube exciting inflammation downward decreases the longer it is in place. Following the general law, the tissues soon become accustomed to the altered conditions and the tube speedily usurps the functions of the trachea.

If the child begins to look like himself again, take notice of his playthings and surrounding objects, and if the temperature is normal or nearly so, and the child shows a disposition to eat well, the danger is in all probability over and the tube can be removed, whether it is in one day or seven.

The physician would do well to remain on the premises for half an hour and be within call for six or eight hours, as the larynx may get blocked by shreds of broken-down membrane, or, the pressure being removed, the parts may swell and fill the lumen of the canal. However, the physician must not get frightened and rush for his case the moment he detects an obstruction, for there is always more or less after the removal of the tube; but if it becomes marked and progressive he must act at once by replacing his tube. After placing the tube there should be immediate relief, all the urgent symptoms at once subsiding. The air will pass through if the tube is not blocked by shreds of broken membrane that it pushed down. A few drops of water in the child's mouth will excite the act of coughing and probably clear the air passage.

If no matter is coughed up and the breathing remains bad, withdraw the tube by the string or thread you placed in the eye at the collar when preparing for the operation.

The tube withdrawn, further coughing may free the trachea and there may be no further trouble, when rapid convalescence will ensue.

When the tube in place fails to give relief and when no relief comes upon its withdrawal, the false membrane has extended down below its further extremity. Now tracheotomy holds out the only hope, and in this instance is to be preferred to intubation.

Feeding the Child.—No matter what position a child is placed in while feeding, there is danger of particles of food passing into the larynx. However, some advantage is claimed for feeding with the head bent over, the child resting on its back on the lap of the nurse. It is that the food that may not be carried in the act of deglutition to the pharynx cannot block or choke the tube by dropping into the larynx, since it must gravitate into the mouth, when the body is placed in this manner or on an inclined plane. The

anatomical position being altered, the glottis is poorly if at all guarded by the epiglottis.

Now, with the head in this awkward position, the food passing over the larynx is apt to act on the reflexes and excite increased coughing, which often leads to death from exhaustion. Further, the diaphragm itself, being more active, gives a suction-pump action to the trachea, which may draw particles of food into the larynx, even though counteracted by gravity.

A good way to feed a child is to let him lie on his stomach with his face down. This method is not so liable to excite coughing, and there is an inclined plane, but of course not so marked as in the other position.

It is certain (though the act is involuntary) that he has more command of the constrictors, and that the larynx is more fixed and the act of deglutition as a whole is more complete, than with the body in the dorsal position and with the head down and backward.

Some patients do very well in swallowing with the body in the upright position, and will resent, and make that resentment permanent, if any effort is made to depart from the natural manner of feeding. Give the child no food for half an hour; better still if feeding could be postponed for an hour. That would give the lame and crippled tissues of the constrictor group an opportunity to recuperate, and by their increased activity and watchfulness prevent the particles of food in passing over into the pharynx from dropping into the larynx and finding their way into the bronchi, when speedy inflammation would follow.

The best food for a child wearing an intubation tube is bread soaked in milk or beef juice, or oatmeal porridge.

Feed the child at stated intervals, a small quantity at a time, and about every two hours. Do not take him at a disadvantage; let him see you prepare for feeding. By this method he will cough less, and it will decrease the liability of some particles slipping into the larynx.

After the Operation.—A great deal toward its successful termination rests with the family. If its members are careless, forgetful, and indifferent, notwithstanding the warning of the physician that the danger is only half over, the probabilities are the child will die, though the operation itself was in every way successful and a road to recovery opened.

Then intelligent nursing is a factor to be reckoned with, and the want of this nursing in the tenement districts is the secret of so many failures, not only in intubation but in every form of disease.

If those ever eager to do good, always prating in lecture rooms and on church platforms about the dear neglected poor, who go about hawking their philanthropy like hucksters and fishmongers in a marketplace, always ready to plant the plague spot called free dispensary, would only consult those best able to give advice and inform themselves on the real needs of the poor, it would be to wipe out the pestiferous dispensary and plant on its ruins a school to train and instruct the people in the value and importance of self-reliance, temperance, fortitude, and hope. They would recognize that these are the weapons with which to combat disease and the ladder with which to climb to convalescence and health; and further, that while we have the poor always with us, we have the physician too, their tried, sincere, and abiding friend.

Then philanthropy would run in its proper channel, and the moral and material welfare of the poor be advanced and elevated, and the mortality of the city materially decreased.

51 CHARLTON STREET.

Cremation in England.—The third crematory in England is now being built in Liverpool.

THE EFFECT OF PERITONITIC ADHESIONS
ON THE DIGESTIVE TRACT.

BY BYRON ROBINSON, B.S., M.D.,

CHICAGO,

PROFESSOR OF GYNECOLOGY IN POST-GRADUATE SCHOOL.

DURING four hundred autopsies by myself on the human subject I have made careful observation of the appearances of the peritonitic adhesions, in various regions of the abdominal cavity. It may be stated that scarcely a body above twenty-five years old could be found without some form of local peritonitis. The situation of local peritonitis and consequent adhesions is quite constant, two factors being closely related, viz., muscular action and bowel flexures. The effect of the peritoneal adhesions might be considered in two respects, viz.: (a) as to the pain, and (b) as to the narrowing of the lumen of the bowel. In the history of medicine few have considered the subject from the point of anatomical pathology and still less from the clinical standpoint. The old classical writers of Latin gave the subject the exact title "*Constrictio et adhesio intestinalis et peritonitide*."

In the first place we may consider the common seats of local peritonitis as actually found in the autopsies of adults. So far as I have carefully observed and recorded them in three hundred cases the following is their order of frequency: 1. Spleen, which includes the flexura coli lienalis (over ninety per cent.). 2. Meso-sigmoid (over eighty per cent., left surface). 4. Coappendicular apparatus (over seventy per cent.). 5. Flexura coli hepatis (about sixty-five per cent.). This might be called the gall-bladder region, but I am convinced the chief causes lie in the colonic and duodenal flexures. 3. The pelvic region (over seventy-five per cent., i.e., the mouths of the Fallopian tubes). 6. The point where the duodenum crosses the right psoas and crus of the diaphragm (over forty-five per cent.). 7. The point behind the stomach which lies on the left diaphragmatic crus, i.e., at the foramen omenti majoris, or at what I designate as Huschke's foramen (over thirty-five per cent.). 8. At the hernial orifices (this is accidental).

The five regions of local peritonitis in adults are the meso-sigmoid, the pelvis, the cæco-appendicular apparatus, the splenic and gall-bladder regions. Observe that four of them are over the long range of the muscles, i.e., over the psoas and diaphragmatic muscles. The three regions of dangerous peritonitis are the pelvic, cæco-appendicular, and gall-bladder regions, in which abdominal surgery has shown its brilliant successes and its dismal failures. Before children walk the common local peritonitis does not arise, as muscular action has not been sufficient to irritate the gut. The etiology of the adult local peritonitis is due to muscular action and microbic invasion. In the pelvic region the peritonitis is chiefly due to an infectious invasion from the ends of the Fallopian tubes. In the other four common regions it is due to muscular action irritating or acting on a bowel at times when it contains virulent microbes. The irritation of the bowel induces the microbes or their products to pass through the mucosæ and muscularis of the gut wall to the serous coat, producing plastic peritonitis. Now, the muscle itself is not the cause of the peritonitis, but it is an essential feature. When the bowel comes in contact with the long range of action of the muscles of the peritoneum adhesions are deposited in that region. One can find also localities where infection has passed through the gut wall, entirely away from muscular action, as marked by white glistening peritoneal cicatrices; but such are irregular, not frequent, and have no definite anatomical distribution.

Accidental local peritonitis plays an important rôle in the life history of the peritoneum. I mean by accidental local peritonitis that which occurs outside of the common regions, due to muscular action or leaking Fallopian tubes. We may have an accidental local peritonitis, due to an ulcer of the mucosa allowing infection to pass to the superadjacent peritoneum, involving an area as large as the tips of the little finger to that of the palm of the hand or larger. I have frequently found such points. A mesenteric gland may ulcerate and break down, inducing adjacent peritonitis. Strangulated and reduced hernia, a blow on the abdomen, or perforation of the peritoneum by a gall stone may induce an accidental local peritonitis. We may find Meckel's diverticulum accidentally adherent by its distal end to some point in the abdomen, from a local peritonitis caused by infectious invasion through its wall. Infection is more apt to pass out of the distal end of Meckel's diverticulum than from any other portion, on account of the liability of the mucosa at the distal end to suffer injury, and because its infection is more liable to tarry there and the fæcal circulation is slower from physical reasons; and also we often notice a short distance from the end of the diverticulum a constricted neck. This narrowing of the diverticular lumen is very liable to obstruct the outlet. It then produces a closed mucous cavity, a condition of distinct menace, as it is in appendicitis. The omentum majus becomes fixed or adherent, in different localities of the abdomen by infectious invasions through the gut wall or from the tubal ends. However, we note that local peritonitis is nearly always a secondary disease. Tuberculous peritonitis perhaps comes under the same category of infectious invasion from the gut lumen, but it is more widely spread than ordinary or common adult peritonitis. Again, the origin of tuberculous peritonitis is very significant when one notes that in most of the cases the tubercles are most common on the peritoneum of the small intestines, i.e., the business portion of the digestive tract. The germs pass through the small bowel wall when freed by the digestive process. The cause of typhoid fever is the accidental perforation of the bowel, which, however, frequently heals and leaves an irregular, small, glistening peritoneal cicatrix. In the consideration of the effect of peritonitic adhesions upon the digestive tract we must take into account the subject of mobility of organs. The digestive viscera have all degrees of mobility, besides a more essential characteristic expressed in the idea of rhythm. A widely mobile viscus with a high peristalsis is compromised when either mobility or peristalsis is checked by peritonitic adhesions. If mobility or peristalsis is destroyed the organ is dislocated. Any abdominal viscus is dislocated when it is permanently fixed.

Rhythm is one of the means by which the digestive tract accomplishes its end. It is the method of introducing new food on fresh mucosa and finally of disposing of the débris. The vertical colons are fixed in man; normally there are no vertical meso-cola, so that it matters little if many adhesions are found about them, unless the colonic lumen be compromised, since at the time of the peritonitic deposit the colon gained sufficient rhythm or motion while the peritonitic exudates were soft and pliable to enable it to accomplish its ends of slight digestion and essential expulsion. The transverse colon and sigmoid flexure appear to adapt themselves to considerable peritonitic adhesions, for they are merely fæcal receptacles, to be emptied periodically. But there is one feature that neither of them, more especially the sigmoid, will agreeably accommodate themselves to, and that is when the bowel is drawn out to an acute angle by a peritonitic band. I have proved by secondary laparotomy that, if the highest point of the sigmoid flexure be fixed to the cut

ends of the Fallopian tubes, such a condition will sometimes make a patient an invalid until released. It then requires excessive peristalsis to force the faecal current past the acute sigmoid bend. But probably more than all else the peritonitic band creates irritability, excessive peristalsis at the seat of the adhesions. The liver may be entirely surrounded by adhesions without complaint from the patient. The mobility of the liver is but little, within the range of respiration only, and its rhythm is so limited, though definite, that it adapts itself to the surrounding adhesions. While the exudates are soft or fresh the liver by its rhythm produces sufficient space to accomplish its necessary functions, so that we can exclude the idea that merely peritonitic adhesions ever do much damage to the digestive tract, either by producing pain or by compromising digestive lumina. The spleen is capable of considerable mobility, yet confining it by adhesions does little damage, so far as is yet known. The rhythm of the spleen is very limited, so that peritonitic adhesions compromise the organ in a very small degree either to impair digestion or to produce pain. Over ninety per cent. of peritonitic adhesions are found around the adult spleen, and if impairment of digestion arose from parasplenic peritonitic adhesions it would long ago have been demonstrated. The uterus is so closely bound up in function with the tubes and ovaries that one cannot be considered without the other. Peritonitic adhesions dislocate the uterus because they permanently fix it. They produce pain and unbalance the function of the uterus and disturb its nutrition. Perhaps the chief pain in peritonitic adhesions in the genitals are those which check the rhythmical peristalsis of the Fallopian tubes. We know this to be a fact, for with women possessing considerable peritonitic adhesions about the tubes a vaginal examination will frequently arouse tubal colic lasting from one to three hours, of occasionally intense degree. We know that peritonitic adhesions about the pelvic organs induce pain both previous and subsequent to laparotomies. It is such a patent daily experience with a gynecologist to know that the peritonitic adhesions create pain both before and after vaginal hysterectomy, that it is amusing to see in a journal article, as we do occasionally, that the writer has discovered that peritonitic adhesions create pain, while no reasons are laid down as the cause of the pain, nor is it stated which organs are especially compromised by the adhesions.

For ten years I have closely watched the subjects of peritonitic adhesions, and my conclusions in regard to what induces the disturbances are that if a viscus with a long pedicle, *i.e.*, a highly mobile viscus with high peristalsis, becomes fixed at its most distal point by peritonitic adhesions it will induce pain. Dr. Lucy Waite and I have reoperated on ten or twelve patients for peritonitic adhesions formed subsequent to laparotomy. The patients who suffered the most were two in whom the most distal point of the sigmoid loop became fixed by peritonitic adhesions to the cut end of the Fallopian tube. These patients suffered very much from colic, indigestion, and neurosis before we would again put them to the risk of a second laparotomy. After the second operations every patient improved, and some gained fifteen to twenty-five pounds in weight within a few months. In other cases a loop of small intestine with an elongated pedicle, in other words a long mesenterium, was found fixed to the cut ends of the tubes, the uterus, bladder, or perhaps to a very mobile loop of the sigmoid or transverse colon; *i.e.*, some highly mobile viscus with a high peristalsis was checked in its natural movements. This is found in our abdominal work to be the distinction between peritonitic adhesions which disturb the patient and those which

do not. Sometimes one may do fifteen or twenty autopsies and find in over half the cases some fixed organ, *i.e.*, one with a short mesentery, as the cæcum, liver, or even the spleen, immovably fixed in solid peritonitic adhesions, but not the slightest complaint was recorded from the patient during life. If we do not make a definite distinction as to whom operations are applicable for peritonitic adhesions, many young surgeons will be led into error. For, if a surgeon should operate in a case of supposed appendicitis and simply find the cæcum and appendix buried in peritonitic adhesions, he might think the operation justifiable. But it is certainly not justifiable to operate for the peritonitic adhesions about the cæcum, as they occur there in over seventy per cent. of adults; furthermore, the adhesions are no sign that appendicitis ever existed. No one denies that pain in the right iliac fossa may demand an operation. If so, it is more likely to be due to the fact that some inflammation has fixed the appendix to a point at the long or longest range of action of the psoas muscle, and the motion of the muscle induces irritation in the appendix and consequent appendicular colic. I have operated on just such cases, in which if a patient was quiet, *i.e.*, did not walk, he was just as comfortable as any one, but let him exercise the psoas and he was in pain, an invalid. Now at the operation of such patients we find the appendix, having a small rupture or perforation which is a year or more old, with a few peritonitic adhesions, but it is fixed solidly to some point on the anterior surface of the psoas muscle, where walking or exercise will stir up the old point of adhesions.

A short summary of conclusions may be drawn up in regard to the effect of peritonitic adhesions on a subject:

1. Peritonitic adhesions may induce pain, neurosis, and indigestion, either before or after an abdominal section.
2. Peritonitic adhesions seldom or never give pain when surrounding fixed organs, *i.e.*, those with short mesenterial supports and limited peristalsis, as the cæcum and liver.
3. The pain in adhesions either previous or subsequent to operation is due to the fixation of mobile viscera and to the checking of active peristalsis or visceral rhythm.
4. The effect of peritonitic adhesions on viscera are dislocations and compromises of their lumina.
5. The viscera of great mobility and high peristalsis are the loops of small intestine, the sigmoid flexure, the Fallopian tubes, and the bladder.
6. The peritonitic adhesions have the most damaging effect in cases in which a peritonitic band becomes fixed to the point of the widest range of motion of any organ, as about the middle of the sigmoid, inducing an acute angle at the top of the bladder, or the cut end or normal end of the Fallopian tube.
7. The peritonitic bands may be found at any point where the peritonitis has existed, but is usually at a point of peritoneal abrasion, at the cut ends of the Fallopian tubes, or in the locality of an inabsorbable ligature.
8. In laparotomies all adhesions around highly mobile and highly peristaltic viscera, as the bladder, sigmoid, Fallopian tubes, and the loops of small intestines should be broken up. So far as I have observed, the transverse colon is less affected by peritonitic adhesions than any other mobile viscus. I have seen the extension of fourteen inches of the transverse colon in an inguinal hernia and the two limbs of the colon were absolutely adherent, like a double-barrelled gun, yet no record of the patient's complaints appeared. But the matter may be accounted for by the fact that in the vast majority of cases the

peritonitic adhesions of the transverse colon are located about the hepatic and splenic flexures, where the colon is the most fixed, which is the very reason that the peritonitic adhesions exist.

9. Patients with peritonitic adhesions before but especially after laparotomy complain of periodic colic and periodic dragging pain. It is exacerbated by taking hot food or drinks. It is rarely made worse by moderate exercise. In short, anything which increases peristalsis makes colicky, dragging, bearing-down pain. Just before or at stool the pain is annoying and occasionally continues some time after. In the cases of peritonitic adhesions about the bladder, the pain is exacerbated at the time of evacuations and for some time later. Should a diarrhoea start, the pain of peristalsis is severe.

10. Pain from peritonitic adhesions about the gall bladder may arise from two causes: (a) the peritonitic bands may drag the top or fundus of the gall bladder so that it will produce a sharp bend or kink in the neck or outlet ducts. Dr. Lucy Waite and I had just such a case. The peritonitic bands had dragged on the fundus of the gall bladder and added something over four inches to its length. We released the gall bladder, elevating the fundus, relieving its bend or kink, and curing the patient. (b) As the gall bladder empties, pain from dragging on the surrounding adhesions may arise; also, as the adjacent colon may rapidly distend and contract, this may produce dragging pain from this effect on the peritonitic adhesions adjacent to the gall bladder.

11. The viscera which come within the clinical and surgical range of peritonitic bands are those of wide mobility and high peristalsis.

12. The reason that so many patients recover from peritonitic bands without requiring subsequent interference is because the active mobile peristaltic viscera make room and space for their own function while the exudate is still soft, pliable, and mouldable to the environments.

About seventy-five per cent. of laparotomies are followed by peritonitic adhesions or bands. Unless there be some continued source of infection, like the mouth of a Fallopian tube, normal or amputated, ulceration of mucosa, stone in the urinary or gall bladders, which sustains infectious invasion, peritonitic adhesion will grow less; very slowly, however, until the bands become organized with a steady blood or nourishing supply, when they may persist forever.

13. The final persistent effect of peritonitic adhesions on active mobile, peristaltic viscera are pain, indigestion, and neurosis.

ACROMEGALY.

By H. H. DINKE, M.D.,

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TEN years have elapsed now since that careful and a painstaking observer, Pierre Marie, first recognized in strange complex of morbid symptoms a new clinical entity and aptly termed it acromegaly. Since then the clinical histories of quite a number of cases have been accurately recorded, and exhaustive reports of more than a dozen post-mortem findings in cases succumbing to this disease have been made, but they have failed to throw much additional light on the subject, and our conceptions of the pathology and etiology of this rare disease remain varied and indefinite. Dr. William R. Parker, of Stricklandgate, Kendall, England, who has given the subject of acromegaly, myxoedema, cretinism, and kindred diseases much attention, and who has had extraordinary opportunities for the accurate study of these maladies, in a letter of recent date writes as follows: "A few months ago I collected

all the information about acromegaly that had been published in the *British Medical Journal* for the last nine years or so, and found that it amounted to nothing. Cases were described minutely, and a few illustrations were given and accounts of post-mortem examinations, in which the pituitary gland was usually found enlarged. Some few had imagined they could observe some improvement by treatment with pituitary extract, and one or two imagined thyroid extract had done good. But no marked or obvious improvement ever occurred. For the severe headache, trephining sometimes worked wonders by relieving intracranial pressure. I do not know of any recent information about the subject of any value. I imagine we shall be on its track before long, and find it curable, but the goal is not attained yet." In spite of these discouraging facts, or possibly on account of them, it would seem important that all cases should be carefully recorded, the clinical histories as well as the results of autopsies, as such reports will contribute to a better understanding of the true nature of the disease. The recital of this case may gain additional interest from the circumstance that our patient has been treated uninterruptedly for the past five months with animal extracts and that an effort has been made accurately to note all changes in the physical as well as mental condition resulting therefrom.

The family history of our patient is negative as to any cachexia or faulty nervous inheritance. The father died at the age of sixty-six years of "asthma;" the mother died of rheumatism at the age of sixty-three years. She has one brother and three sisters living and perfectly well; none dead. No one in her family was ever afflicted as she is. She is the mother of one son, aged twenty-four years, in good health; and she has lost two children by diseases incident to childhood. She is a woman of excellent habits, and there is no history of any venereal disease. Up to the time of the appearance of her present trouble she had always enjoyed fairly good health and had never been very sick. Her present illness commenced about fifteen years ago, but the beginning was so gradual and insidious that neither she nor her relatives can state accurately just when the trouble set in. Her hands, feet, and face began to swell gradually, but her attention at first was particularly drawn to her hands and feet. The swelling of the extremities was accompanied by lancinating pains suggestive of rheumatism. In fact the disease was thought to be rheumatism and she was treated for such until Dr. J. H. Stumberg, of this city, recognized it as a case of acromegaly. The patient remains under the treatment of Dr. Stumberg, and it is through his kindness that I am permitted to place this case on record. Our patient is now fifty-one years of age and was born in this country. She is five feet five inches in height, and weighs one hundred and sixty-seven pounds. She displays all the classical symptoms of acromegaly; the hands and feet are enormous, the head and face are large and broad, the lower jaw is massive and projecting.

The head is large and covered by an abundant growth of coarse hair. The forehead is retreating and the superciliary ridges are very prominent. The nose is much increased in size, in length as well as in width. There is considerable exophthalmia, but she can move her eyeballs readily in all directions, and the pupils react well to light stimulus. The ears are very large, stiff, and thick, and project from the head. The lips are extraordinarily thick and everted, the lower one more so than the upper one. The tongue is broad and flat and so large that it completely fills the oral cavity, and it is almost impossible to depress the tongue sufficiently to see the condition of the throat. The tongue and oral cavity are covered by a thick but pale mucous membrane, having deep and irregular furrows.

The alveolar processes are broad and the teeth bad. The lower jaw is massive and the teeth of the lower jaw project in front of the upper jaw. The scalp and the skin of the face are very fair and greasy in appearance, and soft and spongy to the touch. It is evident that the enlargement of the face and head is at the expense of the soft parts as well as of the bones and cartilages. The head is slightly bent forward, but there is no marked cervico-dorsal kyphosis; the neck is short and measures thirteen inches in circumference. As far as we are enabled to determine by palpation, the thyroid gland is absent. The clavicles, scapulæ, and ribs appear to be larger than usual. The chest is normal in form. Palpation and percussion reveal nothing abnormal; no adventitious sounds can be heard. The heart, too, is normal; we are unable to detect any abnormal murmurs, but its pulsations are somewhat accelerated. The shoulder and elbow joints are normal in size. The hands are greatly enlarged, probably more so in width than in length. The fingers are broad, thick, and stumpy; the nails short, thick, and striated. This enormous increase in size of the hands does not extend up very



Aged 28 Years.

high, for at the junction of the lower with the middle third of the forearm the circumference is only seven and a half inches, whereas at the wrists it is nine inches. As far as we are able to determine, the abdominal organs are healthy. There does not seem to be an increase in the size of the thighs, but the knee-joints are considerably enlarged. The legs also partake somewhat of this increase; the feet, however, are simply enormous. Patient states that she used to wear No. 4 shoes, but is now compelled to wear No. 7½ shoes. The feet are flat, broad, and thick, and much increased in length. A thick cushion of soft tissues surrounds the os calcis and the outer side of both feet. The toes are very broad and stumpy, with thick cushions on the plantar surface of the last phalanges, which press the tips of the toes up and cause the nails to stand almost erect. It is evident that the increase in size of the feet is more the result of an hypertrophy of the soft parts than that of the bony tissue. The skin is white, soft, and doughy, and marked by deep furrows over the entire body, but most markedly so about the face and extremities. The voice is coarse and speech thick. Patellar reflexes are lessened on both sides. The tactile sense

is not perceptibly impaired. The eyesight is bad; patient is unable to see objects distinctly at even short distances. Tinnitus aurium is distressing, but the hearing is good. Taste and smell are not affected. Her mind is clear and she answers readily and intelligently all questions addressed to her. Her memory is very defective; there is no stupor, nor does she suffer attacks of somnolence. She is inclined to be depressed in spirits, and keenly feels a sense of general weakness. Headache, though present at times, has never been a prominent symptom. Patient's appetite is normal, but she has an extraordinary thirst. She sweats freely upon the slightest exertion and passes large quantities of urine, over half a gallon per day. Examination of the urine does not show presence of albumin or sugar. There are no disturbances of digestion. Temperature, 98° F.; pulse, 85. The hands and feet are usually cold to the touch. The pains in her hands and feet, starting at the knee and elbows and extending downward, continue to be the most distressing symptoms and render it impossible for the patient to sleep during the earlier hours of the night.

The accompanying photographs show singularly well the ravages of the strange disease. The first photograph presents a rather attractive face with pleasing features; the second photograph shows the same face, but disease has cruelly and ruthlessly effaced all traces of former beauty and impressed upon it indelibly its own individuality. The accompanying measurements will serve to show accurately the amount of deformity, and the extent of enlargement of the affected parts:

Measurements.	Beginning of Treatment.		Five Months Later.	
	Right.	Left.	Right.	Left.
	Inches.	Inches.	Inches.	Inches.
Length of hand, wrist to tip of middle finger.	7¾	7½	7¾	7½
Circumference of hand at knuckles.	11½	11	11	11
Circumference of metacarpus with thumb.	9¼	9	9	9
Circumference of thumb at first phalanx.	4½	4	3¾	3¾
Circumference of thumb at last phalanx.	3½	3½	3	3
Circumference of wrist.	9	9	7	7
Circumference of forearm at juncture of lower and middle third.	7½	7¼	7¼	7¼
Length of foot, heel to great toe.	10	9½	10	9½
Circumference of foot at ball of great toe.	9¼	9¼	9¼	9
Circumference of foot at instep.	11	10½	10½	10¼
Circumference of foot across instep and heel.	13½	13½	13	13
Circumference of foot at ankle.	10½	10½	10½	10
Circumference of leg at knee.	16½	16	15¾	15¼
Length of nose (root to tip).	3			
Distance between angle of jaw and symphysis.	5¼			
Circumference of neck.	13			
Circumference of chest at nipples, expiration.	35			
Circumference of chest at nipples, inspiration.	38			
Circumference of abdomen.	29			

We decided to give our patient the benefit of treatment with animal extracts. During the first two months she took one-half grain of thyroid extract three times a day. One grain of this extract represents ten grains of the fresh gland. During the third and fourth month desiccated pituitary bodies were given, about one and a half grains three times a day. During the last month a combination of both extracts was administered, four grains of desiccated pituitary bodies and one-half grain of thyroid extract a day. By comparing the measurements at the beginning of treatment and five months later, it will at once be seen that there is a decided decrease in size. The fingers

and the wrists in particular are much thinner than they were, and the shoes that fitted snugly at the beginning of treatment are much too large now and feel like loose slippers. Her general condition, too, has improved. Her memory seems to be better, and she is not so much at a loss for words as she was. She can walk much better, and for greater distances. She notices, however, that the extremities temporarily swell whenever she exercises too much. The pains in her extremities have left her almost altogether, and there is an increased freedom of movement of the hands and feet. The hair is softer, the skin a little firmer, less wrinkled, and more natural. The lips and tongue are perhaps a little thinner, but speech remains thick. The mucous lining of the mouth is less furrowed and more healthy in color. The thirst is not extraordinary now; she does not sweat nearly so readily, and she voids less urine. Her bowels are no longer constipated, but have become regular. (I have noticed this to occur in patients to whom I have given thyroid extract to reduce fat. These patients not infrequently are suffering from chronic constipation, and thyroid extract not only effects a loss of weight but also relieves the chronic constipation.) Our patient has lost about fifteen pounds in weight during these five months. The feeling of general languor is not nearly so annoying, and she can sleep now the entire night. The general condition of our patient, therefore, is unquestionably improved, but the unmistakable marks of acromegaly are nearly as plain now as they were at the beginning of treatment. Patient believes that the thyroids benefit her most.

It might not be without interest to inquire what led to the employment of animal extracts in acromegaly. The experimental researches of Schiff, Horsley, and Murray resulted in establishing the function of the thyroid body and demonstrated how important that organ is to the growth and development of the organism. Stimulated by these brilliant results, the function of other ductless glands and the internal secretion of the glands having efferent ducts have been carefully studied, and enough is already known to justify the belief that these glands secrete substances *sui generis*, which are carried by the blood to the most distant parts and which are indispensable to the proper nutrition of all the tissues of the body. In other words, that the glands of the body are practically the centres governing normal metabolism would seem to have been established. It is well known now that myxœdema is a disease of the thyroid gland resulting from an arrest of function of that organ. Any one who has had an opportunity of seeing and watching a case of myxœdema and a case of acromegaly cannot help but recognize the striking resemblance of many of the symptoms of these strange affections. But the similarity of many of the symptoms is evidently not the only tie of relationship. There is every reason to believe that in acromegaly the pituitary body is principally involved, as it was first declared to be by Marie; all the facts at hand go to show that acromegaly is either a disease of the pituitary body alone, or of the pituitary body and other glandular structures histologically and physiologically kindred.

In the twelve autopsies recorded¹ this gland was found enlarged and disorganized in eleven cases; in one case, however,² no particular changes were observed. Then, too, it should be stated here that there are two cases on record which militate against the assumption that the pituitary body is the site of this disease. In one case³ a large aneurism of the blood-vessels at the base of the brain had entirely obliterated

this gland; in another case,¹ at autopsy the pituitary body was found greatly enlarged. In neither case, however, were symptoms of acromegaly present during life. It should be remembered, however, that symptoms of acromegaly develop very slowly and very gradually, and it might be possible that in these latter cases death occurred before the symptom-complex of acromegaly could develop. The post-mortem findings in the great majority of cases, therefore, point unmistakably to the pituitary body as the principal if not the sole site of the disease; then, too, the symptoms of intracranial pressure, such as headache, tinnitus aurium, defective vision, etc., though differing in intensity and degree, are prominent in all cases during life. Histologists have shown that the structure of the pituitary body is almost analogous to that of the thyroid gland, and experiments on lower animals by Hofmeister, Vasalle, and Sacchi have demonstrated that after the removal of the thyroid the pituitary body enlarges, and after the ablation of the pituitary body a compensatory enlargement of the thyroid gland takes place. Myxœdema and acromegaly, therefore, are close ties, and there is every reason to believe that leontiasis ossium, elephantiasis, and gigantism sustain a close relationship to both. All



Aged 51 Years.

these affections show evidence of grave nutritive disorders, and the lesions of diseases resulting from trophic disturbances are to be sought for in the glandular tissues of the body. Up to within recent years the treatment of acromegaly has been wholly symptomatic and altogether unsatisfactory. In bad cases, in which symptoms of intracranial pressure become distressing and unbearable, trephining has been done with satisfactory results, and this surgical treatment of acromegaly deserves consideration. The treatment of acromegaly by animal extracts is new. Dr. Richard C. Cabot² has succeeded in collecting the details of nine cases in which thyroid extract was exhibited, and ten cases in which pituitary bodies were administered. Quite a number of these cases were benefited by both these animal extracts, which leads Dr. Cabot to advise the simultaneous use of both. The results of the

¹ Hutchinson: American Journal of the Medical Sciences, August, 1895.

² Virchow: Berlin. klin. Wochenschrift, 1889.

³ Weir Mitchell: Journal of Nervous and Mental Disease.

¹ American Journal of the Medical Sciences, June, 1892.

² A paper on the clinical uses of the preparation from the thyroid gland, pituitary body, etc., read at the annual meeting of the Massachusetts Medical Society, June 9, 1896.

treatment with these animal extracts, singly and combined, have been recorded in the above. There is probably no remedy which will completely efface the ravages of the disease, and in our case the remedies have been used for too short a time to permit us to arrive at positive conclusions. In a general way, however, it may be asserted that a number of the most distressing symptoms, such as pain, helplessness, etc., are either much relieved or entirely removed; that the patient's physical as well as mental condition is greatly improved by this treatment, and that the results obtained by it are much more satisfactory than those following the older remedies.

THE NEED OF ABDOMINAL SECTION IN CERTAIN CASES TO AID THE GENERAL PRACTITIONER TO DIAGNOSE OBSCURE ABDOMINAL DISEASES.¹

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WHAT surgical crimes have not been committed by the reckless and inexperienced as the result of the statement made by an eminent abdominal surgeon, "If you don't know what is the trouble within the abdomen, open it and find out," or words to that effect! Such a statement was made in an entirely different sense in which it was accepted at the time by the reckless.

It seems to me that we often find growths and tumors in the abdomen which we cannot diagnose with certainty, but after we open the abdomen we can generally tell what they are. All tumors and growths of whatever kind require surgical interference and a positive diagnosis is not necessary. If it is a case of pus tube or ovarian tumor, or if we mistake a cyst for a fibroid, or make any other mistakes, as long as there is palpable morbid condition, operation is the proper thing. It does not make very much difference whether it is the one kind of tumor or the other, as long as the surgeon is prepared to meet all emergencies which may arise.

The term exploratory cœliotomy is used a great deal in the same sense. We generally mean that there is some morbid condition within the abdomen which we diagnose, but we are not positive whether it can be removed, or if the removal is justifiable. We cannot positively tell whether it is malignant, involving vital organs, or whether it is a benign growth which can be removed and which we know will not recur. We make an exploratory abdominal section for the purpose of diagnosing the exact condition and removing the growth if possible, but if we find that the risk is too great and that it would recur in a short time, even if removed, we close up the abdomen and let the patient live as long as possible.

But there is another class of cases, not too common and still frequent enough, in which it is utterly impossible for the general practitioner or any specialist to make a proper diagnosis. There is no tumor, growth, or other manifest condition. All our means of precision cannot help us; neither chemical analysis of different fluids, nor instruments of precision, nor the latest fad, the Roentgen x-rays, will help us to diagnose the trouble. The patient simply becomes gradually weaker and weaker. All our medication, careful diet, change of climate, and surroundings do not help. Sometimes, even in acute cases, with the onset sudden and rapidly fatal, the symptoms are so mixed

and obscured that the diagnosis is not made until post-mortem investigation. In this kind of cases, it seems to me, when the usual plan of treatment is of no avail—the physician sees the patient gradually slipping away from him—that abdominal section is indicated, first, for diagnostic purposes, and, secondly, also with a view to curing the patient. And when I make this suggestion I do it with a tremble on my lip, because it will give any tyro an excuse to open the abdomen for the most trivial things and refer to me as his authority. If I say that such practice should be limited to those who have had experience and have facilities, I may be accused of being afraid that some young man may become a rival. Therefore, those of us who have made hundreds of abdominal sections, and who start every new case with a certain tremor and fear that it may be complicated and difficult and that the patient's life may be endangered, are placed in a peculiar position.

If we say to the general practitioner that this is, as a rule, without danger, that we can diagnose the case and even submit the patient to an operation at the same time, if necessary, and thus save him, we spur on the ambitions of the inexperienced and the conscienceless to reckless deeds. If we qualify the above suggestion by saying that such operations should be performed only in thoroughly equipped hospitals, surrounded with every facility to meet every emergency, and that the operation should be performed only by those who have experience and manual dexterity, we are accused of trying to have a monopoly and not giving those who are to come after us a chance to get the experience.

This is all wrong. Whoever wants to make this a life work should prepare himself properly for it by assisting at many operations, and should live in a locality where he can expect to do a good many operations every year. An operation or two of this kind a year will increase no one's reputation, nor would it pay from the financial standpoint; often it would not pay even for the instruments and paraphernalia required.

All we claim, then, in advocating abdominal section for diagnostic purposes, is that it should be done by one of experience and in a place where every facility is at hand. Then the danger will be so very little that the family physician can conscientiously urge it upon his patient, and the patient will gladly submit to it in order that a clear understanding of his case may be arrived at, so that the proper treatment, be it surgical or medical, can be instituted.

First, in reference to acute cases, everything in the way of functional disorders of the bowels, excited by indiscretion in eating, cholera morbus, cholera infantum, etc., must be excluded: all these can be readily diagnosed. But if the case presents itself with persistent vomiting, there is grave suspicion that it is due to obstruction and requires surgical interference. Also cases with severe excruciating pain in the region of the liver strongly point to gall stones, even if jaundice does not exist; in fact, jaundice is so rarely found with gall stones that the profession has been led astray for years by the old text-books emphasizing jaundice as a marked symptom. So renal calculi or suppurating kidney may cause occlusion of the ureter and can only be diagnosed inferentially, except by an abdominal section. Of course, the marked symptoms of appendicitis, I think, are so well known now that every practitioner can diagnose the disease and also knows that prompt surgical interference, as a rule, is required.

Secondly, however, our principal aid can be given to the general practitioner in chronic cases of trouble of some kind within the abdomen. While no swelling or growth can be detected, the patient is an invalid.

¹ A paper read at a meeting of the Northern Tri-State Medical Society at Angola, Indiana, July 21, 1896.

even if not in danger; he does not enjoy life, and in some cases it can be readily seen that he is gradually becoming weaker and weaker.

In all cases of this kind an exploratory abdominal section will clear up the diagnosis, and, if necessary, can be made into an operation if something is found requiring surgical interference. The technique of the operation can be settled in each individual case only according to the seat of trouble especially indicated. In the large majority of cases the trouble is located on the right side in the regions of the appendix, gall bladder, or kidney. An incision made on the right outer edge of the rectus about opposite the umbilicus will allow exploration with the finger to be made around the cæcum, the gall bladder, and the kidney, and then the incision can be extended either upward or downward. Sometimes the left outer edge of the rectus is chosen; rarely, I think, the median line.

It is hardly necessary to mention that all the pelvic diseases of women are excluded from this paper, because they can be readily diagnosed by conjoined examination by anybody with even limited experience.

I do not report any cases, simply because I do not want to take up your time, but I can mention any number of obscure cases promptly explained and often relieved by abdominal section.

The danger of abdominal section is very slight, while the gain is immense. Accidents occasionally occur, but the mortality should be less than one per cent. The vast majority of such patients can be saved, either by prompt operation or by proper medication.

In conclusion I would say that abdominal section for diagnostic purposes in a well-equipped hospital is indicated:

(A) In acute cases with severe symptoms which threaten life if not promptly removed.

(B) In chronic cases in which treatment has been of no avail and the patient continues to be more or less of an invalid, or steadily becomes worse.

Progress of Medical Science.

Contamination of Liquid Eye Medicines.—Dr. Clough (*Journal of Medicine and Science*, October, 1896) says: "A fruitful source of contamination of liquid eye medicines is the common rubber-bulb dropper. Many a solution over which much care has been exercised to render it stable soon becomes worthless through these little miscreants. Their mischief lies in the fact that many of them—the white variety in particular—are coated with a flour-like film, which becomes detached the instant any fluid touches it and diffuses itself, in an insoluble state, throughout the contents of the bottle in which it is used. Hence, care should be taken that the pharmacist either dispense droppers free from such objection, or else obviate the difficulty by careful cleaning before inserting into the bottle.

A New Aseptic Method of Closing Wounds without Sutures.—The great difficulty often experienced in closing wounds where sutures are impracticable or where they are liable to slough out from too great tension has been overcome in a great measure. The use of adhesive plasters instead of sutures is not thoroughly aseptic, and to overcome this defect Dr. Schürmayer uses pieces of fine platinum wire having hooked ends. These wires span the wound, and can be rendered aseptic by flaming. At either end they are hooked into strips of adhesive plaster, that in case of a limb encircle it, so that with the wire they entirely surround it. The ends of the adhesive strips are folded upon themselves to prevent their adhering, and

the hooked ends of the wire are passed through punctures in this double thickness. Aseptic gauze is laid on the skin beneath the ends of the wire to prevent infection of the wound from the adhesive plaster. The great advantages of this method are that the tension is applied at a distance from the margin of the wound; that the wires alone come in contact and may be perfectly sterilized; they can be easily removed, either singly or all together during the dressing and then replaced; there is no strain upon the edges of the wound during their removal, and coaptation of the margins of the wound can be secured as easily and perfectly as by the use of sutures.—*Centralblatt für Chirurgie*.

Anterior Colpotomy.—At a late meeting of the Obstetrical Society of London, as reported in the *British Medical Journal*, Dr. John Phillips read a paper on this subject. He considered that to Dührssen belonged the credit of calling attention to this operation. Any one who had performed either vaginal hysterectomy or fixation could not but be struck by the ease with which the pelvic organs could be examined through the opening in the anterior vaginal cul-de-sac. Full details of the operation as carried out by Dührssen, Mackenrodt, and the author were given, with histories of four cases. In the first of these vaginal fixation only was originally intended. The author considered the advantages of this method to be: (1) No hernia or cicatrix and less liability of the formation of adhesions with the omentum and intestines. (2) Greater simplicity of operation, greater rapidity of performance. (3) Post-operation sickness is much less and the convalescence shorter. (4) No bleeding of any consequence, except occasionally from the vaginal flaps. (5) No drainage tube required. The disadvantages, on the other hand, were: (1) Much greater difficulty in making the vagina antiseptic, especially if there be any fetid uterine discharge. (2) Greater risk of wounding the bladder, ureters, and coils of intestine. (3) If the swelling is adherent in the left and posterior quarter of the pelvis, the rectum may be lacerated. A list of cases in which this operation seemed indicated was given. With regard to recommending the operation, the author wished it to be borne in mind, first, that the peritoneal cavity was opened, with its possibly grave after-results; and, secondly, that removal of the ovaries and tubes, whether by vagina or abdomen, must always be looked upon as a mutilation, and hence the same care and anxious thought should be exercised as before resorting to abdominal section.

Postoperative Intestinal Obstruction.—Dr. Adenot recognizes the following varieties of post-operative intestinal obstruction: 1. Occlusion caused by adherence of the intestine to raw surfaces, intraperitoneal drains, and inflamed organs. 2. Occlusions due to bands. 3. Those due to anomalous position of the intestines. 4. Those due to an exaggeration of the normal left subcostal angle of the colon. 5. Spasmodic occlusion. 6. Occlusions due to inefficient operative procedures. According to him there are three marked symptoms of post-operative intestinal obstruction: 1. Persistent absence of the passage of flatus. 2. Nausea and vomiting. 3. Painful point in abdomen. As regards treatment, one should not delay too long. While it is legitimate to try mild purgation, insertion of rectal tube, etc., the amount of such treatment should be abridged proportionally to the severity of the symptoms and clearness of diagnosis. The period of operation will be from three to five days, according as the vomiting is urgent and there is absence of stools or passage of flatus. The abdomen should be opened largely. Work quickly

and have good assistants. Examine the cæcum; if it is not distended, the occlusion is located higher up in the small intestine. If it is distended, explore the sigmoid flexure. One should always follow a definite plan: first ascertain the extent of the occlusion, then its location, and lastly the cause. Examine the pedicles, raw surfaces, angles of the intestine, and drainage apparatus. Examine the colic flexure of the left side. If the obstacle cannot be found, evisceration must be performed. Recourse should not be had to this grave procedure too readily, notwithstanding that it has succeeded in the hands of Jaboulay and Pollosson. Sometimes an artificial anus is necessary, but it is not an operation of choice.—*Revue de Chirurgie*.

Healed Wound of Heart.—At the London Clinical Society, Mr. W. G. Spencer recently showed a specimen of healed wound of the heart. The patient had been stabbed in four places, and was admitted pulseless and unconscious. Infusion of saline fluid, etc., was employed, and he went on well for a week. Then hemorrhage occurred, and Mr. Spencer passed his finger through the wound in the second left intercostal space, and touched a large vessel with low tension and a whirling current with each systole. The wound was firmly plugged. The plugging had to be renewed again and again, on account of fresh bleeding and the plug becoming extruded. By the twenty-seventh day the plug was all pushed out, and only a superficial wound remained. This healed in six weeks from the accident, and nothing abnormal was heard in the chest, except a faint murmur, as in anæmia. The patient continued weak and anæmic, but attended a long trial, and eventually sank exhausted seventy-nine days after the injury. At the post-mortem, the scar in the left intercostal space was seen to correspond with another in the pericardium, and this again with a linear depressed scar, five millimetres long, on the surface of the right ventricle. Then opposite to this, on the endocardium, was a fine bluish line. This was thought to be the scar of a firmly healed perforation of the ventricle, and was just below the pulmonary valves. There was no sign of any other vessel being wounded, and no clot inside or outside the heart or great vessels. The only question raised was whether the weapon had actually penetrated the endocardium (the scar on which was very fine) and the hemorrhage came from a branch of the coronary. The question of suturing was mentioned, but Mr. Spencer said it was difficult to fix the direction of the wound.

Pregnancy Diagnosed by the Urine.—Dr. William E. Parke, following Dr. William D. Gray, of Richmond, states in the *American Gynecological and Obstetrical Journal* that he can make a positive diagnosis of pregnancy within twenty days after conception, by certain changes in the microscopical appearance of the urinary phosphates. The normal triple phosphate is stellate and markedly feathery. Soon after conception the feathery parts begin to disintegrate, take on the crystals, approach to normal, and at term are normal. In preparing the urine for examination Dr. Gray takes about one inch in a test tube and adds about one-third as much of Tyson's magnesian fluid. This will throw down the triple phosphates in fifteen or twenty minutes and furnish the necessary material for examination. Tyson's fluid consists of one part each of the muriate of ammonium, aqua ammonia, and sulphate of magnesium, and eight parts of distilled water. When conception occurs the triple phosphates lose their feathery appearance, the change beginning at the tip and progressing toward the base. One side only may be affected, or both, leaving only the shaft and perhaps a few fragments adhering. The shaft assumes a beaded or jointed appearance. These

changes are most marked in the early months of pregnancy. Dr. Gray draws the following conclusions: 1. The change occurs in a very large percentage of pregnant women. 2. This change is not equally pronounced in the urine at the same period of gestation in different women nor at consecutive examinations of the urine of the same woman. 3. When recognized it forms strongly presumptive evidence of pregnancy. This sign is recognizable very early. (Dr. Gray, in a personal letter, states that he has made many diagnosis as early as ten days after conception.) It is therefore of the greatest value when other signs are of the least value, or not present at all. 4. A diagnosis of probable pregnancy can be made without a physical examination or without exciting the suspicion of the patient.

Treatment of Suppurating Buboës by the Injection of Iodoform Ointment.—Dr. Otis' method, given in the *Journal of Cutaneous and Genito-Urinary Diseases*, 1896, vol. xi., pp. 174-176, is as follows: "The skin for some eight or ten inches about the affected area was rendered thoroughly aseptic by scrubbing with green soap, washed with sulphuric ether, and then with bichloride (1 to 1,000). A narrow bistoury was then inserted into the abscess cavity, and the contents were gently but thoroughly squeezed out, the cavity was irrigated with bichloride (1 to 1,000), and immediately filled to moderate distention with warm iodoform ointment (ten per cent. iodoform and vaseline), care being taken not to use a sufficient degree of heat to liberate free iodine. The syringe used for introducing the ointment was the ordinary cone-pointed, glass clap syringe. The plunger being removed, the barrel was warmed in the flame of an alcohol lamp, filled with ointment by means of a spatula, and on finishing the injection, at the instant of withdrawing the syringe from the wound, a compress wet with cold bichloride solution was applied, which instantly solidified the ointment at the orifice, preventing the escape of that in the abscess cavity. A large compress of sterilized gauze was then applied by means of a firm spica; the patient was told to return in four days, when, if all was well, the dressing was reapplied, but if any evidence of inflammatory action was found the wound was thoroughly irrigated and cleansed and the injection repeated." Out of sixteen cases, Dr. Otis reports nine cured in six days, three in twelve days, one in fourteen days, one in twenty-three days. He claims the following advantages for this method: "1. That it is simple and safe. 2. In suitable cases cure, as a rule, seems more rapid than by any other method. 3. The patient is not prevented from going about during treatment. 4. The first gland being rendered thoroughly aseptic renders it less likely that other glands in the chain will become infected (?). 5. It leaves no telltale scar. 6. It in no way interferes with any subsequent surgical procedure, should such be deemed advisable." Dr. Otis concludes by saying that his experience has demonstrated that this method is available only in those cases of infection by the staphylococcus in which there is an appreciable pus cavity, and thus a storage place for ointment until absorption can take place. In diffuse phlegmons, in which no pus cavity existed, the method was found to be absolutely useless. He calls attention to the fact that by this method patients are able to resume their duties without any discomfort on the day following the operation, and that, if secondary suppuration does occur, the inconvenience is slight compared to that at first. He says there is good chance of failure unless two cardinal points are observed: 1st, Absolute cleansing of the cavity of all traces of pus; and 2d, the injection of ointment into it in quantity barely sufficient to produce moderate distention.

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THE RELATION BETWEEN EXTERNAL HERNIAS AND GASTRO-INTESTINAL DISORDERS.

THE symptoms of incarcerated hernia are at once so pronounced and so characteristic as not readily to escape discernment and proper interpretation at the hands of even the unskilled. Reducible hernias, on the other hand, often give rise to symptoms whose real origin is likely to be overlooked unless their nature is thoroughly understood and their source looked for. The relation between these two sets of events is discussed in an intelligent and interesting manner by Docent Schütz, of the University of Vienna, in the *Wiener klinische Wochenschrift*, 1896, No. 27, p. 595. A reducible hernia, he points out, is often responsible for disturbances not limited to the site of abnormal protrusion, but which may also involve remote portions of the gastro-intestinal tract, and from which relief can be secured by means of operation or a properly-fitting truss. Thus, one of the commonest symptoms of inguinal hernia is pain, usually colicky in character or of the nature of gastralgia. It occurs, as a rule, some time after meals, as well as in the train of active physical exercise or much walking, and is at times of great intensity. Not rarely the pain is dull, occurring independently of meals or at varying intervals after eating, and being referred to different parts of the abdomen. In association with this symptom, or independently, there occurs the group of phenomena included in the designation "dyspepsia"—impairment of appetite, constipation, flatulence, eructation, nausea, etc. In some cases neurotic symptoms also are present. These concurrent manifestations are to be attributed to mechanical influences, such as traction or pressure, or to reflex disturbances. The causative condition may appear insignificant, or the hernial protrusion may be inadequately supported, or, finally, violent physical exercise may act as the excitant.

Hernias of the linea alba are responsible sometimes for the most varied gastro-intestinal disorders; but they are often overlooked by reason of their small size. In their treatment the use of a bandage will usually fail, and resort must be had to a radical operation. A statistical study by Schütz of one hundred cases of this kind, shows that the disorder occurs variously between once in fifty and once in four hundred cases; in patients between seventeen and seventy years of age,

though most frequently between thirty and forty; and more commonly in men than in women, in the proportion of eighty-seven to thirteen. Trauma, great muscular activity, including the contractions of parturition, and the act of vomiting are named among the causes; but in most cases no cause can be ascertained. Among the causes assigned for this condition are: (1) Imperfect apposition of the walls of the abdominal cavity during embryonal life; (2) congenital weakness of the fascia of the linea alba, with hereditary predisposition; (3) the protrusion of a subserous lipoma through the fascia of the linea alba, with the secondary protrusion of the peritoneum; (4) violence, resulting in rupture, in greater or less degree, of the abdominal wall in the linea alba. As a rule, the herniæ are situated above the umbilicus and usually to the right side of the median line. They vary from the size of a pea to that of an apple. At times they are multiple; and sometimes they are associated with other forms of hernia in other situations.

The most common symptom to which these hernias of the linea alba give rise is gastric disturbance without distinguishing characteristics. As a rule, there also occur paroxysms of pain in relation with the taking of food. At times the pain radiates from the situation of the hernia, is aggravated by increased intra-abdominal pressure—as from coughing, vomiting, sneezing, etc.—or by any form of active physical exercise, and is relieved by the recumbent posture. Pronounced symptoms of incarceration are rare. The hernial swelling is usually tender and the pain is increased by pressure. The physical examination is best made in the erect posture or with the body of the patient inclined somewhat forward.

Besides the hernias of the linea alba others of similar origin and symptomatology may occur at some distance from the median line—usually in the mammary line. Finally, umbilical hernias may give rise to the phenomena that have been detailed.

THE EXTINCTION OF THE DEGENERATE.

SOME confusion of ideas might be avoided regarding the tendency of atypical qualities to result in sterility, if it were borne in mind that what we inherit is our bodily constitution, a constitution which varies according to the known and the unknown laws of heredity, and that our various tendencies or susceptibilities to external impressions depend upon such bodily inheritance. A variation of type, whether by way of exaggeration or depression of certain qualities or by malformation, may not be permanent; but if the attempt to return to the original form fails by extinction, it may be due, not to sterility, strictly speaking, but to shortening of life to below the age of reproduction. Indeed, it would seem that the laws of heredity governing fecundity and sterility are as distinct as those governing the number of the fingers, the color of the hair, or other characteristics, and that when these laws are appealed to for the regulation of the number of individuals the object is accomplished in quite a different manner, if not for a different purpose, from what

is observed when life is shortened. It may be assumed that the individual born into the world even in the most miserable physical condition has an ancestry reaching as far back as that of the most perfect specimen of his type; and the only questions are how far back does his frailty extend among his progenitors, and how far down may he be able to transmit it before return will take place to the original type or life in the descendants become so shortened that there will not be time for further reproduction?

Sterility may be inherited and recur in certain members of a family, while other members have full power to perpetuate their kind. It would seem to be by inflicting sterility that nature prevents the perpetuation of the offspring of too strong a cross-breed, while marked or long-continued interference with the laws of health is more likely to result in so shortening life that the stock will die out for want of time to mature and reproduce, rather than from inability and indisposition to procreate if age would permit.

THE "WIZARD" CURE.

A CERTAIN proportion of every collection of human creatures is upon the lookout for miracles. Common-place does not meet their requirements. They will gladly accept all that is beyond the power of human ken, but that which has a common-sense basis and is understandable does not interest them.

Thus one is not at all surprised to find that almost everything is expected of the newly discovered rays which still must be denominated by the symbol of an unknown quantity.

We not only rely upon their power to penetrate the hitherto impenetrable and establish the diagnosis, but once having pointed out the cause we expect them to supply the cure as well. The announcement made by Mr. Edison that there was some hope of restoration of sight to the blind by the application of Roentgen rays has naturally brought forth applications from all parts and from all conditions of sightless sufferers. Undoubtedly there will be those among them who will be capable of being made to see. Sight has been restored on many occasions by means which must seem miraculous to those who are ignorant of the matter. When, however, the various tissues of the globe which make sight possible have been destroyed, it would seem as futile to dream of restoration of sight as it would be to hope for a reflection of one's image in the empty frame from which the mirror had been broken and removed.

There is a merchant who is said to be a millionaire somewhere in lower Broadway who has received considerable newspaper notoriety and advertisement by his repeated offer through the newspapers of a million dollars to any one who will restore his sight.

The medical profession has been the recipient of numerous slurring reflections which have grown out of this repeated offer of so princely a sum. It is now announced that the gentleman will place himself in Mr. Edison's hands, after an experimental trial of the rays have been made upon his "proxy."

It is greatly to be desired that success attend this effort. Not that Mr. Edison should receive a million dollars, since he has more than he has need for already, but that this tantalizing sum should not longer be made to dangle before the eyes of impecunious doctors, who, though willing, honest, and perhaps able, are powerless to aid, because the would-be patient demands some miraculous cure which will not take him from his counting-house desk for even a single day. May the "Wizard" with his magic tube supply the ray of light and remove the million-dollar offer from the public press.

UNFAIRNESS IN APPOINTMENTS.

A LAW has recently been promulgated by the minister of education of Germany forbidding the appointment to the position of assistant at any German university of other than graduates of a German university. It is much to be regretted that politics, with its cry upon the European continent of "Russia for the Russians," "France for the French," and "Germany for the Germans," should find a re-echo in the ranks of education. It has been a signal advantage to many of the Americans going abroad to be able, even in exceptional cases, to obtain such positions as an assistant at some of the German medical clinics. Would it not be a good time, now that the States of New York and Pennsylvania have so fixed the time required for study and the passing of a State examination in such manner as to make the value of a diploma given here second to none, to suggest reciprocity between France, Germany, and England, and the States mentioned? The recent movement in France, by which the foreigner was to be excluded from receiving a diploma granting him the right to practise in France, is a second and more forcible argument in favor of our making some endeavor to gain for the two worthy States New York and Pennsylvania some special advantage justified by the praiseworthy course these States have pursued.

OUR HEALTH RESORTS.

THAT this is in many respects a great and remarkable country goes without saying. Among other things which add to our greatness are to be numbered the natural resources which can be utilized in health production. It was not to be presumed, therefore, that in writing up the "Winter Health Resorts," Dr. McKay should touch upon all places worthy of notice, and many excellent stations were omitted in his article which appeared in the *MEDICAL RECORD* of October 31st. Among the many good words and commendations which this article has received from our subscribers, there have been a few complaints because of such omissions. Among them is one from Dr. C. F. McGahan, observer of the winter bureau at Aiken, S. C. This is a winter resort with a mean winter temperature of 51.89° F., and a mean relative humidity of 58.73 per cent. Rainfall about twenty inches; altitude, five hundred and sixty-five feet. These figures vary somewhat from those given by Dr. McKay, and

we are glad to present the authoritative statement of one connected with the United States signal service.

Another communication comes from Dr. Charles A. Powers, of Denver, Col., who considers that the State which should be most prominent in the category of winter resorts has been omitted.

"Probably the population of Colorado," he says, "presents a greater percentage of people who have come here for purposes of health than does any other State in the Union. As a resort for pulmonary invalids it offers the greatest advantages—proper elevation, a dry, clear, sunny atmosphere. The winters, taken as a whole, are very delightful; the tonic and bracing air makes tuberculous patients desire to be out of doors. Such cities as Denver, Colorado Springs, and Glenwood Springs offer the very best of accommodations, with all that this implies in the matter of suitable food and the like; and people in all walks of life find here that which their taste demands or their means command."

Dr. Powers' opinion is that his adopted State was unintentionally omitted. We cannot say how this may have been, but it occurs to us that the author may have considered Denver and its neighboring resorts too well known to need comment.

For the peace of mind of those who recognize the good qualities of any given region as a health station, we need but say that, while we are always pleased to hear from them, the author of "Winter Resorts" disclaimed any intention of naming them all or of telling all there was to tell of the good features of those mentioned.

News of the Week.

"**The Courier Record of Medicine**," whose editor, Dr. Brooks, recently died in Dallas, will be continued under the management of his son.

Dr. Fort Mobbed.—Rio de Janeiro was recently the scene of a manifestation against Dr. Fort, who was revisiting the city in which he had successfully practised for some years after graduating in Paris. Upon returning to France he had published his impressions of Brazilians and had commented adversely upon their system of medical instruction and upon the zeal with which the students worked. To show the French physician that they still possessed certain kinds of zeal at least, some thousand of them visited the hotel at which he was stopping, with the avowed purpose of lynching this calumniator of their fair land. Not succeeding in laying violent hands upon the object of their ire, an effigy was procured and a funeral procession organized, with catafalque, burning tapers, funeral dirges, and terminating in a cremation upon a public square. We shall keep an eye upon French journals to see what Dr. Fort will have to say upon his return this time about Brazilian zeal.

International Medical Congress.—Section on surgery: Acting upon the advice of Dr. E. Braatz (Königsberg), the surgical section of the XII. International Medical Congress has decided, in view of the ap-

proaching congress, to collect international statistics on narcosis for the current year (1896). For this purpose the managers of the said section apply to all their colleagues, and earnestly request them to give answers to the following questions: 1. Number of narcoses from January 1, 1896, to January 1, 1897. 2. What narcotics were administered. 3. Number of fatal cases. The secretary of the surgical section, F. Rein (Moscow, Malaja Dmitrovka, house Scheschkov), will be glad to receive such information, and, if possible, not later than July 1, 1897.

Section of nervous and mental diseases: The following themes will form part of the programme: Neuro-Pathology: 1, Pathology of the nerve cell (finest structure and its pathological changes); 2, Pathological anatomy and pathogenesis of syringo-myelia; 3, Pathogenesis and treatment of tabes dorsalis. Psychiatry: 1, Obsessions and fixed ideas; 2, Pathogenesis of general paralysis of the insane and delimitation of this disease from its cognate forms; 3, hypnotism and suggestion in their reference to mental diseases and medical jurisprudence. The question of the surgical treatment of the brain and spinal-cord diseases will, moreover, be discussed in joint session with the surgical section.

Jefferson Medical College.—At a clinical meeting of the Philadelphia chapter of the alumni association of Jefferson Medical College, on November 10th, Dr. J. H. W. Chestnut read a paper on "Intestinal Obstruction." Following the meeting, the new laboratories of the department of pathology and bacteriology were thrown open for inspection, and a reception was tendered to Dr. H. F. Harris, the new associate in pathology.

A Thought-Weighing Machine.—The cerebrum is the organ of the will and it is known that in the exercise of its function there is an increased supply of blood to that part. Professor Mosso, an Italian physiologist, has invented a thought-weighing machine, consisting of delicate balances so contrived that they weigh the varying amount of blood in the brain. The activity of the brain is in direct proportion to the amount of blood therein. According to a local newspaper report, the machine is so delicately constructed that it readily detects the difference in the exertion required to read Greek above that necessary to read Latin. Every youngster is ready to believe in the machine.

Schuylkill County (Pa.) Medical Society. At a meeting of the Schuylkill County Medical Society, held at Pottsville, Pa., on November 10th, Dr. C. Lenker, of Schuylkill Haven, read a paper on "Chorea," and the following officers were elected for the ensuing year: *President*, Dr. A. F. Bronson, of Girardville; *Vice-President*, Dr. H. Bowman, of Mahanoy City; *Secretary*, Dr. Cable, of Tamaqua; *Treasurer*, Dr. D. Taggart, of Frackville; *Censor*, Dr. G. H. Halberstadt, of Pottsville. Seventeen delegates to the Medical Society of the State of Pennsylvania and nine to the American Medical Association also were elected.

Twelfth International Medical Congress.—The American national committee of the Twelfth International Congress, which is to meet at Moscow, Russia, from August 19 to 26, 1897, consists, according to the directions of the general committee at Moscow, of the following gentlemen: J. S. Billings, M.D., New York; Frank P. Foster, M.D., New York; S. Weir Mitchell, M.D., Philadelphia; Charles A. L. Reed, M.D., Cincinnati; George B. Shattuck, M.D., Boston; F. J. Shepherd, M.D., Montreal; George F. Shrady, M.D., New York; W. S. Thayer, M.D., Baltimore, and the chairman, A. Jacobi, M.D., 110 West Thirty-fourth Street, New York. The chairman begs to invite the attention of the medical profession of the United States and Canada to the fact that the professional gentlemen in charge of the congress are anxious to make it a success both from a scientific and a social point of view. Their difficulties are unusually grave; but it is not their fault that the congress had to wait for governmental permission to meet in their country, or that a special ukase was required for the admission into Russia of Jewish medical men on equal terms with their Greek, Catholic, Protestant, agnostic, and Mohammedan colleagues; or that the famous and meritorious secretary-general was—it appears because of his liberalism—ousted both from his place and from his professorship. They should not be held responsible for the political semi-barbarism of the country in which they live and to whose laws they have to submit. Their position in the world of science and their endeavor to make the twelfth congress equal to its most famous predecessors will prove an incentive to American physicians to sustain, both by their presence and their contributions, the Russian committee in its exertions to make the next congress equal to its predecessors. Such information as will be received from time to time will be published in the medical journals immediately after its arrival.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending November 21, 1896. November 16th.—Surgeon A. F. Magruder detached from the marine barracks, Washington, and placed on the retired list. Passed Assistant Surgeon J. S. Sayre placed on retired list November 16th. November 18th.—Medical Director H. M. Wells detached from the naval laboratory, New York, ordered home, and placed on waiting orders. Medical Director T. C. Walton detached from the naval academy December 15th and ordered to the naval laboratory. Surgeon C. T. Hibbett detached from the *Independence*, ordered home, and granted three months' leave. Passed Assistant Surgeon F. W. Olcott detached from the *Enterprise* November 27th and ordered to the *Independence*. Passed Assistant Surgeon W. F. Arnold detached from special duty and ordered to the *Enterprise* November 27th. Passed Assistant Surgeon J. M. Moore detached from the *Texas* December 7th and ordered to the *Castine* December 8th. Passed Assistant Surgeon L. H. Stone detached from the *Castine*, December 8th, ordered home, and placed on waiting orders. Assistant Sur-

geon S. B. Palmer detached from the *Vermont* December 7th and ordered to the *Texas*. Passed Assistant Surgeon P. Leach promoted to surgeon from November 15th, and Passed Assistant Surgeon T. C. Craig promoted to surgeon from October 14th.

Prof. Edmund Lesser, of Berne, has been appointed director of the Charité clinic for dermatology and syphilis in Berlin, a post hitherto occupied by Professor Lewin who died on November 2d at the age of seventy-six years.

A New Medical Monthly, the *Scottish Medical and Surgical Journal*, will appear in January, under the direction of Professors Simpson and Annandale (Edinburgh), Professor Stephenson (Aberdeen), and others, and will be edited by Dr. William Russell.

Obituary Notes.—DR. JAMES GRAHAM, a widely known physician of Philadelphia, died on November 12th, of pneumonia, after an illness of nine days. Dr. Graham was born in 1846 and was a graduate of Jefferson Medical College. During the war of the rebellion he served with the United States army, being connected especially with the army transports.—DR. LOUIS W. HILDENBRAND died at Philadelphia on November 13th, at the age of forty-seven years. He was graduated from Jefferson Medical College in 1874.—DR. LUIS F. SASS, seventy-six years old, a well-known physician of this city, died at his home, No. 56 West Thirty-ninth Street, early Monday morning from complications due to old age. Dr. Sass was a native of Havana, Cuba, but had lived in this city for forty years. In his fifty years of practice he made a reputation as a specialist for the nose and throat. He was the recipient of many honorary degrees in this country, in Europe, and in Cuba. He was a member of the County Medical Society.—SIR BENJAMIN WARD RICHARDSON, the celebrated English physician and author, died on November 21st. Death was due to apoplexy, from which he never rallied. He was sixty-eight years of age. The late Sir Benjamin W. Richardson, in 1865, conducted an experimental research on the nature of the poisons of the spreading contagious diseases, which ended in the detection of a special poisonous product, common in these poisons, to which he gave the name of septime. In 1866 he discovered the application of ether spray for the local abolition of pain in surgical operations. He introduced methylene bichloride as a general anæsthetic, and discovered the controlling influence of nitrite of amyl over tetanus and other spasmodic affections. Dr. Richardson's principal contributions to medical and scientific literature have been directed to the advancement of medical practice by the experimental method. The study of disease by synthesis, the restoration of life after various forms of apparent death, the effects of electricity on animal life, methods of killing animals without the infliction of pain, the maintenance of life in factitious atmospheres, the investigation of the theory of a nervous atmosphere or ether, were among the subjects he treated of in lectures and essays. In later years his researches were directed to the study of diseases incident to modern civilization.

Clinical Department.

THE WOODBRIDGE TREATMENT OF TYPHOID FEVER.

By CHARLES E. NAMMACK, M.D.,

ASSISTANT PHYSICIAN TO BELLEVUE HOSPITAL, VISITING PHYSICIAN TO
GOUVERNEUR HOSPITAL, NEW YORK.

FIFTEEN years' experience in treating typhoid fever, in hospitals and in private practice, has convinced the writer that the Brand method of tubbing is far and away the best treatment of that disease. But the number of the cases that can or will be submitted to the Brand method, either in cities or in the country, is small by comparison with the total number of cases of typhoid fever that occur in the United States. There are many obvious reasons for this state of affairs, and the general practitioner will eagerly welcome any plan of treatment less cumbersome and expensive than the Brand bath. Dr. W. Gilman Thompson has recently computed that the average cost of a Brand bath in private practice is two and a half dollars, and since some of his reported cases required more than one hundred and twenty-five baths, it will be easily seen that a workingman's chance of receiving the benefits of tubbing consists chiefly in his getting into a hospital. Many families are unwilling to send their sick ones to a hospital, and many medical practitioners must live from the fees collected in workingmen's homes. Any one who will read the papers of Dr. Woodbridge must be impressed with their evident earnestness and sincerity, even though one cannot accept the statements that "typhoid fever can always be aborted," or "that death is a wholly unnecessary consequence of the disease if proper treatment is instituted sufficiently early."¹ The weak point in the Woodbridge treatment would seem to be that it rests upon no biological fact in the disease, but upon the symptomatic grounds of intestinal evacuation and intestinal antiseptics. But good things have come to us in medicine, ere this, upon purely empirical grounds; and, with a view of testing this new aspirant for therapeutical honors, the writer, upon assuming the fall service of one of the medical divisions of Bellevue Hospital, requested the house staff to put all new cases of typhoid fever admitted at once upon the Woodbridge treatment, and to follow the details of the originator implicitly, except that patients suffering from hyperpyrexia (rectal temperature exceeding 104° F.) were not to be denied the benefit of the tub bath. It may seem that this was half-hearted and unfair to the Woodbridge treatment; but he must have the faith of a little child (and such are not of this earthly kingdom) in any new procedure whose conscience would allow him to deprive a typhoid high-temperature case of the results of a Brand bath when practicable. During the progress of the test, Dr. Woodbridge visited New York and was invited to examine the cases. A study of the charts did not show that the usual course of typhoid fever was in any way modified by the treatment instituted. One case, which gave us great hope that a specific had been found, was shown by the serum diagnosis test of Widal² not to have been a case of typhoid fever. All the cases were submitted to this test by Dr. Alexander Lambert, bacteriologist to the New York board of health, at the time of Dr. Woodbridge's visit, and the results demonstrated by him in the laboratory.

The writer sincerely regrets that his hope that the treatment of the poor man's typhoid fever had been

found is still deferred. Looking back to 1878, he can see marked progress since the days of large doses of quinine and the use of the Kibbe cot, through the period of the antipyretic heart-depressing coal-tar derivatives, to the magnificent results of the Brand method of tubbing and rubbing, which does many good things for the typhoid patient in addition to reducing his temperature. Looking forward along biological lines, he cherishes the conviction that the serum diagnosis of the present will soon be followed by the successful serum therapy of the future.¹

42 EAST TWENTY-NINTH STREET.

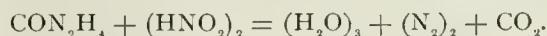
NOTE ON THE EFFERVESCENCE OF URINE WITH NITROSO-NITRIC ACID.

By J. B. NICHOLS, M.D.,

CLINICAL ASSISTANT, UNITED STATES SOLDIERS' HOME, WASHINGTON, D. C.

ON adding to urine a considerable proportion of the impure yellow nitric acid of commerce, a well-marked effervescence occurs. A similar evolution of gas is sometimes noticeable in carrying out the test for albumin with heat and impure nitric acid. The phenomenon is also well marked when the urine is underlaid with the acid, as in Heller's contact test for albumin; in this case minute bubbles of gas may be seen rising in the fluid, while larger bubbles slowly collect on the sides of the tube. A similar evolution of gas, but less in degree, occurs even with colorless nitric acid sold as pure. Other acids (hydrochloric, sulphuric, acetic) do not produce this reaction.

The fact that nitrous acid is capable of effecting the decomposition of urea, in an identical manner with the hypobromites, has been long known, and was utilized as a means of quantitative estimation of urea by Millon, Draper, and others, before the hypobromite method came into vogue. It is to this action of the small amounts of nitrous acid contained in commercial nitric acid upon the urea, uric acid, etc., of the urine, resulting in the evolution of nitrogen and carbon dioxide, that the phenomenon under consideration is doubtless to be attributed. The reaction would be as follows:



Experiments bearing on the subject corroborate this supposition as to the cause of the reaction. Solutions of urea and of uric acid reacted with impure nitric and the other acids employed precisely like the urine, while with solutions of the chief mineral constituents of the urine no formation of gas occurred. Treatment with nitroso-nitric acid containing larger proportions of nitrous acid (produced by dissolving mercury or copper in nitric acid) caused the same effervescence with urine and urea solutions, but much more vigorously.

It is important, for purposes of qualitative analysis, that this evolution of gas from urea should not be confounded with the effervescence arising from the addition of acids to carbonates, to which the reaction under consideration is apt to be attributed. The distinction can be easily made by testing with other acids, as hydrochloric or acetic, which cause effervescence with carbonates but not with urea.

Another practical point suggested is the advisability of using pure nitric acid in making the contact test for albumin, in order to reduce to a minimum the accumulation of gas bubbles on the side of the glass, which tend to obstruct the view of the contact reactions.

¹ Journal of the American Medical Association, August 10 and 25, 1895. P. D. & Co.'s reprint.

² Editorial, New York MEDICAL RECORD, October 31, 1896, page 632. Wyatt Johnston: New York Medical Journal, October 31, 1896, page 573.

¹ Editorial, MEDICAL RECORD, August 17, 1895. Report of Paris Biological Society, MEDICAL RECORD, March 1, 1896, page 426.

RECURRENT SCARLATINA.

BY E. L. DRAKE, M.D.,

PHILADELPHIA, PA.

I wish to report a case in which the patient had two distinct attacks of scarlatina, exfoliation of the epidermis occurring after each attack. The patient, a little girl, aged six and one-half years, a foreigner by birth, was taken sick on July 14, 1896. The mother gave a history of vomiting, and explained that the child "felt hot" and was very restless. When I first saw the case, on the third day of the disease, there was a small patch of exudate on both tonsils, fever, and a typical scarlatinous rash. A culture made from the exudate failed to show the presence of the Klebs-Loeffler bacillus, and by the fifth day the temperature, which never was above 101° F., had returned to the normal. The skin began to exfoliate in good-sized patches, and the child was about ready to be discharged, when, on the morning of August 29th, she vomited twice. She was put to bed, and by evening her temperature had gone up to 101° F., and a red punctiform rash was noticed over the clavicles. The next morning a highly characteristic scarlatinous rash was noticed, covering the whole body. There was also a small spot of exudate upon the right tonsil, and a beautiful demonstration of the so-called strawberry tongue. The temperature was normal by the eighth day of the second attack, and she at once started to shed the new coat of skin which she had received shortly before. This last desquamation was much finer in character than the first, and it was not until October 20th that the skin had regained its smooth character. The patient developed no complications, and was discharged on the above date.

STRANGULATED HERNIA IN A CHILD TWO MONTHS OLD, WITH OPERATION AND RECOVERY.

BY S. NELSON IRWIN, M.D.,

NEW YORK.

THE profession at large is by no means agreed as to what method for the radical cure of hernia is the best, and the question is one of great interest to the surgeon. It is not my intention to enter into the subject of the "radical cure of hernia," but simply to give some details in a case which, from the extreme youth of the patient operated on, may be of interest.

By kind permission of Dr. J. A. Breakell, whose practice I have been attending to during the summer, I am permitted to give the following account:

On September 18th Mrs. B— came to my office with her infant (male), two months and a few days old. The child was crying bitterly, and was evidently suffering great pain. The mother stated that it had kept her awake all night, and there had been much vomiting. Temperature normal; pulse, 120. Examination revealed a tumor on the right side, well down in the scrotum, about the size of a pigeon's egg, pressure upon which increased the pain very much. I had my doubts as to its being a hernia, and examined it carefully for translucency, which was present with a dark spot in the centre. I now came to the conclusion that the child had a strangulated hernia, and proceeded to reduce it, but without result. After several attempts, which caused much crying and annoyance, I decided that an operation was the only means whereby the tumor could be replaced in the abdominal cavity; and so informed the parents, who readily consented. The operation was performed at their home that evening. The little patient was placed on the table and put under chloroform anæsthesia. The usual incision was

made by Dr. C. F. Adams, who divided the superimposed tissue, layer by layer, until the sac was reached. Considerable fluid escaped, bringing the gut plainly into view, very much congested and maintaining a stubborn resistance to reduction.

Upon closer examination, a little piece of gut, about one and one-half inches, was discovered protruding from the bowel proper. This proved to be the vermiform appendix. Its appearance suggested removal, not merely because it was that troublesome piece of visceral anatomy, but on account of its always getting in the way in attempts to reduce the hernia, which, indeed, was not an easy matter, for, after several attempts to replace the tumor, the opening at the internal ring had to be enlarged, when it was replaced with ease. Here a complication arose—our little patient ceased to breathe. The operation was suspended, and our united efforts were directed toward resuscitation. By inverting the child and the performance of artificial respiration, after about ten minutes' hard work, we were rewarded with signs of returning animation. Our little soldier was once more put under the anæsthetic, the operation resumed, and completed rapidly as follows: By the use of a deep catgut suture the internal ring was transfixed; the suture was carried from the skin without, down through the ring and back again, and tied externally, thereby acting as an external suture as well. The canal was closed by interrupted sutures, drainage being left at the lower angle, the wound dressed with iodoform gauze, and the mother directed to administer one teaspoonful of the subjoined mixture every third hour:

R Tr. opii camphoratæ ʒij.
Elixir, simp. ʒij.

I was to call at nine o'clock that evening, but was telephoned for long before that time. On my arrival I found the child crying as bitterly as when first seen by me in the early part of the day. To make sure, I examined the patient and found the dressing was as when first applied. To insure rest I gave one drop of deodorized tincture of opium (Squibb's); at the end of half an hour two more drops were given, and, at the expiration of the hour, two more—making five drops in all. Then the little patient fell asleep. Naturally I felt very anxious about the little one during the night, for it had undergone a critical operation, a severe shock, and had taken a large dose of opium. When I examined the eyes before leaving, the pupils appeared much contracted, and the breathing was indicative of more than natural respiration, showing that the child was fully under the influence of the narcotic, which secured for it a good night's rest. Next morning on removing the dressing the wound appeared clean and healthy-looking, with signs of union by first intention. Temperature normal; pulse, 120. I called again in the evening and found pulse and temperature normal. On the third day, when dressing, I discovered a little pus exuding from the sides of the deep suture, which disappeared after the wound was syringed with H₂O₂ and dressed as before. The case proceeded to complete recovery without a single interruption.

Conclusion: Here was a child, only a little over two months old, with a tumor well down in the scrotum, surrounded with fluid and showing translucency. I might have drawn off the fluid, thereby reducing the size of the tumor, lessening the tension, and so relieving the child of pain. But would this have aided in the reduction of the hernia? I am convinced that in this case (in which my colleagues, Dr. D. J. Moss and Dr. C. F. Adams, to whom I return thanks, tried also in vain to reduce the hernia, and all agreed that the fluid could play no part in the reduction) we had no alternative but the performance of the foregoing operation, which proved so gratifying in its results.

It is worthy of mention that I attended the child's mother at its birth, which was a normal cephalic presentation, although the forceps were used for delivery. There was no visible anatomical defect at that time.

HERPES ZOSTER.

By CALISTA V. LUTHER, M.D.,

NEWARK, N. J.

I HAVE been very much interested in the discussion on herpes zoster in the *MEDICAL RECORD* of late. I have had no experience with blisters, but I have long been dissatisfied with the routine treatment of this troublesome disease, and my experience has led me to feel that most cases run their course uninfluenced by medication.

For more than a year I have been treating all my cases with the application of heat followed instantly by cold, and the results have been exceedingly satisfactory to me. I apply water as hot as can be borne for a few seconds, and follow by very cold water, or, better still, by frictions of ice until there is slight aching of the part. The hot water increases the itching, but the cold instantly relieves it, often for some hours. I order the applications to be made three times a day, oftener if demanded by the itching. They not only relieve this troublesome symptom; they abort the disease. When this treatment is applied to fresh patches, the vesicular stage is never reached, and no case of mine during the last year has lasted over a week.

A CASE OF RACHITIC PARALYSIS.

By LOUIS ROSENWASSER, M.D.,

NEW YORK.

ON July 6, 1896, I was called to see J. G.—, aged three years, male, and was told by the mother that the child had been coughing for some time, was in high fever, and had had a convulsion the night before. On examination I found dulness over the left apex behind, bronchial breathing, and subcrepitan râles. Temperature, 104.6° F.; pulse, 140; respiration, 50; and marked nasal breathing. I therefore made the diagnosis of broncho-pneumonia, and treated the child with the usual remedies, with a good but slow recovery.

When the child was in a fairly good condition, the mother asked if I would not give him something to strengthen him, as he was too weak to walk.

On closer inquiry, I learned that the child had never walked since birth, and that he cut his first tooth at eleven months. On examination I found the epiphyses thickened, a large square head, forehead covered with sweat, and the peculiar beading of the ribs. The legs were thin and flabby, but the patellar reflex was good. I then recognized that I had to deal with a case of rachitic paralysis. I put the child on a proper diet and ordered him to be a good deal in the air. I prescribed syrup of iodide of iron and Thompson's solution of phosphorus, ten drops t.i.d. The child is now able to walk and much improved in his general condition.

540 FIFTH STREET.

Calomel in Heart Disease.—Dr. Maldaresco (*Therap. Woch.*) has reported very favorable results from a course of calomel, followed by the iodide of potassium. He first gives one and one-half grains every two hours for six doses daily, and keeps this up for two or three days, when the dose may be increased to two or three grains for a few days longer, before the iodide is begun.

Therapeutic Hints.

Epileptics have at times shown decided improvement under drop doses of a one-per-cent. solution of nitroglycerin, three times daily after meals.—*CAMPBELL*.

Vulvar Papillomata.—

R Collodion elastic..... 5 gm.
Acid, salicylic..... 2 gm.

Apply a few drops to eight or ten lesions at each sitting. The next day treat the same number of new ones, and again cauterize the original, continuing in this way until all are cured.—*MERCIÈRE*.

Citrate of Silver has been found by Werter (*Berlin. klin. Woch.*, No. 37) to give excellent results in some fifty instances of acute blennorrhagia. A solution, 1 to 8,000, is employed at first, the strength being subsequently increased. It is reported non-irritating to the mucous surface, and its action is not limited to the superficial layers.

Consumption.—The colder the atmospheric air the patient breathes the better; the more oxygen it contains, bulk for bulk, the more it acts as an antiseptic; the more it expands when it has been inspired, and, in expanding, dilates the air cells, the more it tends to cool the overheated lung tissues, rendering them less favorable for the multiplication of bacilli.—*PLAYTER*.

The Prevention of Consumption.—Dr. B. W. Richardson, in *Asclepiad*, makes some suggestions which will prove beneficial to those having a tendency toward pulmonary tuberculosis. Dr. Richardson says that pure air for breathing is the first requisite for the prevention of consumption, and that a uniform climate and as much active out-door exercise as possible are essential. Out-door occupation is preventive. Amusements should favor muscular development and sustain healthy respiration. The dress of the consumptive should secure uniform warmth, and the hours of rest should be carefully regulated by the sunlight. Cleanliness, in the broadest sense of the word, is of special moment. The diet of consumptives should be ample, and every precaution should be taken to prevent colds.

Treatment of Constipation.—Dr. T. Lauder Brunton (*The Lancet*, 1896, p. 1,483) says that he regards this symptom as the reaction of a healthy organism to unfavorable surroundings, viz.: too soft food, too little water, or too little exercise. For the first, he advises bread of the whole grain or with more or less bran, vegetables in abundance, either cooked or raw, as tomatoes or celery. Fruits are beneficial, as melons, apples, oranges, and figs. If stewed prunes are ineffectual, a few senna leaves tied in a bag and cooked with the prunes will produce good results. Sugars are useful laxatives. Orange marmalade, which contains vegetable salts, sugar, and the hard skin of the orange in small pieces, is a valuable addition to the breakfast. If insufficiency of water is the cause of constipation, a tumblerful of hot or cold water should be drunk on rising in the morning and on going to bed. Bottled waters should be substituted for waters from a chalky soil. The habit of evacuating the bowels at a certain time should be formed. Exercise is of advantage; massage, rubbing the bowels in the direction taken by the hands of a watch, is also useful. In women suffering from ovarian or uterine trouble, exercise may be harmful. When the floor of the perineum is lax, it may be necessary to press the faecal mass along in somewhat the same way in which the accoucheur

advances the child's head. Leaning forward to an acute angle causes a stretching of the floor of the pelvis and affords support to the fecal mass, as it is forced backward by the action of the abdominal muscles. In some cases hydropathic treatment is useful—wet compresses to the abdomen two or three times daily and sitz baths, cold in summer and with the chill taken off in winter.

Vomiting of Appendicitis.—

R Menthol..... gr. viij.
Cognac..... 3 iss.
Laudanum..... 3 v.

M. S. Take from ten to twenty drops several times a day, in a little sweetened water.

—PICK, *Revue Internationale de Médecine et de Chirurgie*.

Cocaine is not soluble in vaseline or lard, but is readily so in olive or castor oil.—SAGE.

Ozone is of assistance in pertussis. It diminishes the number and intensity of the paroxysms, shortens the entire duration, and improves the general health.—LABLE AND OUDIN.

Hot-Water Bag over the heart in threatened heart failure.

To Induce Labor.—Inject within the cervix five grams of glycerin.—KOSSMANN.

Galactifuge after Bandaging the Breast.—

R Atropinæ sulph..... gr. ʒi.
Magnesii sulph..... iij.
Infus. gentian..... viij.

M. S. Tablespoonful every two hours.

—BLOOM.

Post-Operative Sequelæ of Gynecological and Abdominal Surgery.—Dr. Byron Robinson (*Denver Medical Times*, October, 1896) gives the following as of common occurrence: 1. Pain. 2. Suppurating ligature. 3. Fæcal fistula. 4. Hemorrhages. 5. Peritoneal adhesions. 6. Hernia. 7. Neurosis. 8. Development of fat and hair. 9. Atrophy of the genitals. 10. A decrease in sexual desire. 11. Renal and pulmonary disturbances. This is quite an array of defects, but every abdominal surgeon of considerable experience has seen almost every one follow his work. Some are unavoidable and the results of life processes.

Krause Skin Transplantation in Plastic Surgery of the Face.—Dr. John F. Erdmann writes in the *American Medico-Surgical Bulletin*, October 24, 1896, as follows: "The advantages of this method of Krause are readily observed. The area repaired is covered by skin of the same character as that over the rest of the body. There is no scar or cicatrix, as very frequently follows after the Thiersch method. The new tissue resists destructive conditions far better than that in cases of the Thiersch method. The area grafted is covered by a soft, cushiony structure. The flap does not bind the underlying tissues, as in some cases of Thiersch grafting. There is no likelihood of the great keloid development, as seen occasionally after the Thiersch method. Hairy areas can be covered by hairy flaps, in which the hair again grows. An objection to the method might be offered in cases in which a large area is to be covered, owing to the fact that it is desirable to have but one flap. This can be readily overcome by taking several flaps from various areas of corresponding thickness and applying their edges with great care to one another, as will be observed was done in the case reported in this paper, although in this instance the second flap was due to an error in measurement, and not to the size of the area to be covered."

Irritability may be an indication of heart disease, of gout, or of an impending headache. Bromides relieve the irritable nerve centres.—LAUDER BRUNTON.

Epididymitis.—

R Potass. bitart..... 3 iv.
Podophyllin..... gr. ij.
Make twelve powders and give one every two hours.

—YOUNKIN.

Milk Diet in albuminuria of pregnancy, deficient elimination, and threatened eclampsia may materially decrease the danger of the last-named affection.—QUEIREL.

Ulcer of the Cornea.—Touch with tincture of iodine and wash off the excess with formaldehyde solution, 1 to 1,000.—VEASEY.

Boric Acid, so valuable in cystitis, may cause digestive disturbances, in which case it may be given best an hour before food and at 10 P.M., making four daily doses.—SLOCUM.

Syphilis.—Dr. Briquet advises the use of iodide of sodium when the potassium salt is not well borne. Ammonium iodide is often very serviceable in the tertiary stage.

Dysmenorrhœa.—Caffeine, bromide of potassium, and gelsemium make a combination of great value if given a few days before the period.—TALLEY.

Hysterical Aphonia.—Ethyl chloride suddenly applied to the nape of the neck, freezing a patch the size of a quarter.—KEBBELL.

Mucous Membranes can be made anæsthetic by oil of cinnamon (1 to 500).—*Therapeutic Gazette*.

Tapeworm.—Salicylic acid eight grains every hour until five or six doses have been taken, followed by a full dose of castor oil.—*Times and Register*.

Emetics.—Syrup of ipecac should be discarded as slow and uncertain. The wine made from fluid extract can be depended upon. Antimony as an emetic should be banished from infantile therapeutics.—*Pediatrics*.

Quinine in Pertussis.—Two out of twenty-seven patients could not retain the drug. The others were remarkably benefited. After five days the attack was ended. Dose, one centigram for each month of age and ten for each year.—FISCHER.

Uterine Hemorrhage following abortion and attended with subinvolution:

R Fluid extract of ergot (Squibb's)..... 3 ij.
Fluid extract of viburnum prunifolium..... 3 ij.
Tincture of cinnamon..... Enough to make 3 ij.

M. Dose: Teaspoonful in hot water from two to six times a day.

—EGBERT, *Philadelphia Polyclinic*, October 31, 1896.

Ipecac in proper dose is a vasomotor stimulant, causing constriction of the arterioles and capillaries, especially of mucous membranes. It acts in the same way to relieve headache of the congestive variety. In glycosuria it may reduce the excretion of sugar, and, generally speaking, it is a tonic to mucous membranes and glandular cells.—ADOLPHUS.

Osmic-Acid injections in neuralgia, the needle being inserted perpendicularly and deeply into the muscles:

R Osmic acid..... 1
Distilled water..... 6
Glycerin..... 4

Keep well corked. Inject the equivalent of one-sixth grain opposite the most painful part.—FRANCK.

Society Reports.

SECOND PAN-AMERICAN MEDICAL CONGRESS.

Held in Mexico City, November 16, 17, 18, and 19, 1896.

(Special Report to the MEDICAL RECORD.)

Monday, November 16th—First Day.

SECTION ON GENERAL MEDICINE.

The Roentgen Rays in Thoracic Aneurism.—DR. WILLIAM PEPPER, of Philadelphia, read a paper in illustration of the value of the x -rays in the diagnosis of thoracic aneurism. He recounted the histories of several cases and exhibited the skiagraphs of the patients, in which the outlines of the aortic swelling were very clearly shown. In one case (possibly of tuberculous adenitis), in which the symptoms suggested an aneurism, the skiagraph showed no enlargement of the aorta. The arrest of the x -rays by an aneurismal tumor was owing to the blood and probably to the iron contained in it. It had been asserted that tuberculous deposits were also impervious to the rays, but this was still a matter of some uncertainty. In the case reported the symptoms were probably due to pressure by an enlarged tuberculous gland, yet there was no shadow in the skiagraph indicating the presence of such enlargement. In the cases in which aneurism existed, the diagnosis had already been made, but the picture made by the Roentgen rays confirmed this diagnosis, and instances might readily be imagined, especially of commencing aneurism, in which certainty could not be obtained from the objective signs alone. It was to be remembered also, the speaker said, that our application of the Roentgen rays was but in its infancy. A year ago the suggestion that we might see the bones or internal organs of a living man would have been received with derision; and yet, only a few evenings ago, the speaker had put a healthy young man, wearing all his clothes but his coat, between a tube of special construction and the fluoroscopic screen, and in twenty seconds he could see clearly not only the ribs but the heart pulsating, and the latter was so distinct that it was possible to tell the ventricles from the auricles. The possibilities of this discovery were almost beyond the power of our imagination.

The Urine in Yellow Fever.—DR. MANUEL RUIZ CASABÓ, of Havana, read a paper on the physico-chemical characters of the urine in yellow fever. He had devoted especial attention to a comparative study of the characters of the urine in yellow fever and other diseases, taking advantage of the opportunities afforded by the large number of cases of yellow fever now in the city of Havana and also utilizing the resources at his disposal as director of the section of urology in the bacteriological laboratory of the University of Havana. After a general review of the chemical properties of normal urine, and the microscopical appearances of the sediment in various semi-normal and pathological conditions, he described the appearances of this fluid in cases of yellow fever. These appearances were not uniform but varied considerably with the individual, yet there were certain characteristics which seemed peculiar to yellow fever and which were always found in cases of this disease, although modified by the individual peculiarities. The paper was largely made up of carefully prepared statistical tables giving the results of the examination of the urine in a large number of cases.

DRS. E. ACOSTA and J. M. DÁVALOS, of Havana, followed with another paper on the same subject, of

which the following is a brief abstract: The bacteriological laboratory was established in Havana in 1887, and since that time many experiments in this field have been undertaken, a great number of cases of infectious diseases existing in that city having been studied in the light of the new science developed, if not discovered, by the immortal Pasteur. Among these diseases yellow fever is the one that has most engaged the attention of scientific men in the island, because it is the one that carries off most victims, and which offers the greatest obstacle to the prosperity and wealth of Cuba. The authors of this paper have for a long time given special attention to the study of this disease, and have now undertaken that of the urine of yellow-fever patients. They studied the toxic power of the urine, and carried out more than one hundred experiments on rabbits. From these experiments they arrived at the following conclusions: 1. The urine of yellow-fever patients contains toxins which are separated by the diseased system, and which perhaps pertain to the agent that produces the disease. 2. The toxic power of the urine reveals the actual condition of the patient, so much so that the toxic power is in inverse ratio to the gravity of the disease. This is explained by the fact that when there is less toxin in the patient's system he improves, because the evil principle is carried off by the urine, while, on the other hand, when the urine is not toxic, the toxin accumulates in the patient's body and increases the gravity of the disease. 3. The urea has nothing whatever to do with the prognosis of yellow fever, as the labors of Bouchard have so demonstrated it with respect to different diseases, and as has been privately proved by the authors of this paper with respect to yellow fever. From the urinary analyses that have been made, they have found that serious cases might eliminate a good deal of urea, while others of less gravity might store it up in great quantities within the system.

Rabbits which were inoculated with urine charged with urea were a longer time in dying after an intravenous injection of yellow-fever virus than others which were injected with urine containing little urea.

The authors claimed that yellow-fever patients die through poisoning by the toxins of the germ which produces the disease, and never from uramia.

Biological Characteristics of the Blood in Yellow Fever.—DR. THOMÁS VICENTE CORONADO, of Havana, presented an exhaustive paper with this title. Having been for many years accustomed to make careful examinations of the blood in order to arrive at a clinical diagnosis of malaria, and having later on carried out some comparative studies between the blood of malarial patients and that of healthy people, he determined to take the first opportunity to extend these studies to the blood of persons attacked by yellow fever. The sudden entry into Cuba within a short period of time of more than one hundred and fifty thousand men who were not acclimated, and who came from Spain for the purpose of fulfilling their military duties, gave new strength to the disease and greatly disseminated the yellow-fever germ from one end of the island to the other, and the great number of cases, both in Europeans as well as in native-born Cubans who had not obtained immunity through a previous attack of this terrible scourge, afforded him a vast field in which to carry on his studies in hæmatology. The technique for collecting the blood and preserving it in good condition for study is very simple, and similar to that which the speaker employed in examination of malarial blood. A finger of the hand, in a thoroughly clean and aseptic condition, is pricked with a common needle, or with a lancet which has been passed through an alcohol flame. The blood is collected in small glass vessels having a long sharp

neck, which can be broken with the nail and closed, after filling, with the flame of a match. The blood which has been collected in this manner can be preserved in good condition for one or many days.

The examination in a natural condition can be made by putting a part of the blood on a cover glass, and then inverting this over the slide. The permanent preparations must be made by the method of double staining with eosin and methylene blue.

Both in the serious cases of yellow-fever infection, in which a fatal result took place a few hours after the extraction of the blood, as well as in the commoner mild cases and in a very large number of observations, the investigations gave surprisingly negative results.

In fact, the speaker said, he had been surprised to find that the blood of the yellow-fever patient which had been taken one or two hours before his death, as well as that which had been drawn when the disease was much less advanced and also during convalescence, should present all the features of normal blood; that is to say, similar to that of a healthy and robust man, full of life and without any pathological stain. It is therefore evident that the blood is not the seat of the disease in that terrible form of the infection which is called black vomit, and which in not a few cases carries off its victim with the same violence as cholera, or poisoning by vegetable or mineral substances. A direct observation, however, shows the normal red globules increased in number, while in connection with these we perceive numerous leucocytes, full of phagocytic life. These facts, which appear extremely singular, Dr. Coronado firmly believed, would shortly carry us to the solution of problems connected with the pathology first, and afterward with the etiology of yellow fever.

The author believed, contrary to the general impression, that the Cubans or natives suffer like Europeans from true yellow fever whenever they have not obtained immunity through a previous attack.

Cantharidal Blisters in Acute Pulmonary Affections.—DR. JOSÉ DE LA CERNA, of Calimaya, Mexico, read this paper. Acute diseases of the chest, he said, are frequent in the Valley of Toluca, and play an important part in the statistics of mortality. The use of blisters is general, both because the public has become accustomed to them, as well as because many physicians prescribe them; but the speaker did not approve of their use.

At the time when pneumonia was considered a local disease, in which inflammation played an important part, the action of a blister could be supposed to be beneficial, although it was not proved.

In pneumonia we are not dealing with a local inflammatory process, but with a disease of which the pathogenic agent is known. A blister is almost always applied for the purpose of easing the pain and diminishing the congestion, but, seeing that pneumonia is a general disease, it should not be treated by attacking one of its symptoms, and still less by the employment of cantharides. In pneumonia renal congestion is constant; we are acquainted with the functions of the kidneys in the expulsion of the toxins produced by the economy, and consequently we recognize the importance of preserving the renal integrity. A blister increases this congestion and diminishes the quantity of urine, and, as in pneumonia one of the indications is active diuresis, the result is that we obtain the contrary effect to what is desired.

In pleurisy a blister exercises no effect on the effusion during the acute period.

The following were the conclusions of the author: Pneumonia and pleurisy being of a general and infectious character, and the defects of the blister being known, it ought to be left out in their treatment.

If it is applied, it should never be during the acute period, but toward the end, when the *restitutio ad integrum* is difficult, provided the kidneys are known to be sound. It ought to be kept on for from four to six hours, and while the epidermis rises hot drinks should be taken. Antisepsis of the skin should also be carefully looked after.

Spontaneous Rupture of the Aorta.—DR. J. LLAMBÍAS, of Buenos Ayres, Argentina, read a paper on this accident, in which he endeavored to demonstrate the anatomical cause of spontaneous rupture, since he believed that it was not sufficiently explained by the existence of chronic endarteritis. He cited a number of authors who had sought to explain the nature of the accident, but held that their explanations were unsatisfactory, since they were not applicable to all cases. Dr. Llambías held that the original lesion which was the actual occasion of the rupture consisted in an alteration in the circulation in the vasa vasorum resulting in an endarteritis of these minute vessels. Although we cannot demonstrate it, the author regarded it as probable that this endarteritis arose from systemic causes. Its existence was demonstrated by thrombosis in the vasa vasorum, and thus was caused a necrosis of the area supplied by the occluded vessels.

A paper on "International Medicine," by DR. JOHN W. TRADER, was read by DR. T. D. WHEATLEY.

SECTION ON GENERAL AND ORTHOPÆDIC SURGERY.

Tuberculosis of the Knee.—DR. ANGEL CONTRERAS, of Puebla, Mexico, reported a case of tuberculosis of the right knee, in a boy six years of age, in which a cure was obtained by arthrectomy after the method of Albertin, of Lyons. The diagnosis of the tuberculous nature of the affection was made from the clinical symptoms and was confirmed by microscopical examination. There were no signs of tuberculosis in any other part of the body. The operation was performed on August 17, 1895, the limb being immediately after immobilized in a plaster-of-Paris dressing. During the first three days there was a slight elevation of temperature, but after this there was no fever.

The antiseptic dressing was renewed on the 20th of the same month, and afterward on the 31st, being left without moving during the whole month of September. During the months of October and November, it was found necessary to change the dressing several times, as eczema had developed in the operated member and a fistulous path was found, caused by a small carious focus. On November 29th this carious part was scraped, and during the month of December the wound was completely closed, and perfect ankylosis obtained of the femur with the tibia. During the first months of the present year the patient was visited again, and the permanence of the cure was confirmed: the patient was found to have preserved his leg straight with only a slight shortening and limp. A photograph of the patient as cured was shown.

The object of publishing this case, Dr. Contreras said, was to stimulate surgeons to perform an operation which can radically cure such a common disease and one of such a serious character as tuberculosis in the knee, and to show that the treatment by means of the atypical arthrotomy is preferable to that by revulsion and immobilization, as well as to antiseptic and other injections, or to typical resection.

Laryngeal Operations.—DR. GEORGE W. CRILE, of Cleveland, O., presented a communication entitled "Researches into the Technique of Laryngeal Operations, with a Report of Four Successful Total Extirpations." The first part of the paper was devoted to a recital of the results of a series of experiments. Even slight contact, the author said, with the mucous

membrane upon and about the region of the vocal cords causes sometimes partial but more frequently complete arrest of respiration; pressure or dragging on the larynx causes in addition a considerable, sometimes very great, slowing of the heart beat and correspondingly considerable or very great fall in blood pressure, in several cases almost to zero. On section of the inferior laryngeal nerves the phenomena are not changed; on section of the superior laryngeal nerves the phenomena are abolished. Atropine in physiological doses abolishes the heart phenomena but does not prevent the respiratory alterations or arrest. Cocaine hypodermatically also guards the heart but not the respiration. Cocaine locally applied abolishes completely both the effect upon the heart and the respiration. These results having been obtained by graphic record on twenty dogs under full ether narcosis, we may conclude, Dr. Crile said, that the phenomena are due to reflex action caused by mechanical irritation of the peripheral terminals of the superior laryngeal nerves, and that cocaine locally applied paralyzes the same even under full anæsthesia. The local application of cocaine in certain laryngeal operations is indicated.

In the second part of the paper the author dealt with clinical observations and the conclusions derived from them. Carcinoma, he said, probably cannot penetrate cartilage. The most frequent point of attack is the region of the vocal cord, consequently causing early symptoms. When suspected a specimen should be early secured and submitted to a competent pathologist, and, if proven cancer, an early and radical operation should be performed. Early operations should be extremely promising as to their results.

In neglected cases, usually ulcerating and foul, suffering from septic broncho-pneumonia caused by the discharges or by entrance of food, subjects of most intense suffering, a radical operation, while it may not cure, will give a respite and prove to be merciful and humane. The testimony of patients themselves on this point is emphatic. By the technique described, the pulmonary tract may be safely guarded, the operating-time may be lessened, the patient will obtain as long a time of freedom from recurrence as after the most favored capital operation, and, better than all, the high mortality will be very greatly reduced. In the four cases of total extirpation of the larynx, reported by Dr. Crile, the patients all made a good recovery.

Fracture of the Clavicle.—DR. A. D. SPOHN, of Corpus Christi, Tex., exhibited a new form of apparatus for use in the treatment of fracture of the clavicle, to retain the ends of the divided bone in coaptation and to prevent deformity.

A paper on "Gastro-Enterotomy" was read by DR. E. B. SMITH, of Detroit, Mich.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Uterine Fibroids Complicated with Pregnancy.—DR. A. VANDERVEER, of Albany, N. Y., presented a communication with this title. Although cases of this kind are not numerous, he said, yet the method of treatment now employed, thanks to recent progress in abdominal surgery, gives very satisfactory results, at least as regards the life of the mother. The subperitoneal, pedunculated, or sessile fibroids usually give but little trouble upon the occurrence of pregnancy, but danger exists in the case of those which are so situated as to interfere with the cavity of the uterus or obstruct the outlet of the pelvis. Whenever the tumor is so located as not to be likely to interfere with delivery, or its growth is so gradual as to admit of postponement of the operation until after the viability of the child, our duty is clearly to wait. Myomectomy

in the interest of the child is justified in cases in which dystocia would probably occur; at or near term, when dystocia threatens, suprapubic hysterectomy is probably the safest course to pursue. In such cases the loss of the mothers ought not to exceed ten per cent., and the children ought nearly all to be saved. Dr. Vanderveer then reported two cases illustrating this complication of pregnancy in aggravated form, and emphasizing the necessity of thoroughness when operation is called for. In such grave cases delay, in the hope that absorption will occur or that a living child may be delivered (as we sometimes see in cases of uterine cancer), is hardly ever justifiable. We should operate and should remove the appendages with the uterus, for suppuration and sepsis may follow an attempt to perform a Cæsarean operation. The speaker said that his remarks did not apply in the main to small tumors, but only to large and rapidly growing ones, in which cases the mortality, when operation was not done, is very high. They do not admit of myomectomy, and a uterus with large fibroids, with cystic degeneration going on, will not admit of the patient going to full term, and demands prompt surgical interference. Even though abortion may occur, still the uterus is septic, and this is one cause of the great mortality in such cases.

Dystocia in Mexico.—DR. J. IGNACIO CAPETILLO, of Mexico City, read a paper on this subject. Dystocia from maternal causes was comparatively rare in Mexico, and especially so was that from narrowed pelvis in consequence of rickets or osteomalacia. Dystocia sometimes was caused in the native (Indian) women by reason of the greater narrowness of the vulva and rigidity of the perineum in them as compared with women of Spanish blood. Dystocia sometimes occurs in consequence of the premature rupture of the bag of waters, resulting from the common use of the Montanea fomentosa, or "zoapatl." Placenta prævia and procidentia of the cord are rather common causes of dystocia, as shown by the statistics of the Maternity Hospital in Mexico City.

The Management and Surgical Treatment of Ectopic Pregnancy.—DR. AUGUSTUS P. CLARKE, of Cambridge, Mass., followed with a paper with this title, based chiefly upon the results of his own experience and observation. He divided the treatment into several classes. In those cases in which the foetal sac is situated in the abdominal cavity there will not usually be an immediate urgency for surgical measures. In cases of ectopic pregnancy seen at a very early period the application of the galvanic or faradic current may be effective in destroying the fetus and thus enabling absorption of the remains to take place. The liability of the supervention of shock, hemorrhage, or sepsis, from rupture of the sac or of some of the larger arterial branches, especially after the third month of gestation, is so great that precautions should always be taken to have everything in readiness for making an abdominal section. Cases in which rupture has occurred and the child continues to develop should be treated as circumstances demand. If gestation has not gone beyond the third month, removal by coeliotomy should be advised. When the pregnancy has passed much beyond the sixth month it may under proper precautions be allowed to continue until the end of the eighth month. In those really desperate cases of rupture of the sac or of blood-vessels, immediate coeliotomy should be regarded as our chief reliance. This precaution should be adopted whether the hemorrhage is the result of a primary rupture or is a sequel to the yielding of a partially restored vascular tissue. The nearer the gestation has reached the close of its term, the greater will be the probability of saving the life of the child. The immediate removal of the placenta in such cases is often attended with ex-

treme danger; for this reason the sac may sometimes be sutured to the peritoneum, and the placental mass, before its removal, may be given time to undergo contraction and become loosened from its attachment. If it is deemed wise to effect immediate removal of the placenta it can best be done after clamping and tying the ovarian and uterine arteries; should the foetal sac then be found too firmly adherent to allow its safe removal, suture of its edges to the parietal peritoneum and the employment of drainage will be required. In those cases in which the foetation is intraparietal the liberation of the child can be most safely effected, so far as the mother is concerned, by resort to hysterectomy. In some cases closure of the rent by aseptic animal sutures and the stitching of the opening to the abdominal wound might prove sufficient for overcoming the hemorrhage. Cases that sometimes give rise to most alarming symptoms are those in which the foetation takes place in some portion of the Fallopian tube. Hemorrhage from rupture of the sac or from the yielding of the vessels near the fimbriated extremity of the tube can best be controlled by suturing the ruptured vessels through an abdominal incision.

The Ambulant Treatment of Certain Forms of Pelvic Disease.—DR. EMMA B. CULBERTSON, of Boston, Mass., presented a communication in which she said that the frequent occurrence of pelvic disease among women of the laboring classes has of late been more fully recognized than formerly, so that now more accurate diagnosis, leading to more efficient treatment, great relief from suffering, and frequently entire cure can be secured while the patients continue their usual occupations.

It was to emphasize this fact, to make a plea for more optimistic views of ambulant gynecology, that the speaker presented the following statistics. These were taken from the records of but one institution and covered but one year, though similar results, she believed, would be derived from the tabulation of the dispensary service of the past twenty years.

The cases treated in the gynecological department of the New England Hospital Dispensary during the year ending September 30, 1896, were classified as follows: Occupation: Housewives, charwomen, domestics, shop girls, seamstresses, and factory girls. Diseases: Malposition, inflamed adnexa, neoplasms, endometritis, subinvolution, and venereal disease.

To all of these patients a stay in the hospital would have meant serious interference with their daily work. The problem therefore was to effect good results in spite of the fact that rest, care, good food, and freedom from anxiety could not be secured. Fortunately, however, we observe in the majority of such cases a marked toleration of treatment. Measures that could be employed only with the greatest precaution among women of the leisure classes become routine treatment in the dispensary clinics. It would seem, Dr. Culbertson said, as though constant muscular activity must exert some derivative influence upon the pelvic viscera. The speaker then described the technique of various methods of treatment, showing instruments, tampons, etc., referring also to the general treatment employed in conjunction with local measures.

Potassium Iodide in Passive Metrorrhagia.—DR. ANTONIO MACÍAS, of Guanajuato, Mexico, read a paper on the use of iodide of potassium as an indirect hæmostatic in passive hemorrhage of the uterus of asthenic character. He said that this drug was often employed to restore the equilibrium of the circulation in pathological conditions characterized by passive hyperæmia, and he had merely extended the use of the remedy to the treatment of passive hemorrhage in general, but especially to that occurring from the body of the uterus in cases not calling for operative interfer-

ence. His treatment was based upon the results of the extensive studies of the physiological action of potassium iodide made by Germain Sée. These were summarized as follows: potassium iodide presents two phases in its biological action: one is the excitement which is characterized by tachycardia, an elevated pressure, and vasoconstriction. We afterward have another phase, of vasodilatation and low pressure. It is, therefore, a drug whose action is similar to that of digitalis; it first produces a strengthening of the heart and increases the blood pressure. Once this is increased, the circulation becomes more active in the coronary arteries and in the arterial system; thus potassium iodide nourishes the heart and is the regulator of the pulmonary and systemic circulation. As the drug acts on the muscular fibres of the vessels, it regulates the local circulation which is passively disturbed. In fact iodide of potassium is a stimulant to the muscles of the cardiovascular system.

Applying these principles to cases of passive hemorrhage of the uterus (considering this as an exaggerated hyperæmia with extravasation) and in view of the favorable clinical results obtained, the speaker said that we might formulate the following theory: Potassium iodide is a cardio-vascular muscular excitant which reduces venous tension in the uterus, whether simple (hyperæmia) or accompanied by extravasation (hemorrhage). It relieves congestion and acts thus indirectly as a hæmostatic. Its action is certain, powerful, and lasting, and it is not poisonous. It resembles in its action that of the normal blood, which is the physiological stimulant of the circulatory system. The remedy should be given in moderate doses. The indications for its use are all forms of passive hemorrhage from the uterus, whether from general or local causes or that which occurs in women staying at great altitudes.

Other papers read were on "The Treatment of Face Presentations," by DR. JOSÉ TORRES ANZORENA; "A Contribution to the Surgery of the Female Perineum," by DR. EDWARD J. ILL, of Newark, N. J.; "Etiology of Eclampsia," by DR. CLARK, of Chicago; and "The Therapeutic Value of Rest," by DR. SARAH H. STEVENSON.

Tuesday, November 17th—Second Day.

SECTION ON GENERAL MEDICINE.

Pseudo-Hermaphroditism.—DR. IGNACIO ORTIZ Y CÓRDOBA, of Guernavaca, Mexico, presented an individual, Maria Hernandez by name, who was a pseudo-hermaphrodite, and gave in detail an accurate study of the anatomical, physiological, and moral peculiarities. The condition was one of perineo-scrotal hypospadias. The sexual apparatus was masculine, some of the parts being apparently missing, others imperfectly developed, but the exact condition of all the organs of generation could not be determined with absolute certainty. The physical functions were those of a male. During coitus, which could be but imperfectly performed, there was an ejaculation of a liquid which was seen under the microscope to contain spermatozoa in small number. The character and habits of the individual were distinctly feminine, yet sexually the subject was attracted toward women and not toward persons of the other sex. The author reviewed at some length the literature of similar cases and also discussed the classification as proposed by Pozzi, of Paris, and concluded with some considerations bearing upon the medico-legal relations of this and other like cases. In addition to the presentation of the individual, the report was accompanied by photographs and microscopical preparations.

Hæmology of Tuberculosis.—DR. A. M. HOLMES,

of Denver, Col., presented a communication on "The Diagnosis of Tuberculosis by Means of a Microscopical Study of the Blood," of which the following are the conclusions: 1. The diagnosis of tuberculosis from the morphological appearance of the blood rests upon the hypothesis that each individual has a biological prototype in the leucocytes of his own blood. 2. Leucocytes are independent organisms with functions analogous to those of the larger organism. 3. These pass through various stages of growth and decay. 4. Disintegration of leucocytes may occur at any age. 5. The leucocytes are tissue formers. 6. As are the leucocytes so is the individual. 7. Tuberculosis is a disease characterized by tissue disintegration. 8. In tuberculous blood there is abundant cell-disintegration, premature development, premature decay, and a greater or less deviation from the normal average of the various types of cells. 9. If there is a marked disintegration in the leucocytes, it is with certainty that we can predict a similar condition in the larger organism. 10. Tuberculosis possesses a combination of blood appearances from which a diagnosis may be made earlier than by any other means that we now possess. 11. These changes may be recognized by appropriate microchemical stains and a high magnification. 12. They can be recognized even before the disease manifests itself in the individual. 13. They are sufficiently marked in tuberculous individuals, or even in those with a strong tuberculous predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition of the patient. 14. Thus far, no other pathological condition has been found which presents similar blood appearances. 15. An early diagnosis would enable many to avail themselves of favorable climatic changes, and thereby delay or even prevent the destructive results which would otherwise inevitably follow.

DR. JAMES K. CROOK, of New York, read a paper on the use of creosote in the treatment of pulmonary diseases.

SECTION ON GENERAL AND ORTHOPEDIC SURGERY.

Linear Electrolysis in Stricture.—DR. J. A. FORT, of Montevideo, Uruguay, read a paper with this title in which he described at length his method of treatment of obstinate stricture of the male urethra by means of linear electrolysis. The method is the same as that described in a monograph published by the author when residing in Paris. Special instruments devised by Dr. Fort for use in this operation were also exhibited.

Intestinal Anastomosis.—DR. J. FRANK, of Chicago, performed an experiment upon a large dog in the San Andrés Hospital, demonstrating the application of his new device for anastomosing of the intestine. The dog being etherized, its abdomen was opened and about four inches of the small intestine were resected. The divided ends of intestine were then united by means of the bone buttons united by a piece of rubber drainage tube. The operation was completed in fourteen minutes, but Dr. Frank said that he had done it with ease in eight minutes, a longer time being occupied at this operation because of the necessity which he was under of explaining to his audience the details of each step in the operation. The button employed and the method of performing the operation are familiar to the readers of the MEDICAL RECORD, having been fully described by the author in a recent issue.

The method was discussed and favorably commented upon by Sir William Hingston, of Montreal, Dr. Ramon Macías, of Mexico City, and others.

DR. EDWIN BENTLEY, of Little Rock, Ark., read a paper entitled "The Claims of General Surgeons."

SECTION ON OBSTETRICS AND GYNECOLOGY.

Hydatidiform Mole.—DR. J. IGNACIO CAPETILLO, of Mexico City, reported a case of hydatidiform mole which had been accompanied by considerable hemorrhage from the uterus. The woman had been examined by a number of physicians at different times and all had pronounced the case one of placenta prævia. The true diagnosis was not arrived at until the mole had been extracted.

Puerperal Septicæmia.—DR. MANUEL BARREIRO, of Mexico City, read a paper on puerperal infection. The routine practice in all cases of childbirth in the Maternity Hospital of Mexico is to administer a laxative on the day following delivery, and each day thereafter, until the end of the puerperal period, to give tepid antiseptic vaginal injections. Should the temperature rise, an intra-uterine injection is prescribed with a weak pressure (not exceeding twenty inches). If, after the lapse of two days, the temperature continues high, prolonged douches are administered during two hours. Continuous irrigation is both dangerous and inefficacious. If, on the third or fourth day, the temperature does not fall to the normal, it then becomes necessary to curette without loss of time. Both before and after this operation perfect asepsis must be maintained. Excessive loss of blood is a very serious complication and militates against the success of the operation. The objections which have been brought forward against this operation are of no value, clinically speaking; its advantages are indisputable, especially when the infection arises from the existence of placental remains, as it does in the majority of cases, in the author's opinion. The most convenient antiseptic is generally iodine, on account of its volatile character, and of its power to enter thoroughly into the tissues; but in special cases we obtain better results with corrosive sublimate, permanganate of potassium, or oxygenated water. A general tonic treatment ought to be well attended to, as well as the administration of strychnine hypodermically.

Should success not be obtained after a first curettage, this can be repeated a second and even a third time, and in these cases, should it be found necessary, the practitioner can have recourse to catheterization and refrigeration of the uterus.

The clinical comparison of this method with others in common use has firmly convinced the author that curettage is an operation that can be executed without danger, and, if done in due time, is superior to any other of the means that are now known.

DR. GONSALEZ DE LA VEGA, of Mexico City, followed with a paper on the same subject, entitled "Observations on the Classical Treatment of Puerperal Septicæmia." Although, he said, orrhotomy has been found efficacious in the treatment of puerperal septicæmia, it is, however, not the only method worthy of our careful consideration. The reasons why orrhotomy cannot always be relied upon are: Firstly, because the antistreptococcus serum employed can combat only those septicæmias which are produced by the streptococcus; secondly, because the serum acts on the toxic products already absorbed, and it is always a good plan to destroy the causes of this toxic absorption. Local antiseptic treatment consequently and also chiefly merits attention.

Before undertaking any treatment, the physician ought to determine which is the starting-point of the infection, and not at once make intra-uterine applications that may be useless or even injurious through some act of commission or omission. In order to discover this source and utilize all the means for diagnosis, it ought to be searched for, according to a determinate plan, from the exterior to the interior, and in

many cases it will be found necessary to make use of the speculum.

When it is clearly demonstrated that the infection is extra-uterine only, no injection or curettage should be resorted to. Even should the disease have gone beyond the third day of fever, the septicaemia can still be combated without resorting to curettage when its source is extra-uterine.

In those rare cases in which it may be impossible to diagnose the focus of infection, the applications must be both extra- and intra-uterine. When some lesion is found in the canal, intra-uterine injections must be practised through the speculum, in order to avoid the carrying of the septic products of the vagina to the uterus by means of the instrument.

Dr. de la Vega then reported four cases illustrating the points brought out in his paper. The first case was one of puerperal septicaemia resulting from a lacerated cervix. The treatment was a purely antiseptic one and resulted successfully after some days. In the second case septicaemia occurred and persisted, in spite of antiseptic injections, for thirteen days. At the end of this period a very careful examination was instituted, and resulted in the discovery of a slight tear of the perineum. When this was repaired the temperature rapidly fell to the normal, and the patient recovered. The third case was one in which septicaemia had existed before the patient was seen by Dr. de la Vega. A cure speedily followed the use of antiseptic vaginal douches. The fourth case was one of considerable obstinacy. Antiseptic injections, both vaginal and intra-uterine, were employed for a time without result, and then curettage was resorted to. This also failed, and then the author performed a trachelorrhaphy under strict antiseptis, with the result that the temperature quickly fell and the patient made a good recovery.

DR. HENRY SCHWARTZ, of St. Louis, Mo., read a paper on the same subject, under the title of "Antiseptic Obstetrics and the Antitoxin Treatment of Puerperal Infection."

DR. RAFAEL NORMA, of Tulancingo, Mexico, also presented a communication on this subject.

DR. J. FRANK, of Chicago, said that there was no absolute therapeutic rule which it was possible to establish as embracing all cases of puerperal septicaemia, and each case was a law unto itself and should be treated according to the individual indications. In many cases curettage was called for, and he did not agree with those who condemned the use of the curette, for he believed it had a definite place in uterine surgery.

DR. E. A. SPOHN, of Corpus Christi, Tex., was strongly opposed to the use of the curette in these cases, regarding it as a dangerous instrument, the employment of which, unless possibly in certain extreme and very exceptional cases, was unjustifiable.

Third General Session—Thursday, November 19th.

The closing session was held in the chamber of deputies on Thursday evening. After the reading of the treasurer's report, DR. PORFIRIO PARRA delivered an address in which he reviewed the progress made in medical science of recent years, referring to Pasteur, Lister, Koch, and other leaders in the triumphant march. He rejoiced that Mexico had had the honor of receiving this representative body of American physicians.

DR. REED reported that the executive committee had, in response to the invitation of Dr. Costa Ortiz, decided upon Caracas as the place of meeting of the third congress, in December, 1899.

Addresses were then made by the delegates from each government, represented as follows: DRs. LA

CHAPELLE, Canada; LEE, Colombia; CORONADO, Cuba; YELA, Guatemala; DE BAYLE, Nicaragua; ORTIZ, Venezuela; LA VISTA, Peru and Ecuador; and CALNECK, Costa Rica.

The latter said he was born in Canada, educated in the United States, and practised in Costa Rica; and he was therefore well fitted to speak of Pan-Americanism, a spirit which should animate and bind together all the people of the western hemisphere. To know thoroughly and appreciate the Spanish Americans, one should live among them and meet them in their hospitable homes and in the bosom of their families, where the charming traits of their character find fullest expression.

DR. REED, on behalf of the members from the United States, gave voice to the friendly sentiments and gratitude of his associates. "We came here," he said, "feeling somewhat as strangers, but go home feeling as brothers. Your cordial, your generous hospitality, your splendid entertainments, and your distinguished attentions have won our affections and shall abide in our memories. We return to our homes in the North, and in the fullest meaning of the word we feel as if we are leaving part of our hearts in the glorious and beautiful land of the Montezumas."

The closing address was by DR. GREGORIA MENDIZABAL, and at its termination MINISTER BARANDA declared the second Pan-American medical congress closed.

Surgical Suggestions.

Aortic Regurgitation with Mitral Stenosis.—

R Tr. strophanthus,
Tr. nucis vomicae,
Tr. digitalis.....āā p. æ.
M. S. grt. xx. to xxx. i. i. d.

—W. H. THOMSON.

Blood Stains.—Dr. Blenkiser in the *Scalpel* says that surgical instruments, sponges, the hands of the operator, and blood-stained articles may be readily cleansed by washing them in a tepid solution of tartaric acid and rinsing in water without soap.

The Cure of Crying Babies.—In a New York nursery, as soon as a child begins to cry, the nurse catches it up, holds it gently, and places her hand over its nose and mouth, so that it cannot breathe. The crying ceases directly, and the child is allowed to breathe freely again. Should it a second time attempt to scream, the same simple and effectual method is applied. This is repeated until the baby imagines that the painful stoppage of the breath is caused by its own effort to scream, and so is careful to keep quiet. —*Argus.*

Trichocephalus Dispar.—Dr. Moosebrugger (*Cor. Med. Press and Cir.*, vol. lxii, No. 2,991) reports three instances of children, aged respectively one, three, and three and one-half years, who were affected with trichocephalus dispar, and suffered severely from hemorrhage of the bowels, diarrhoea, and great prostration. One of the children died from intercurrent croup. Post-mortem examination gave evidence of severe catarrh of the large intestines, with two small ulcers in the descending colon and a recent cicatrix in the transverse colon. In the colon eight hundred and eighty-nine specimens of the entozoon were found. In the other two cases large quantities of the ova were found in the faeces—in one, eighty-eight hundred and seventy-eight were estimated to exist in one cubic centimetre. Dr. Moosebrugger concludes, from the favorable results obtained, that the presence of this parasite is not so fatal as is commonly supposed.

A Sudden Decline in temperature during typhoid fever is a warning of hemorrhage from the bowels.—*The Medical Summary.*

Indications for Nephrectomy.—Dr. Kuester gives the following indications for operation: 1. Tumors of the kidney. 2. Tuberculosis of the kidneys; experience has shown that renal tuberculosis occurs very often primarily and unilaterally; it affects the genitals and the lower urinary passages more frequently than some other parts of the body. Severe persistent catarrh of the urinary bladder is one of the first symptoms which tuberculosis of the kidney presents; in cases of this kind nephrectomy gives excellent results, and complete recovery ensues. 3. Suppurating kidney caused by metastatic processes and foreign bodies, especially calculi. 4. Renal hæmophilia. 5. Movable kidney. 6. Injury to the kidney. 7. Calculous diseases of the kidney. 8. Uretero-abdominal fistula.

Small Ovarian Tumors.—Dr. Davenport (*Boston Medical and Surgical Journal*, October 8, 1896) gives the following propositions as helpful in diagnosing small ovarian tumors: 1. Small pelvic tumors are usually accompanied by well-marked symptoms. 2. Pain is usually present, but its seat does not have any constant relation to the kind of tumor or its location. 3. Menstrual disturbances are the rule, and by far the most frequent abnormality is menorrhagia or metrorrhagia, or both. 4. There seems to be a direct causal connection between severe uterine hemorrhage and cystic ovaries which are closely adherent to the uterus. 5. Uterine hemorrhage associated with a pelvic tumor which is uninfluenced by intra-uterine treatment (curetting or electricity) is more likely to be due to an ovarian tumor than to a fibroid. 6. Reflex symptoms are comparatively rare, and occur in the later stages of the disease.

Peritoneal Wounds.—Dr. L. McLane Tiffany (*American Journal of the Medical Sciences*) reports four cases of wounds of the peritoneal cavity and thinks the following propositions are justified: 1. A penetrating wound of the peritoneal cavity is not accompanied by symptoms commensurate with the extent of the injury. 2. Many fatal lesions may be present, yet give rise to no marked symptoms. 3. Fatal lesions may exist, yet shock be wanting. 4. The wound of entrance should be enlarged, and, if the missile have entered the abdomen, a section is called for. 5. Operation is proper soon after the injury, before the peritoneal membrane has become infected or much blood lost. 6. Flushing the open peritoneal cavity with hot water or hot normal salt solution is an excellent stimulant to the heart. 7. The abdominal wound should be closed when practicable, drainage being provided for.

Puerperal Self-Infection.—Dr. Charles Jewett (*American Gynecological and Obstetrical Journal*) read a paper on this subject before the New York Medical Society in which he draws the following conclusions: There is no clinical proof that puerperal infection can occur from normal vaginal secretions. All childbed infection in women previously healthy is by contact. Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious. Its general adoption in private practice could scarcely fail to be mischievous. In healthy puerperæ delivered aseptically post-partum douching is also contraindicated. These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded. A purulent vaginal secretion exposes the woman to puerperal infection. In the presence of such discharges at the beginning of labor the vagina should be rendered as

nearly sterile as possible. Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces. In case of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor. Sterilized glycerin or other suitable material may be used to restore the proper lubrication of the birth canal. The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily for several days during the last weeks of pregnancy. It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge. Clinically, the amount of the discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces, usually furnish a sufficient guide to the treatment. Probable unclean contact within twenty-four or forty-eight hours before labor is an indication for prophylactic disinfection.

Prevention of Hernia after Abdominal Section.

—Dr. Emory Lanphear says: "From a rather extensive series of experiments, as well as from observation of a number of cases upon which I have had to operate for hernia following abdominal section, I am of the opinion that rupture, subsequent to operation, is almost invariably due to faulty suturing. For this reason, I always close the peritoneum separately and carefully with catgut stitches, unless there is the utmost need of rapidity in completing the operation. If the two cut margins of the peritoneum be brought into close apposition, so there is no little hole through which the omentum can force itself, and if over this the muscular tissues be carefully sutured, there is but trifling danger of post operative hernia. In a large number of sections I have never had a rupture follow such closure. In introducing the stitches of silkworm gut through the skin, muscle, and fascia, it is best to catch up the raphe formed in suturing the peritoneum, including it in about every other one of the sutures, thus preventing the formation of pockets, which favor the development of hernia. Another point—I always make the incision a little to one side of the median line, through the rectus muscle, as I believe union will be more prompt and strong in the vascular muscular tissues than in the non-vascular structures of the linea alba. The sutures should be left as late as the tenth day before removal, in ordinary cases; longer in extraordinary ones."

General Rules for the Treatment of Hydatids of the Liver.

—Dr. Frank (*American Journal of the Medical Sciences*, October, 1896) suggests the following rules: "1. An incision over the most prominent portion of the presenting mass, be this high or low; or, if no tumor can be discovered, the area of hardening and increasing dulness should be our guide for incision. 2. Examine for adhesions: if they be complete, our work is simplified; if not, we must sew the peritoneum all around the mass so as to shut off the abdominal cavity. 3. Introduction of the aspirator. This needs no explanation; but it is well to bear in mind that we do not always obtain the characteristic fluid, as at times the fluid may be too consistent to enter the needle. 4. We must wait for three, four, or five days for adhesions to become firm before opening the cyst. 5. When the cyst is opened a large opening should be made and the largest-sized rubber-drain introduced. 6. The dressings must be made under strict antiseptic precautions, as there is a possible danger of secondary infection. 7. The cyst-cavity should be washed out with sterilized water for the first week, after this with carbolic-acid solution, iodine solution, peroxide of hydrogen, boric acid, creosote, or any of the antiseptic

solutions. The point on which there has been more diversity of opinion than any other is: When there are no adhesions, should the operation be made in one or two sittings? Most authors advise two operations, claiming that there is too much danger of allowing the hydatid fluid to enter into the peritoneal cavity, which would perhaps result fatally, or it might form a nucleus for another cyst. With care an operation of this kind can be performed in one sitting, as my first case will show; but the best plan is, if time will permit, first to sew the peritoneum to the sac and wait four or five days for the adhesions to become firm, as was done in my second case."

Indications for Mastoid Operations in Acute Purulent Otitis Media.—Dr. Knapp (*Arch. of Otolaryngology*, xxiv., 3 and 4) concludes from his observations that: 1. There is in acute otitis media no symptom which by itself constitutes a sufficient indication for mastoid operation. Neither is there any one symptom which contraindicates it, with the exception, perhaps, of deep coma. The most important symptoms are local pain, spontaneous and on pressure, headache, rise or fall of temperature, dizziness, nausea, vomiting, stupor, aphasia, hemianopsia, optic neuritis, paralysis, and coma. Choked disc from otitic brain disease may disappear with either operative or spontaneous recovery of the patient. 2. The indication for operating is derived from the *ensemble* of the symptoms and the course of the disease. 3. Even if the patient does well and seems cured, he should not be lost sight of for weeks or months, for acute purulent mastoiditis is a treacherous disease. 4. Whatever the symptoms be, we should, as a rule, begin the operation by opening the antrum, and then be guided by the conditions coming into view.

The Limits of Vaginal as Compared with Abdominal Exploratory Section.—Dr. Henry C. Coe (*New York Polyclinic*, June, 1896) gives the conditions which lead him to select the abdominal method of explorations: "1. In the case of neoplasms or obscure enlargements which are situated in the abdominal cavity, or have risen above the pelvic brim, especially if they are more or less adherent. 2. In ascites of doubtful origin, more particularly when tuberculous or malignant disease is suspected. 3. In cases of disease of the adnexa in which the latter are situated near or above the pelvic brim, as established by bimanual palpation. 4. In cases in which the history and symptoms point to general intestinal adhesions, and, above all, when appendical complications are suspected. 5. In ectopic gestation before rupture, when the sac is high up, at the side or in front of the uterus, instead of in Douglas' pouch. 6. In cases of intractable pelvic and abdominal pain of obscure origin, including the so-called neuroses. On the other hand explorative vaginal section should be preferred: 1. In all cases in which the presence of pus within the pelvis is suspected, as in pyosalpinx, pelvic abscess proper, suppurating dermoids and cysto-adenomata, and hematocele. 2. In the case of small intrapelvic tumors situated in the pouch of Douglas, or at least readily accessible from below. Impacted ovarian cysts, dermoids, and fibroids belong to this category. 3. Adherent adnexa situated in the true pelvis. 4. Unruptured ectopic sacs in the same locality. 5. Circumscribed exudates and indurations in the broad ligaments or behind the uterus, especially when associated with displacement and fixation of the latter organ."

Treatment of Prolapse of the Rectum by Torsion.—This procedure is based on that proposed by Gersung for urethrocele in women and which Vreden has used for rectal prolapse. A circular incision is

made around the anus half a centimetre outside of the limit of pigmented skin. The rectum is separated from the surrounding tissues to the level of the levator ani. All prolapsed parts are replaced, twisted to an angle of 180°, so that the external opening will permit only the passage of a single finger, and fixed in this position by silk sutures. Union takes place quickly, and recovery is rapid and complete. The author, having used this method in two cases, explains the favorable results of this simple and almost bloodless operation by (1) the tension caused by twisting all the layers of the rectal wall; (2) the even diminution in calibre of the lower portion of the rectum from the level of the levator and by its spiral direction, which prevents the recurrence of prolapse.—*Gazette des Hôpitaux*.

Cancer of the Cervix.—Early hysterectomy even in doubtful cases, since microscopic findings are not infallible.—CORDIER.

Adhesive Affections of the Ear.—Inject liquid vaseline through the Eustachian tube into the tympanic cavity.—DELSTANCHE.

Acute Otitis.—For the earache of this affection, apply dry heat. At no time should the canal be mopped, swabbed, or syringed.—BURNETT.

Ice Bandages are useful in traumatism of the external ear; in inflammatory processes of the auricular canal; in chronic suppuration, when sensitiveness, etc., develops over the mastoid.—BOEKE.

Corneal Ulcer.—Formalin solution, 1 to 200 to 1 to 500, for touching the ulcer once daily. As a general collyrium, 1 to 1,000 to 1 to 2,000.—BURNETT.

To Prevent Hemorrhage.—An hour before operation a pint of water containing an ounce of chloride of calcium was injected into the rectum (to increase the coagulability of the blood). During the operation Wright's fibrin-ferment solution was applied to the freshly cut surfaces.—WATSON CHEYNE.

A Perfect Needle should be adapted for use by the surgeon's fingers without needle holder, excepting for work in deep cavities. The point must be sharp and the eye large enough to be readily threaded. Glover's needles present the best pattern. The trocar-like point should occupy about one-third the length of the needle, and its greatest diameter should be near its middle portion.—JOHN B. ROBERTS.

Massage in fracture of the clavicle is recommended by Dr. Dagrou (*Jour. de Méd. et de Chir.*). Fractures of the extremities of the bone are more amenable to massage, as they present less deformity than the median variety. Manipulation must not encroach upon the fragments themselves. The arm is fixed in an ordinary sling, which, after the fifteenth day, can be put on outside of the clothing. Consolidation occurs from the eighteenth to the twenty-fifth day.

Suppositories for Acute Localized Prostatitis.—

R Iodoform,
Extract of hyoscyamus.....ãã gr. ss.
Cacao butter..... gr. xlv.

—GUÉPIN, *Journal des Praticiens*, August 15, 1896.

Gleet.—The following injection is for daily use in post-gonorrhœal discharges:

R Mercuric chloride,
Zinc sulphate gr. xij.
Boric acid 3 i.
Distilled water 3 vi.

—NEILSON, *Philadelphia Polyclinic*.

Injury at the Elbow-Joint.—Be very guarded in your prognosis in cases of injury at the elbow. A fracture into this joint treated with the most far-seeing precautions may be followed by more or less stiffness and disability. Begin passive motion as early as possible, delaying only long enough to allow the first pain and reaction from the injury to subside. In most cases this will allow some manipulation of the joint by the end of the first week.—*International Journal of Surgery*.

Corneal Opacities.—Electrolysis, the kathode being applied to the eye by means of a small silver rod with rounded end. An ordinary sponge anode may be applied to the opposite cheek. A pressure of from one and one-half to three volts is sufficient. This should be at one-fourth milliampère, and one-half should never be exceeded. The eye is cocaineized and the silver rod is rubbed lightly over the opacity for about one minute.—*STEVENSON, Canada Lancet*, November.

The Etiology and Treatment of Venereal Buboës.
—Dr. Perry, after collecting statistics on the above subject, draws the following conclusions in the *American Journal of the Medical Sciences*, November, 1896:
1. That buboës are probably caused by the absorption of chemical poisons, the result of the action of the micro-organisms in the chancroid, and not to the entrance of the micro-organisms themselves into the lymphatics.
2. That the benzoate of mercury yields such satisfactory results that it should be employed in the treatment of non-suppurating buboës, and excision reserved for those cases in which benzoate has failed.
3. The injection of iodoform ointment should be used in the treatment of all freely suppurating buboës, since statistics show that it yields much more satisfactory results than the other methods of treatment applicable to this variety.
4. Incision and curettage should be used in a few cases in which the skin has been destroyed and the ulcer presents an unhealthy granulating surface.
5. Excision should be reserved for cases that have not yielded to other treatment, and for those in which there are several foci of suppuration.

Malignant Disease of the Body of the Uterus.
—Dr. F. B. Jessett writes, in the *Medical Press and Circular*, October 21st, upon operation in the above condition, giving the results in seventy-five cases. He says: "In ordinary cases, in which the uterus can be completely drawn through the vulva, its removal is a simple matter, but in my experience these cases are like angels' visits, few and far between. The lessons to be derived, then, may be summed up: 1. In all cases of women suffering from leucorrhœal discharge, do not hesitate to insist upon a vaginal examination. 2. If on examination a discharge is seen escaping from the os in a woman at or past the menopause, which discharge is occasionally slightly colored and offensive, dilate the canal and curette the cavity of the uterus for microscopic examination. 3. If the report is unfavorable, at once urge total extirpation of the organ. 4. Even in advanced cases, so long as the uterus is movable, I am convinced that much relief can be afforded and life prolonged by vaginal hysterectomy. To my mind, the man who will limit the operation only to those cases in which he can pull the uterus well down through the vulva is certainly not doing the best that can be done for his patient. One might just as reasonably argue that because a carcinomatous breast is somewhat fixed on the glands affected, the surgeon should not remove it. What surgeon would hesitate to do this? Moreover, in a somewhat large experience in the post-mortem room, I found the lumbar and sacral glands free from infection in many cases in which the disease was far advanced."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COMING ELECTION—LONDON WATER—"DAVID LEWIS TRUST" AND HOSPITALS—SOCIETIES—DWARFISM—CANCER OF TONGUE—BIGELOW'S OPERATION—THE LATE SURGEON-GENERAL MUNRO—DIPHTHERIA—GLASGOW UNIVERSITY—IRISH ACADEMY—SIR WILLIAM MACCORMACK.

LONDON, November 6, 1896.

As the election of three members to the general medical council draws near, the signs of activity increase. Our usually apathetic profession has been stirred in various quarters, and the friends of the several candidates are exerting themselves more than at previous elections. Alas, there are too many candidates—no less than eleven for three vacancies. Many votes must be lost by this division, but it is certainly a better sign than allowing a walkover. Several meetings of practitioners have been held during the week to hear the views of candidates, and have been well attended. The most important meeting was on Tuesday at the Medical Society's rooms, and was in support of Mr. Rivington, who has been brought forward by the societies of members and fellows of the Royal College of Surgeons. These two organizations have agreed to support Mr. Rivington, and, as this college has more than twelve thousand on its roll, he ought to have a good place on the poll, although he came forward late. The college is ruled by a council of twenty-four, elected by fellows, and Mr. Rivington has always supported the claim of members to some voice in their affairs. He is also opposed to the creation of an inferior order of practitioners as midwives, and this is a crucial question for the rank and file. It will probably dominate the contest. Dr. Rentoul, who made such sacrifices to defeat legislation which would have established midwives in a position independent of medical men, loses no opportunity of ventilating the question. He is also a candidate, and if the general practitioners fail to carry him for one of the vacancies they may have cause for bitter repentance.

The water supply of London seems a more serious question than for some time was supposed. There is no longer any doubt that the filtration sometimes fails. The county council has decided to continue the investigation, and the revelations already made are likely to urge on legislation. The previous work of the analysts has been shown to be defective. Organisms many times larger than pathogenic bacilli have been found in the water as delivered. Of course, when large ones pass the filter beds, smaller ones will find the road clear. Bacilli coli communis have been found, so that sewage pollution may be confidently asserted to have occurred at intervals. The companies deserve no consideration, for they have made enormous profits out of their monopolies and often failed to fulfil their contracts. They have gained by a one-sided arrangement, and the time has come for Londoners to control their own supply.

The "David Lewis trust" arises out of the will of a wealthy Jew, who left some £300,000 to two of his friends. To one of these friends he also addressed a letter, suggesting the use of the money for the benefit of the people of Liverpool and Manchester. The two friends accordingly determined to act on this suggestion, although the will gave them the money absolutely, and they associated with themselves leading Manchester and Liverpool gentlemen to form the "David Lewis trust." Hospitals were early to benefit. The Northern Hospital of Liverpool was in need of a better building, and gladly accepted £60,000 from the

trust, on condition of associating the name of the deceased benefactor. So it became the David Lewis Northern Hospital, and on October 19th the foundation stone of the new building was laid by the Countess of Derby, in the presence of some twelve hundred citizens.

Manchester was offered a similar benefit. The trustees proposed to give £70,000 to St. Mary's and the Southern Hospital, which were to be amalgamated, the name of St. Mary's being retained, coupled with that of David Lewis. The proposal did not seem to suit some of the parties, or their mutual jealousies were allowed to prevail. At length the trustees fixed a date up to which their offer would hold good, and after which they would proceed to devote the money to other purposes. That date has expired, and now some of those concerned are crying out for an extension of time. Owens College was to have some connection with the hospital, and it is said jealousy of this has caused the breakdown. There are many hospitals which would jump at the chance of being renamed on such terms.

The opening meeting of the Medical and Chirurgical Society was signalized by a paper describing a case of "Mixed Premature and Immature Development." Mr. H. Gilford was the author, and he had ransacked the literature of the subject. A similar case, recorded by Mr. Hutchinson, appears in the Transactions of the Society, 1886. The interest of the case lies in its relation to dwarfism and giantism. While the patient was clearly a dwarf, there were parts that were more than fully developed, and Mr. Gilford was led by this case to the study of dwarfism and giantism. He sees a close relationship between these deviations in nutrition, and suggests the term *micromegaly* as descriptive of his case and others allied to it. He thinks it not impossible that the cause of *acromegaly* operating before birth may bring about *micromegaly*; for many giants have evidently owed their proportions to the former. May the one be the congenital condition of the other, or are the two opposite states? Mr. Hutchinson holds that this subject and his own were dwarfs, though they presented premature senile changes, but he had not noticed premature development of the intellectual faculties. Dr. Norman Moore said, if disease such as syphilis could be excluded, the state might be analogous to that seen in some *amphibia*, which may remain for a long time in the larval stage and may suddenly pass to the adult or even senile stage.

At the last meeting of the Medical Society of London, Dr. Jennings read notes of thirty patients taken in at the Cancer Hospital, supposed to be suffering from cancer of the tongue, and pointed out some of the conditions that are difficult to differentiate. Of the thirty admitted, twenty appear to have been afflicted undoubtedly with cancer. Smoking, he considered, if slight, could not be regarded as a cause, but would aggravate the growth. Syphilis as a predisposing or exciting cause seemed to him beyond doubt.

Mr. P. J. Freyer read a paper on the best methods of removing large calculi from the bladder. Out of three hundred cases of all ages, he had only had to cut seven times, the other two hundred and ninety-three cases being treated by litholapaxy. One year he treated one hundred and six cases, with only one death. Of forty-nine cases of large stones, *i.e.*, of two-ounce weight or upward, thirty-one had been cured by Bigelow's method. When a stone is so large that the lithotrite will not lock, he advises "chipping" it by grasping it on one side and screwing home the instrument. He related one case in which he had removed a stone of six and one-half ounces by litholapaxy. He attributed much importance to the rapidity with

which a stone could be removed by Bigelow's operation.

Surgeon-General William Munro, C.B., died on October 30th, in the seventy-third year of his age. He retired in 1881, after thirty-seven years in the army medical service. He served through the Kaffir war of 1846-47. In the Crimea he took part in the battles of Alma, Balaklava, and the fall of Sebastopol. In the Indian mutiny he was present at many engagements and in the relief of Lucknow. In 1863 he was chief medical officer in the operations in the Umbeylah Pass. His C.B. followed in 1865. He was the author of several works, of which the best known are "Reminiscences of Military Services with the Ninety-third Sutherland Highlanders" and "Records of Service and Campaigning in Many Lands."

The deaths from diphtheria in the last four weeks have been 52, 66, 57, 64.

Mr. Chamberlain has been elected by the students lord rector of the University of Glasgow. Some of the students carried their excitement to the verge of riot, and several had to be arrested.

The annual meeting of the Academy of Medicine of Ireland took place on Friday, when a secretary was elected in place of Mr. Thompson, who has become the president of the Irish College of Surgeons.

Sir William MacCormack does not progress as rapidly as was expected. The lung, I hear, is clearing gradually, but there is great weakness.

• GIVE THE FULL NAME.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having been engaged lately in a literary work involving considerable consultation of papers and verifying of references, I have realized, as any one must under the circumstances, the extra labor necessitated by a practice which has always been more or less general with authors, of mentioning only the surname of writers and investigators referred to. Any one who has had experience cannot fail to have been struck with the large number of persons of the same surname who are contributors to medical literature, so that a reference to Dr. Sydenham's or Dr. Jones' views or to Dr. Ranklin's papers gives a very imperfect idea of the individuality of the author. Take, for example, the name Hoffmann. The student will find in the surgeon-general's catalogue this surname more than one hundred times, and of these many Hoffmanns quite a number are authors of voluminous and important papers; so that to be told that Hoffmann believed thus and so is of little assistance to the reader who desires to look up his views and papers. Again, to take a name to which modern medical literature often refers—Laveran. At least two Laverans, both French army surgeons, have written papers of importance. The Laveran whose name is so identified with the malaria plasmodium is A. Laveran, while Louis Laveran is a very different person. Yet writers quote only "Laveran." It is needless to multiply instances. They will occur to any one. My object in asking publicity for this letter is to beg writers to adopt the practice of giving the full name of the authority quoted. This, of course, involves a little trouble at first to hunt up the Christian name, but, as years roll on and we all are thus explicit in indicating authorities quoted, it will become easier and easier, while the amount of labor saved to those looking up references will be immeasurable. Especially important is it that the editors of the various handbooks and annuals, which are now filling such a useful niche in medical literature, should

¹ Unfortunately even the surgeon-general's catalogue has not the full Christian name.

adopt the practice of using the full name, for it is from suggestions in such books that writers often want to look up references.

JAMES TYSON, M.D.

October 30, 1896.

CONGENITAL TEETH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: After reading the article by Dr. E. S. McKee, in your issue of October 17th, on congenital inferior incisors, it impressed me that the condition was of such rare occurrence that it deserved mention; hence these short notes on the following case:

On January 11, 1895, I was called to confine Mrs. M—, a multipara. After a somewhat tedious labor twins were born—a boy and a girl. The boy weighed four pounds six ounces, the girl four pounds eight ounces. They were both poorly nourished, the skin falling in loose folds over the whole of the body, of a brown-yellow color, almost simulating jaundice. The fontanelles were large, rachitic to all appearance. But the abnormality that at once impressed the mother and the rest of the family as a most deplorable ill omen was the discovery of an upper incisor tooth in the girl and two lower ones in the boy. The teeth were all loose, being held, as it appeared, only by a depression in the gum, the teeth being free from the alveolar process. The girl lost her tooth in the first twenty-four hours—what became of it no one knew. The boy retained both of his until the second week, when, being greatly in the way of his nursing, I removed them with my fingers. The gums after the extraction did not bleed. Both children died in their fifth month, of the same ailment—splenic anæmia. Numerous microscopical examinations of the blood were made. The spleens were so enlarged as almost to occupy two-thirds of their respective abdominal cavities. No necropsy was permitted.

A. S. WAISS, M.D.

3,000 ST. CHARLES AVENUE, NEW ORLEANS, LA.

THE IMMORALITY IN CANADA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Regarding the truthfulness of the statements made in the *Dominion Medical Monthly* on bicycle riding which you quoted under the above caption in the editorial columns of the MEDICAL RECORD, November 7th, one hundred per cent. of the reputable physicians and probably ninety-nine per cent. of the unethical ones in Toronto, and for that matter throughout all Canada, will agree in saying that if ever the dimensions of a libel, as to its absolute falseness, vileness, and harmfulness, can be measured, these statements made in the *Dominion Medical Monthly* will easily, in height, depth, length, and breadth, transcendently excel all the exhibits of libels ever presented by either medical or lay press. The editorials in the MEDICAL RECORD have three cardinal virtues. They educate, arouse, and delight. If your caustic comments on your contemporary of the *Dominion Medical Monthly* do not contain much of the first and last elements, they contain more than *quantum sufficit* of the second.

The facts, Mr. Editor, are that lady bicyclists in Toronto, as no doubt they do elsewhere, sit erect and ride very gracefully, and that the use of the bicycle has the slightest tendency injuriously to affect morals by sensuous erethisms or orgasms is most conclusively refuted by the fact that an ever increasing number of clergymen's, teachers', and physicians' wives are riding them and allowing their daughters to do so. The consensus of medical opinion as recently obtained by

a reporter for one of our dailies is that, barring those suffering from certain diseased conditions, bicycling furnishes, for women especially, a useful, healthy, invigorating, and very enjoyable recreation.

It may be added in conclusion, and out of respect for reputable Canadian medical journalism, that this very article had passed unnoticed into oblivion and would doubtless have remained in "hades" had not the MEDICAL RECORD resurrected it and exposed its heinousness.

JOHN HUNTER, M.D.

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Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 21, 1896:

	Cases.	Deaths.
Tuberculosis.....	153	85
Typhoid fever.....	38	6
Scarlet fever.....	112	5
Cerebro-spinal meningitis.....	2	1
Measles.....	67	21
Diphtheria.....	230	25
Small-pox.....	0	0

Hallucinations of Vision.—Facts relating to hallucinations of vision in those from whom the eyeballs have been removed or in whom the globes are congenitally absent are sought by Dr. Thomas M. Stewart, and any communications bearing upon the question will be acknowledged with thanks if sent through the MEDICAL RECORD or addressed directly to 704 Elm Street, Cincinnati, O.

Ethics.—The code governing Paris societies says: "It is good confraternity to accept the consulting physician desired by the family, no matter what his age, his grade, or his situation, providing his personal honor and regular professional standing are not in dispute."

We Need the Same.—In Germany a law is said to exist which holds the newspaper as well as the advertiser responsible for assertions made. If a promise to cure is held out and the remedy fails, prosecution is liable to follow.

Acute Urethritis.—At the out-patient department of Roosevelt Hospital we use as a routine practice the internal administration of five grains of salol every three hours, and we think that it does good.—MOUNTON.

What X-Rays Will Do.—A fond mother reported that with their aid a coin which her son had swallowed had been distinctly located in his sarcophagus.

Formaldehyde solution in alcohol has been praised by Rosenberg (*Deutsche med. Woch.*) as a disinfectant. The vapor given off is said to be especially valuable for the disinfection of rooms. In pertussis and phthisis it is claimed to give relief from attacks of embarrassed respiration. Meat, eggs, and other articles of food exposed to the vapor and then covered with a thin layer of the solution will keep for months free from putrefactive changes, but their value as food cannot be said to be improved by the process.

Microscopists and Pathologists are entitled to a fee when their examinations aid in the conduct of a case. It is a consultation, and the consultant should not be expected to give valuable opinions, arrived at

through hard and specially skilled labor, just for the fun there is in it.

Medical Students.—Munich has 1,502, Vienna 1,370, and Berlin 1,118.—*Universitäts Kalender*.

A Double Hymen.—A curious case is recorded in the *Comptes Rendus de la Société Médicale de Tambor*, 1895, which concerned a young peasant woman who, accompanied by her husband, presented herself at the consultation of Dr. Olénine and gave the following history: She had always been in excellent health; began menstruating at the age of fifteen, since which time she had always been regular. During the nine months of her married life coitus had never been satisfactorily accomplished, though frequently attempted, despite extreme pain in the effort. Examination revealed a thickened fleshy hymen with an opening at its upper part. At one or two centimetres beyond this, and situated in the inferior third of the vagina, was a second membrane with a small central orifice. This completely closed the calibre of the vagina, but by a crucial incision of both inner and outer barriers, in the words of the report, the woman was *rendue à la vie conjugale*.

Meat Diet.—The annual consumption of flesh for each inhabitant of the United States is 120 pounds; Great Britain, 105 pounds; France, 74 pounds; Germany, 69 pounds.

Poisoning by Plumbo-Solvent Water Supplies.—A special report to the local government board of Great Britain, made by Inspector W. H. Power, gives the results of an original investigation concerning the effects of moorland waters, in respect of their plumbosolvent ability. The results go to confirm the microbic theory of lead solution. The investigation is not yet ended, but the chief propositions, as contained in the *Glasgow Sanitary Journal*, are these: 1. The lead-dissolving property of moorland waters is associated with acidity. Moorland waters that are acid invariably possess ability to dissolve lead. At the same time they may, or may not, erode this metal. Many moorland waters which dissolve lead to a considerable extent possess, in regard to this metal, no conspicuous erosive power. Other moorland waters both dissolve and erode lead in a very decided fashion. Moorland-peat waters are all, it would seem, not far removed from possession of one or the other property, or of both properties. 2. There was indication also of close relation between amount of acidity and vigor of solvent action on lead. But the correlation does not amount to complete parallelism. Different waters of equal acidity did not necessarily possess equal power of dissolving lead. 3. In certain circumstances moorland waters are found to increase in acidity, and therefore in lead-dissolving potency. This is true of waters on peat soil. 4. Peat soil, from various gathering-grounds, was found to be, when moist, invariably acid. 5. When divorced from the peat, the moorland waters did not increase in acidity. 6. When "sterile (neutral) peat-essence" was added to freshly collected samples of acid moorland water, the result was bacterial growth and, in most cases, acid reaction in the peat-essence. 7. When the acid water was added to the peat-essence (sterile and neutral), the result was bacterial growth and, in most cases, acid reaction in the peat-essence. 8. Thus the water must have contained bacteria that, by acting on some substance in the peat, were capable of increasing the acidity of the mixture. 9. These bacteria are derived from the peat. 10. To separate samples of distilled water that was neutral in its reaction and which did not dissolve lead, there were added small amounts in each instance of moist peat soil from different selected gathering-grounds. As a result, every sample of distilled water

developed in a short while acid reaction and was found to have acquired ability to dissolve lead. 11. To separate samples of sterile peat decoction which did not dissolve lead, there were added minute amounts in each instance of moist peat soil from different gathering-grounds. As a result the samples of peat decoction always developed bacterial growth, and at the same time were usually found to possess acid reaction and ability to dissolve lead. 12. Of the microbes discovered in the above peat decoctions only two, named provisionally "O" and "Q," were found to make sterile peat decoction acid, and to confer on it the ability to dissolve lead. 13. Lastly, moist peat soil from a variety of gathering-grounds yielded two microbes identical with "O" and "Q," which, when inoculated into sterile peat decoction, multiplied therein with considerable vigor, produced in the medium acid reaction, and conferred on it ability to dissolve lead. These brilliant results will now be applied to the vast areas selected. The distribution of lead poisoning will be noted and verified. Doubtless many peculiarities, otherwise unexplained, will now fall into their place as natural deductions from the life history of these microbes. And thus, surely a sufficiently startling conclusion, lead poisoning by moorland waters almost leaps into the circle of infectious diseases.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

HUMAN ANATOMY, GENERAL AND DESCRIPTIVE, FOR THE USE OF STUDENTS. By John Cleland, M.D., and John Yule Mackay, M.D. 8vo, 833 pages. Illustrated. The Macmillan Company, New York. Price, \$6.50.

A TREATISE ON SURGERY BY AMERICAN AUTHORS. Edited by Roswell Park, M.D. Vol. II., Special or Regional Surgery. 8vo, 804 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

MANUAL OF DISEASES OF THE EAR. By Thomas Barr, M.D. Second edition. 8vo, 415 pages. Illustrated. The Macmillan Company, New York. Price, \$3.50.

TRANSACTIONS OF THE FIFTY-FIRST ANNUAL MEETING OF THE OHIO STATE MEDICAL SOCIETY. May, 1896. 8vo, 493 pages.

A PRACTICAL METHOD FOR EASY AND THOROUGH SELF-INSTRUCTION IN THE GERMAN LANGUAGE. By Solomon Deutsch, A.M. Second edition. 8vo, 512 pages. J. H. Vail & Co., New York.

ANATOMICAL ATLAS OF OBSTETRIC DIAGNOSIS AND TREATMENT. By Oscar Schaeffer, M.D. 12mo, 234 pages. Illustrated. William Wood and Company, New York. (Wood's Medical Hand Atlases.)

THE MEDICAL RECORD VISITING LIST FOR 1897. William Wood and Company, New York

THE MEDICAL NEWS VISITING LIST FOR 1897 Lea Brothers & Co., Philadelphia, Pa.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE THORAX. By Arthur M. Corwin, M.D. Second edition. 12mo, 199 pages. W. B. Saunders, Philadelphia, Pa. Price, \$1.25.

THE CELL IN DEVELOPMENT AND INHERITANCE. By Edmund B. Wilson, Ph.D. 8vo, 371 pages. Illustrated. The Macmillan Company, New York. Price \$3.00.

A TREATISE ON OBSTETRICS. For Students and Practitioners. By Edward P. Davis, M.D. 8vo, 553 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A SYSTEM OF GYNECOLOGY. By many writers. Edited by Thomas Clifford Allbutt, M.D., and W. S. Playfair, M.D. 8vo, 973 pages. Illustrated. The Macmillan Company, New York.

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Original Articles.

THE SERUM TEST OF WIDAL AND THE POSSIBILITY OF ITS APPLICATION WITHOUT MICROSCOPIC EXAMINATION, WITH A REPORT OF CASES AND DEMONSTRATION OF METHOD.

By CHARLES LYMAN GREENE, M.D.,

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THE great importance of the serum test of Widal for the diagnosis of typhoid fever must serve as my excuse for appearing on the programmes of two successive meetings of this society.

In a former report I stated that with such evidence as we then had it would appear quite possible that we had at last found the long sought pathognomonic sign of typhoid fever, and in the light of a more extended personal experience I desire to express the opinion that the test is absolutely pathognomonic, whether performed with fresh or with dried blood. In support of this view I shall cite a series of cases, make a brief reference to the recent contributions to this most interesting discovery, and call attention to the fact, not hitherto mentioned, that even macroscopic methods may suffice for its application.

As has been the case with most important advances in bacteriology and serum diagnosis and therapy, we are able to trace the test of Widal through several successive steps and must give credit to Pfeiffer, Gruber, Grünbaum, and Durham for important preliminary observations, and to Dr. Wyatt Johnson, of Montreal, for the first application of this method to board-of-health work, and for having, independently of Widal and without knowledge of the latter's prior announcement, shown that equally good results were obtained if dried blood were used instead of the fresh serum.

Pfeiffer in May, 1894, found that cholera vibrios, mixed with the serum of an immune animal and injected into the peritoneal cavity of a guinea-pig, lost their motility and underwent a peculiar change in physical characteristics. In November, 1894, he found that typhoid bacilli underwent similar changes, and he also found that the blood serum of a typhoid-fever patient would produce the same results. Gruber in 1895 found that if the serum of an immune animal were added to a bouillon culture the bacilli became agglutinated and lost their mobility. No use was made of these discoveries, however, save as a means of identifying the bacillus, and to Widal belongs the credit of transposing these findings and adapting them to the needs of clinical diagnosis by studying the effect of the blood serum of a typhoid patient upon the pure culture of the bacillus typhosus.

He first reported his clinical results on June 26, 1896, and later suggested the use of dried blood instead of the fresh serum, when the latter could not easily be procured. The present status of the test justifies the following statements:

(a) That the blood or blood serum, and very frequently the urine, of a typhoid patient, by virtue of a

specific antitoxin, causes, when added to an emulsion of the pure culture of Eberth's bacillus in hanging drop or ordinary cover-glass preparations, a characteristic loss of motility with agglutination and grouping of the bacilli.

(b) That this reaction may and generally does occur as early as the fourth or fifth day and is variable on the eighth or ninth, lasting generally throughout convalescence and very often for many months after complete recovery. (Widal thinks for years in some cases.)

(c) That the antitoxin of a typhoid patient acts thus only upon the bacillus of typhoid. (This has been denied as to the colon bacillus, but the denial is immaterial from a clinical standpoint.)

(d) That the blood serum or urine of patients suffering from diseases other than typhoid does not so affect the typhoid bacilli.

(e) That dried blood retains the antitoxin unchanged and may be used when the fresh blood or serum is unobtainable. The antitoxin remains unchanged in dried specimens for weeks and probably for several months.

(f) That the test is therefore pathognomonic of typhoid and easily applicable to the use of public laboratories.

The fact that no adverse reports have appeared attests the simplicity and reliability of the test. Its application requires only the possession of a moderately high-power lens, $\frac{1}{4}$ - $\frac{1}{6}$ objective (an immersion objective is not necessary), a tube containing the pure culture, such as may be easily obtained from a public laboratory, and such a rudimentary knowledge of bacteriological technique as will serve to prevent the contamination of the pure culture used and permit proper reinoculation of fresh culture tubes from time to time (about every two weeks). For such as do not possess these facilities the public laboratories should offer a means of ready assistance. The practitioner would then need only to sterilize the skin of his patient's finger or ear, draw a drop or two of blood, transfer it to a cover glass, visiting card, or any other similar object, and send it closely sealed to the laboratory.

Dr. Harry P. Ritchie, senior house physician, and myself have made the following tests at the City Hospital with results as stated below, using indifferently fresh and dried blood. We have not found it necessary to use the serum alone. We have so far experienced no difficulty in the application of the test, and have had frequent occasion to note its great differential value in doubtful cases.

Cases Tested.—1. Mary F., typhoid. Widal's reaction on fourth day. Diazo marked. Spleen (?). Rose spots. Temperature, 101–104° F.

2. Rinbolt S., typhoid. Widal's test marked. Diazo marked. Seventh day, temperature, 102–103.5° F. Spleen enlarged. Rose spots.

3. Andrew P., typhoid. Widal's present November 6th. Diazo present November 7th. Tenth day, rose spots. Enlarged spleen.

4. George F., typhoid. Widal's marked. Diazo marked. Second week of a relapse, rose spots. Enlarged spleen.

5. Jacob C., typhoid. Widal's marked. Diazo marked. Middle of second week, (ambulatory) temperature, 104-106° F. Spleen enormous. Rose spots. Pulmonary stasis. Albuminuria.

6. W. J. M., typhoid. Test of Widal made on twenty-fourth day after admission. Temperature nearly normal. Reaction present.

7. J. N., typhoid. Test on fortieth day. Temperature normal. Reaction present.

8. F. D., typhoid. Test on forty-sixth day. Temperature normal. Reaction marked.

9. A. G., typhoid. Test on sixteenth day after admission. Reaction marked.

10. J. J., typhoid (mild). Test on twenty-fourth day. Reaction present.

11. R. Y., typhoid. Test on twenty-eighth day. Reaction marked.

12. Mrs. C., typhoid. Test on thirtieth day. Reaction marked.

13. M. P., typhoid (mild). Test on twentieth day. Reaction present.

14. Lizzie, typhoid. Test on sixtieth day. Reaction present.

15. M. G., typhoid. Test on thirty-eighth day. Reaction present.

16. L. F., typhoid. Test on twenty-first day. Reaction marked.

16½. A. G., typhoid. Test on seventy-second day. Reaction. (Case No. 7.)

17. D. D., ulcerative endocarditis. No reaction.

18. Laura, ulcerative endocarditis. No reaction.

19. G. T., broncho-pneumonia. No reaction.

20. Mrs. B., lobar pneumonia. No reaction.

21. F. S., lobar pneumonia. Widal's test, November 3d, negative. Diazo, November 2d, negative. Duration of disease four days. Typical typhoid tongue and countenance. Temperature, 104.4° F. Spleen not palpable.

22. Mrs. H., pyloric stenosis. No reaction.

23. Mrs. S., septicæmia (abortion). No reaction.

24. Diphtheria. No reaction.

25. Diphtheria. No reaction.

26. E. W., gonorrhæal bubo with fever. No reaction.

27. Phthisis. No reaction.

28. Phthisis. No reaction.

29. Phthisis. No reaction.

30. Tuberculous pleurisy. No reaction.

31. Erysipelas. No reaction.

32. Mr. B., erysipelas. Widal's test negative. Duration of disease, three days. Temperature, 104° F.

33. Holtum J., alveolar abscess. Widal's negative, November 5th. Diazo negative, November 5th. Duration of disease five days. Temperature, 102.8° F. Spleen not enlarged. Sent in to hospital as typhoid.

34. D. C. T., gastro-enteritis. Widal's negative, October 31st. Diazo negative, October 31st. Duration of disease, five to six days: prodromata about ten days. Diarrhœa gave good preliminary history of typhoid. Temperature, 103-104° F.; in three days came to normal. Spleen enlarged (?) (not palpable).

35. Altin G., gastro-enteritis. Widal's, November 15th, negative. Diazo, November 10th, negative. Duration of disease, five days. Temperature, 100° F. Spleen not palpable.

The total number of typhoid cases tested is not large (sixteen), but they are representative, and, being ward cases, were carefully studied and thoroughly proven.

You will note the presence of the reaction on the fourth day, its persistence until the seventy-second, and the fact that in no disease other than typhoid has any reaction been obtained. If it be not present on the seventh or eighth day of fever, you are not dealing with typhoid.

I have here the dried blood of typhoid which has been kept for ten days and will endeavor to demonstrate the test, using as control the blood of pulmonary tuberculosis and some from my own finger.

I first place upon a slide a large drop of distilled water, sterilize my loop, and take from the culture tube a bit of the pure culture, using every precaution to prevent contamination of the growth. This bit of the pure culture is stirred very thoroughly into the distilled water and another drop of distilled water is placed upon the dried blood, which is thoroughly moistened, a drop transferred to the emulsion of bacilli and distilled water already prepared, and the whole thoroughly mixed. The cover glass is dropped on and the specimen is ready for examination.

If the reaction be absent, as will be the case in the slide prepared from the normal blood or that from the case of tuberculosis, we shall find the bacilli in rapid motion and not grouped, nor will they show any tendency to group within fifteen minutes. On the other hand we shall find in our typhoid-blood mount that motion is rapidly lost and grouping well under way in five or ten minutes. This going on until after a variable period, the bacilli appear like islets in a sea, and the slide viewed with the naked eye will present the peculiar appearance described below.

The time required is very variable. Oftentimes grouping is well under way before the field can be brought into focus, and at other times five or ten minutes may elapse before it is well marked, and a half hour or more be required for its completion.

The method described is simple but sufficient, and the use of hanging drops, definite amounts of a bouillon culture, etc., seem to be unnecessary for clinical work. Nor does it seem to me necessary to wait for a complete cessation of motion throughout the whole field, inasmuch as decided grouping has not been observed in any other disease.

A bouillon culture is preferable as being more easily and thoroughly mixed with the blood, and in using it one need not place any distilled water on the slide. Here a fine pipette should be used instead of the loop.

In using the cultures upon solid media, it is of course necessary to bear in mind the necessity for taking very little of the growth and stirring it in very thoroughly, otherwise little clumps of bacilli might mislead an inexperienced observer.

Both Dr. Ritchie and myself have observed a fact not hitherto mentioned, viz., that the diagnosis can very generally be made with the naked eye, a fact which might sometimes be serviceable, though of course the microscope is to be used when at hand. In cases in which the reaction occurs, the whole mount in cover-glass preparation may be seen with proper light to assume a characteristic mottled appearance, not present in mounts from cases in which the reaction is absent.

It is to be hoped that the test will stand thorough and extended investigation, for by it one of the most difficult of diagnostic problems is made easy, and, so far as diagnosis is concerned, Jaccoud's "greatest problem of the nineteenth century" has found its solution.

150 LOWRY ARCADE, November 17, 1896.

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THE RADICAL CURE OF FEMORAL HERNIA, PREFERABLE OPERATION: THE SURGICAL ANATOMY OF THE TRANSVERSALIS FASCIA AT THE INTERNAL INGUINAL AND FEMORAL RINGS.

By J. COPLIN STINSON, M.D.,

SAN FRANCISCO.

IN an earlier paper on the operative treatment of inguinal hernia¹ I reported seventy-nine cases in which I had performed or assisted at a radical operation. In this I shall report five cases of femoral hernia in which radical operations were performed. Before proceeding with this method of the treatment of femoral hernia, I shall give a concise description of the transversalis fascia at the internal inguinal and femoral rings, basing my report on excerpts from several authorities² and on notes of some dissections I have made. The subjects I used were two children under five years of age, four children from five to fifteen, four adults from twenty to thirty, and two old people from sixty to seventy. The transversalis fascia is strongest and best developed in the inguinal region. At the internal ring it consists, in most cases, of firm and almost tendinous fibres. On the outer side of this ring it forms a well-marked band called the outer limb of the internal ring (Hesselbach, Henlé), or the outer portion of the transversalis fascia (Sir A. Cooper). This band passes along parallel with Poupart's ligament and spreads out toward the anterior superior spinous process. On the inner side of the ring is another band of fibres similar to the one described. It is the internal limb of the internal ring (Hesselbach, Henlé), or the inner portion of the transversalis fascia (Sir A. Cooper). It proceeds from near the angle between the rectus and the pubis, and turns upward as it approaches the internal ring, forming its inner boundary. Some of these strong fibres can be traced as far as the fold of Douglas. On the deep surface of

Gimbernat's ligament this fascia blends with the iliac fascia and together, as they turn around its free border, give the ligament a round edge. It is best marked at its attachments:

1. To Poupart's ligament.
2. To the ilio-pectineal line (Gimbernat's ligament) beyond the conjoined tendon.
3. Where it descends to the femoral vessels.
4. Where it separates the transversalis muscle and the conjoined tendon from the peritoneum.

After it passes under Poupart's ligament it unites with the iliac fascia to form the femoral sheath, the transversalis forming the anterior, the iliac the posterior layer. Under Poupart's ligament the sheath is large, loose, and funnel-shaped. Well-defined connective-tissue septa separate the artery from the vein and the latter from the femoral canal. The internal inguinal ring is a funnel-shaped expansion of the transversalis fascia which the cord carries on it. This expansion may be weakened, but is not an opening except when made so artificially. When the peritoneum and subserous fat are removed, this ring appears as a crescentic edge, over which at its most dependent portion, close to the pubic bones, turns the cord. This ring is situated one and a half inches below the centre of Poupart's ligament. Its artificial measurements are approximately one inch by half an inch. After the descent of the testicle the internal ring is carried upward and outward from the external ring, the result of the growth of the bony pelvis. The outer and inner sides of the internal ring are well defined, as already described, and the spermatic cord, entering it at the most dependent part, near the pubic bone, passes down to the base of the bladder. An operation for the radical cure of hernia should restore the structures durably to their normal positions and physiological relations.³ In four of the cases of femoral hernia I report, the method used was high ligation of the sac and closure of the saphenous opening only by uniting by a purse-string suture the iliac and pubic portions of the fascia lata. In the other case the sac was tied off with silk and the ends, left long, were used to close the saphenous opening by uniting the iliac and pubic portions of the fascia lata. The cases were operated upon since 1893. The mortality was *nil*. All the wounds healed by primary union and there has fortunately not been a relapse. Two of the patients were children under twelve years of age.

The other principal methods which have been used for radical cure of femoral hernia are Hackenbach's,² "a modified form of osteoplastic operation originated by Trendelenburg;" Bassini's,³ "which consists in twisting and ligating the sac, and closure of the wound as follows: a suture applied close to the pubic spine through Poupart's ligament and the pectineal fascia, several sutures being inserted in a similar manner approaching the femoral vein. The fourth suture includes the falciform process and the pectineal fascia. No suture is tied till all are introduced, and the skin is closed separately;" Fabricius,⁴ which consists "in suturing Poupart's ligament to the horizontal ramus of the pubis and the spine, care being taken to include the periosteum. At the same time the external inguinal ring is sutured to prevent inguinal hernia."

A study of the surgical anatomy of femoral hernia shows that all these operations are open to serious objections. The neck of the sac of any hernia should not be twisted nor tied off. The ligature is liable to slip off; a piece of bowel or omentum may be included;

¹ New York Medical Record, March 7, 1896.

² (a) J. Macready's "Treatise on Kruptures." (b) H. Morris' "Anatomy." (c) P. Tillaux: "Traité d'Anatomie Topographique avec Applications à la Chirurgie." (d) C. Heath's "Dissector."

³ "The Operative Treatment of Inguinal Hernia," MEDICAL RECORD, March 7, 1896.

² Berl. klin. Chir., ii., No. 3.

³ Archiv für Chir., 1894, vol. xlvii., p. 1.

⁴ Centrabl. f. Chir., Bd. 6, 1894.

the tying or twisting causes puckering of the peritoneum, which favors the formation of adhesions and interferes with the free movement of the intestines over the surface. The neck of the sac should not be anchored in the canal nor at any other place, as this favors a relapse by keeping the ring and canal open; the neck, being fixed, forms a cone of the peritoneum into which intestine or omentum slips, and the cone by the pressure of a protrusion from within and behind acts as a wedge which will be apt to reopen the ring and canal. The suturing of the saphenous opening alone is incomplete. Relapse is favored, as the femoral ring and canal continue patent. The suturing of Poupart's ligament to the pectineal fascia is also incomplete, as the femoral ring and upper portion of the canal are left open. It is plain that the entire opening should be repaired, by first closing the breach at the femoral ring and then reinforcing this by as many barriers as possible. It is as important to close the femoral ring and canal as the internal inguinal ring and canal. No one could expect to cure many inguinal hernias by closing the external ring only, or the external ring and part of the canal. The same applies to femoral hernia. The falciform process should not be sutured to the pectineal fascia, as the latter does not bear any physiological relation to the former. It is dangerous, at times impossible, and altogether unnecessary for the needles and sutures to include the pectineus and the periosteum. The needles are liable to be broken in trying to include the periosteum; the contractions of the muscle cause irritation in and around the stitches, producing pain, etc. Better results can be obtained by simpler means. Any osteoplastic operation is not even to be considered, as it is dangerous and unnecessary. The hammering and chiselling increase the gravity of the operation and may do irreparable damage. The following operation I consider fulfils all the indications and overcomes the objections to the methods described:

1. The external incision begins about one-half an inch below the spine of the pubis and is carried upward and outward for about three inches parallel with Poupart's ligament. This exposes the sac and the saphenous opening. Poupart's ligament and the spine are well exposed by dissecting up the superficial fascia. The iliac and pubic portions of the fascia lata bordering the saphenous opening are each in turn lifted and freed sufficiently by blunt dissection from the structures beneath to expose clearly the canal and femoral ring.

2. Any adhesions of the sac to the surrounding structures should be separated high up within the femoral ring. The sac is opened, and if any adhesions exist internally these should be separated. If the content is omentum, it should be removed, ligating the vessels only. To insure the ligatures not slipping, the "fixation" ligature should be used. The vessel to be tied is defined by spreading out the omentum, and a needle carrying the catgut is passed round the artery by piercing the tissues of the omentum surrounding the vessel. The ligature is tied and the vessel severed beyond it. By this means the ligature is fixed in the omentum and cannot slip. After clearing out the sac, its neck should be dragged down with forceps. The sac, neck, and peritoneum as high as possible are to be removed and the cut edges united by catgut sutures (supracorrection of the peritoneum at the internal ring). The sutured edges when released slip back.

3. The adipose and glandular tissues, etc., are removed from the saphenous opening and femoral canal.

4. The femoral ring is exposed by retracting the iliac and pubic portions of the fascia lata, Poupart's ligament, and the deep crural arch. Any masses of fat, glands, etc., which bulge into the ring from the

subperitoneal connective tissue should also be removed. The femoral sheath is now lifted with the forceps. The excess is trimmed away and, the operator keeping the immediate work well in view, the internal opening is closed by bringing together the anterior and posterior layers of the femoral sheath at the femoral ring. The first stitch is inserted close to the outer side of Gimbernat's ligament and also includes some of its fibres. Several stitches are inserted as described, approaching the femoral vein. The last one is placed near the septa separating the ring from the vein, but must not be inserted close enough to constrict or in any other manner interfere with the full vein. The number of sutures required depends upon the size of the ring. When Gimbernat's ligament is not well developed, sutures may be required as far inward as the pubic spine.

5. The iliac and pubic portions of the fascia lata are retracted, and, commencing close to the pubic spine, Poupart's ligament and the deep crural arch are sutured to the contiguous portions of the fascia lata covering the pectineus and the reflection of this fascia passing behind the femoral sheath, each stitch extending to but not including any muscular fibres of the pectineus. Several sutures are passed in a similar manner approaching the femoral vein. The last must not be inserted near enough to constrict or in any other manner interfere with the full vein.

6. Next the saphenous opening is closed. The first stitch is inserted above close to Poupart's ligament, the needle being passed first through the pubic portion of the fascia lata on the inner side of the saphenous opening, then through the iliac portion of this fascia on the outer side. Suture from above downward, leaving only sufficient room at the lower angle for the full saphenous vein. The number of sutures required here depends upon the size of the opening.

7. The skin is closed with catgut or fine silk without drainage.

The most suitable material for a buried suture is chromicized tendon, as it is non-irritating and is not absorbed for two or three months. Busse¹ in his experiments showed that perfect tendinous union does not occur under ten weeks, or just about the period required for the absorption of chromicized tendon.² For the accurate approximation of the separate layers the continuous stitch described by Dr. C. Ford³ should be used. This is the individual stitch inserted continuously. In my last four hernia cases I have used it with every advantage. A detailed description of this stitch can be found in the *Pacific Medical Journal*, July, 1896, vol. xxxix., No. 7. As the stitch is new and very ingenious I shall briefly describe it. Pass the threaded needle through the divided structures and, without cutting, tie a reef knot. For the next stitch pass the needle, thrusting the point well through. Pick up the thread leading from the former knot and turn it toward the eye or heel of the needle and around under the point. Draw the needle on through and adjust the tension. This forms the first half of a reef knot. Complete it by passing the needle under the thread between the knots in the opposite direction from which it was inserted into the tissues, drawing the needle out in the loop formed. I use the first half only of the stitch to suture the femoral ring and saphenous opening, but to close the canal I use it complete. This stitch may also be used for applying the fixation ligatures in tying vessels in the omentum. After tying the first fixation ligature in the usual way, do not cut the

¹ Busse: *Deutsche Zeitschr. für Chir.*, 1891-92, xxx.

² The chromicized kangaroo tendons I have been using for the past four years with such good results were sterilized by Messrs. Van Horn and Ellison, Park Avenue, New York.

³ C. Ford: "The Interrupted Stitch by a Continuous Method."

threads, but to save time tie each of the other vessels continuously, and when all are ligated make the ligatures interrupted by cutting away the excess of thread between the knots.

Dressing.—Sublimate gauze held firmly in place by strips of adhesive plaster; then a layer of cotton and firm spica bandages.

After-Treatment.—Dress the wound on the seventh day, or earlier if there are indications for interference. In removing the adhesive strips pull the ends toward the wound, to avoid tearing the freshly united edges asunder. Apply gauze, strips, cotton, and bandages as before. Keep the patient in bed two weeks, or longer if possible. If primary union is not obtained, do not allow the patient out of bed until cicatrization is complete. The firm bandages are not removed till one month after the operation; then the patient is allowed to go without any dressing, pad, or truss.

The removal of the sac and, as high as possible, the peritoneum continuous with its neck, the separation of adhesions internally and externally high up within the femoral ring, and the suturing of the cut edges with fine catgut cause total obliteration of the sac, change the outer surface from a convex to a slightly concave one, carrying the sutured edges high up within the abdomen away from the femoral ring, leaving a smooth surface to the peritoneum, and allowing free movement of the intestine over the surface. It is better to overcorrect, as the peritoneum is sure to relapse a little. Clearing out the rings and canal of fat, glands, etc., removes the material which would interfere with cure by keeping the rings and canal open. The closure of the femoral ring is a very important step of the operation, as it is at this ring that the breach first occurs. This layer of sutures forms a firm wall and the other layers closing the canal and saphenous opening form additional barriers against a relapse. It will be noted in closing the different layers that the femoral ring is closed by a transverse line of sutures, the canal by an oblique line, the saphenous opening by a nearly vertical line, and the skin by an oblique line which follows the natural crease of the groin. I unite each of the layers separately, as it is by this means alone that accurate approximation is obtained and strong and lasting union results. The chief reason for failures in operations for inguinal as well as this kind of hernia has been due to surgeons in not repairing and restoring the structures durably to their normal physiological relations and uses, but by illogical and unscientific introduction of extraneous substances, the disarrangement or displacement of structures, to improve on nature.

The operation I have described in detail has every advantage. It is simple, easy to follow, and may be quickly performed. It has all the advantages of the other methods, with none of their disadvantages, and, having additional advantages which I have summed up in my paper, should be followed by the best results.

326 KEARNY STREET.

Permanent Artificial Perforation of the Drum-head. Dr. Miot (*Rev. Hebdomadaire de Laryngol. et d'Otol.*, June 28, 1896) concludes, from his observation of certain cases of dry otitis media, that the best means of completing the diagnosis is to make an incision in the posterior half of the drumhead, along the bony case, which improves the hearing and should be large enough to see the incudo-stapedial articulation. To obtain permanent opening it is necessary to remove the drumhead and the long process of the malleus, and place a plug of cotton for a few days *in situ*. The hearing after this operation is very variable, being sometimes better and sometimes much worse.

THE USE OF CONGEALED OILS TO PREVENT THE REUNION OF NERVES AFTER THEIR SUBCUTANEOUS DIVISION; A CONTRIBUTION TO THE RADICAL TREATMENT OF CERTAIN FORMS OF NEURALGIA.

By J. LEONARD CORNING, A.M., M.D.,

NEW YORK.

WHEN, in dealing with inflammation of a sensory nerve, the resources of local and general therapy seem at length exhausted; when the changes have been rung on blister, cautery, and injection; when the coal-tar derivatives have left us in the lurch; and when, finally, etiology, so far as one is able to apprehend it, has been scrupulously regarded, yet to no purpose, one is certainly excusable for looking about in search of some radical expedient to gain exit from what, to say the least, is an intolerable dilemma.

To one thus situated—certainly to most neurologists—two operations are liable to suggest themselves, to wit, neurotomy and neurectomy.

The first of these consists, as every one knows, in simple division of the nerve; the second—by common consent a more promising procedure—in removal of a small segment from a suitable portion of its continuity.

Simple division of the nerve, neurotomy, cannot, as heretofore practised, boast of much success; for, to say the truth, the nerve is exceedingly prone to reunite, so that in no long time a return of pain is practically inevitable.

This re-establishment of conduction is, moreover, very rapidly achieved, so rapidly in fact as to tax one's physiological credulity to the utmost. Thus Glück, who has put the whole question to the touch of proof, found that in fowls restoration of conduction after simple section took place in two instances in twenty-four hours, when the ends were coaptated. Usually, however, after division of the sciatic and suturing of the cut surfaces, paralysis of the muscles supplied by the nerve persisted for fifty hours. Thereafter a gradual resumption of motion was observed in the affected muscles, so that recovery was practically complete by the fourth day.

In man, however, the process of restoration is evidently slower, for Paget found after division of the median nerve that sensation began to appear within two weeks, while complete recovery did not ensue till two weeks later. Nor is it to be forgotten that reunion may take place in the absence of suturing when the nerve is of small calibre and the cut ends are approximated by the pressure, or, as Rouvier puts it, "support" of the surrounding tissues.

The histological details of this self-restoration of the nerve are the source of considerable disagreement among pathologists. Some, like Waller and Vaulair, maintain that the reparative process proceeds from the central end of the divided nerve; while others, notably Eichhorst and Mayer, are convinced that the reorganization takes place from the nerve fibres below as well as above the incision. The former of these theories seems to me the more probable, though my own observations do not as yet permit me to speak with any degree of positiveness; nor is the question especially relevant to the purposes of the present paper. There is, however, a further element in the process that to me is significant; I mean the dictum of Rouvier regarding the "supporting" part played by the surrounding tissues in nerve repair.

But, to return to the original proposition, it is not to be forgotten that, while the inefficacy of simple section as a means of permanently arresting conduction is thus demonstrated, most neurologists are agreed that resection—the removal of a segment of the nerve—

offers, if not the promise of absolute success, at least decidedly greater likelihood of it. On the other hand resection, though not as a rule a formidable procedure, except when (as in the case of the fifth nerve) it is necessary to penetrate bony coverings to arrive at the branch to be operated upon, is still an elaborate undertaking as compared with simple section. Thus, to be specific, while several of the more superficially located nerves—notably the great and small occipital, the supra-orbital and the auricularis magnus—may be divided with a minimum of traumatism, to resect them involves more or less extensive incision—in short, operative inroads that are not lightly regarded by most patients. The affair looms still greater in the eyes of the timid when it is a question of operating upon two or three branches.

Realizing these things from daily contact with nervous patients, and especially with those who are subject not only to pain but to nervous irritability of a high degree as well, the thought came to me that it would be a marked advantage gained if by the introduction of some new factor, not too complicated, we could retard, ay, absolutely prevent, the reunion of the nerve after its simple subcutaneous division.

Without pausing to indicate the further evolution of the idea in my own mind—a matter rather of personal than general interest—I will state at once that the project resolved itself ultimately into a determination, 1, to devitalize the nerve as much as possible at the point of section, and 2, to interpose a substantial barrier between the cut ends, thereby checking the prolongation of the axis cylinders and preventing the rehabilitation of conduction.

To carry the above-mentioned principles into practical effect I decided to invoke the assistance of an oil, which after section of the nerve trunk, I could deposit in the wound, and then, by the application of cold, congeal, so that it (the oil) should form an impassable barrier between the cut ends. And in order that the solidified oil should not be liquefied (melted) and carried away by the blood stream, I decided that its melting-point could not be less than from three to five degrees above the normal blood temperature. A non-irritant oil was accordingly prepared by melting the oil of theobroma over the water bath and adding sufficient paraffin to bring the melting-point to about 105° F. The mode of application is as follows: An ordinary hypodermic syringe, armed with a somewhat coarser needle than that in common use, is filled with the melted oil, and immediately thereafter the needle is thrust into the tissues in such a manner that its point is brought as near as possible to the locality in the nerve where section is to be made. The syringe is then gradually emptied, care being taken, by moving the needle to and fro, to deposit the oil at right angles to the nerve stem. The oleaginous zone so formed should completely envelop the nerve and extend along the longitudinal axis of the same for at least an inch and transversely for an inch and a half. Immediately after the completion of the injection, which may be repeated if necessary, cold in the form of a rhigolene spray or ice is applied above the injected zone. As a consequence of this manoeuvre the oil is immediately congealed.

To carry out the second stage of the operation, the syringe is filled once more with the melted oil; but now a cannulated knife¹ (Fig. 1) two and one-half inches in length is substituted for the hypodermic needle. Its cutting surface, however, is but three-quarters of an inch in length by one-eighth in breadth; and the canal, thanks to skilful workmanship, de-

bouches at the point without impairing in the least the sharpness of the latter (A, Fig. 1). I am indebted to Mr. Ford, the instrument maker, for the careful manufacture of this pretty bit of mechanism.

Grasping the barrel of the syringe, which serves in lieu of a handle, the operator thrusts the point of the knife through the skin; and, carrying the blade beneath the integument and across the nerve, divides the latter by a simple downward cut. Then, with the aid of alternating lateral pressure to right and left, with the flat of the blade, the cut ends are pressed apart; and, thanks to the cohesiveness of the hardened oil, are prevented from again approximating. From this it is evident that a hiatus, a veritable chasm one-eighth of an inch or more in breadth, is found between the cut surfaces of the nerve: for, as just hinted, it is not to be forgotten that the wax-like consistency of the congealed oil causes it to remain in place, a thing impossible in the case of the normal tissues, whose natural resiliency would cause them to spring back immediately.

And now, as the knife is slowly withdrawn, the injection of the oil is begun; and, as it flows from the orifice at the point of the knife, the subcutaneous chasm is completely filled. Again, the knife having been extracted, cold is applied; and, sooner than it takes to tell it, the oil congeals, forming a solid wall between the cut extremities of the nerve, whereby the subsequent reunion of the latter is rendered impossible. Nor are there later any noteworthy signs of inflammation, the oil maintaining its rigid state, yet without apparent detriment to the surrounding structures.

Fig. 2 is a diagram showing the topographical relations as seen in horizontal section: *b*, *b'*, nerve; *c*, *c'*, hardened oil, in which the nerve is first embedded; *d*, hiatus between cut ends made by lateral pressure with the flat of cannulated knife and filled with plug of hardened oil.

As already mentioned at the beginning of this paper, occipital, or, more strictly speaking, cervico-occipital neuralgia lends itself with especial appropriateness to this form of treatment. Wending upward between the muscles of the neck, the nerves involved—the great and small occipital and the auricularis magnus—



FIG. 1.

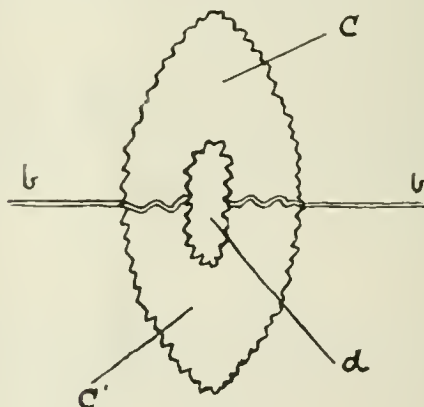


FIG. 2.

spread out upon the posterior and lateral surfaces of the head, where, owing to their exposed situation, they are especially liable to injury from changes of temperature. This is well shown in Fig. 3, where *a* is the great occipital, *b* the small occipital, and *c* the auricularis magnus. Topographically noteworthy is the fact that the occipitalis minor runs upward along

¹ This is a modification of a device identical in principle but designed for a different purpose, described by the author more than two years ago. *Vide* the author's brochure on "Local Anæsthesia," D. Appleton & Co., New York, 1896.

the posterior border of the sterno-cleido-mastoid muscle, while the auricularis magnus pursues a diagonal course across the latter to supply the external ear and the integument immediately behind.

All these nerves may be the seat of neuritis, but in my experience tenderness is more often present in but one of them, although, as shown by the wide distribution of the pain, the others may be involved by sympathy. Nor is this astonishing when their relative community of origin is borne in mind. It follows from this that great care should be exercised to determine with precision which nerve is primarily affected; for neglect in this respect may lead to the cutting of the branch which is only secondarily affected; while that which is primarily involved, which is the seat of the neuritis, escapes, with the result that relief, even of a temporary kind, is not forthcoming. As a rule, tender points—sometimes one, two, or even three—are discoverable along the course of the affected nerve, more especially where it wends across the cranial bones; the cervical portion, on the contrary, being the more protected, exhibits relatively few signs of vehement inflammation.

The course of occipital neuralgia is sometimes comparatively brief; more often, however, it is severe and tedious to a degree. Especially about the fall of

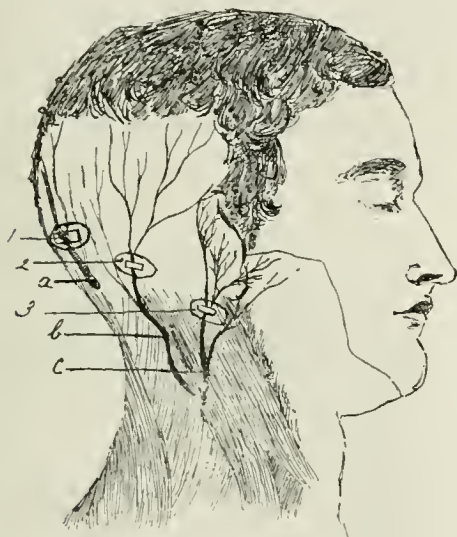


FIG. 3.

night, when the sufferer, deluded by a period of immunity, drifts into brief oblivion, are the pains prone to make their appearance. Sometimes they are intermittent, fulgurating, severe; at other times less vehement, especially at their inception, when, with the uncanny stealth of an ignis fatuus, they flit across the field of consciousness, vague forerunners of the greater evil to come.

It is true that occipital neuralgia is commonly regarded, and rightly so regarded, as a less severe affection than faceache, yet occasionally it rises to a dolorous pre-eminence, comparable only with tic douloureux. Nor, to say truth, do the secondary phenomena of one of these severe cases lag much behind those of facial neuralgia; for, indeed, the irritability, melancholy, insomnia, loss of appetite, and weight are sometimes such as to excite the gravest apprehensions. Precisely here is to be found the warrant for energetic interference, the kind of interference previously recommended, where internal remedies and ordinary local measures have failed to afford permanent relief. So much for the exposition.

Turning now to inductions for final confirmation of the argument, I am glad to be able to add the synopses of two typical cases of occipital neuralgia treated in the manner herein advocated.

Miss C. D.—, spinster, of middle age, anemic and feeble, went for a drive during the cold weather immediately following the period of unusually hot weather that characterized the closing days of August. Her sister and a friend occupied the rear seat, and hence she was compelled to sit *en face*, her back toward the horses, the wind playing upon her neck and head—as she expressed it—in a continuous stream. On her return from the drive, which was long and fatiguing, she was aware of a sensation of chilliness and slight pain in the back of the head, at first dull and constant, later sharp, fulgurating, intermittent. That night she slept but little, the pains increasing in vehemence to such a degree that her physician was summoned in the morning. During the two weeks following she suffered greatly; indeed, in the absence of opiates, copiously administered both by day and by night, she could neither eat nor sleep, and being of a highly nervous temperament she was very difficult to manage. Electricity, counter-irritation, and internal medication were alike barren of permanent result. This, in a word, was her condition when I was summoned in consultation. On palpation the region over the great occipital was discovered to be very hyperæsthetic, and two points of exquisite tenderness were found in the course of the nerve. No such characteristic evidence of inflammation could, however, be found in the regions supplied by the small occipital and the auricularis magnus, though, to be sure, the distribution of the pain pointed clearly enough to the secondary “sympathetic” involvement of the nerves.

In view of the failure of conventional measures, and the patient's condition, that was now become truly deplorable from loss of appetite, sleeplessness, and depression, I decided to sever the great occipital. I was the more ready to do this, as she had parted with all faith in what was undertaken in her behalf, even to the extent of frequently declining the remedies that were prescribed for her.

Immediately after obtaining her acquiescence in this decision, I injected two drachms of the melted oil at the most centrally located point of tenderness. A spray of rhigolene was then thrown upon the integument above the injected zone, with the result that the oil congealed forthwith, forming a hard wound, of which the longitudinal axis, about an inch and a half in length, extended directly across the nerve, in such a manner as to incarcerate the latter in the waxy mass (Fig. 3, 1).

Again the syringe was filled with the melted oil, the cannulated knife substituted for the hollow needle, and the latter, after introduction beneath the skin, was made to traverse the waxy mass, and, in so doing, divide the nerve stem. The cut ends were then separated by lateral pressure with the flat of the blade, substantially as indicated in the general description. By this manoeuvre, as already noted, a subcutaneous tunnel-like excavation is produced in the oil-impregnated tissues, and, thanks to the cohesiveness of the hardened mass, the ends of the nerve at the point of division are held apart. The injection of the oil through the cannulated knife was now undertaken while the latter was slowly withdrawn, and immediately thereafter the rhigolene spray, projected once more upon the integument, caused the oil to congeal in the tunnel, whereby an impregnable barrier was formed between the cut ends of the nerve stem. And here let me observe parenthetically that, should the oil congeal prematurely in the canal of the knife blade or in the syringe, it can be reduced at once to a fluid state by dipping the implement in hot water.

To tell in few words the result in this case, I may state that, with the exception of slight, transient local soreness at the point of section, the relief experienced was instantaneous. Nor is there now—several weeks

after the operation—any likelihood, so far as one may predict, of a relapse; the ridge of fat still remains in place; sensibility is still obtuse below the point of incision; the patient still continues to improve in general health. Indeed, the progress made in the last-named regard has been truly amazing; for the insomnia, irritability, and melancholy have quite disappeared; and, thanks to simple tonic measures, her appetite and assimilative powers have so far reasserted themselves that she has not only recovered what she lost in weight but added several pounds thereto as well.

This intensification of vital activity after the individual has been relieved of the depression of the higher cerebral functions, which, to a greater or less degree, always accompanies severe physical or mental pain, is capable of being interpreted as an additional proof in favor of Schopenhauer's famous dictum which affirms the positive nature of pain and the purely negative quality of pleasure.

With an apology for this bit of metaphysical soliloquy between the lines, I return to the argument, and more especially that part of it which finds a further elucidation in my second case.

On a certain evening, about three months since, Mr. N—, aged sixty, fell asleep as he lay stretched upon the lounge in his bedroom. A friend of fresh air, he had opened all the windows; and so it befell that for several hours he was exposed to a strong draught. Awakening shortly after midnight, he was aware of a sensation of stiffness in the back of the neck, a feeling that became positive pain when rotation of the head was attempted. Deeming the matter of little consequence, he closed the windows, got to bed, and in no long time fell once more into a restless sleep. At dawn, however, he was suddenly awakened by an access of pain, severe, shooting, intermittent, involving the back and side of the head on the right, and extending thence to the muscles of the neck. As the day wore on the pain increased in vehemence; the muscles of the neck became more rigid, the periods of exemption grew hourly shorter. He was induced to invoke the services of a physician, but, despite the good offices of the latter, he obtained little relief. Blisters, anodynes, hot applications, local injections—all were tried, but to so little purpose that, except when, *faute de mieux*, he was given considerable doses of morphine, he suffered with scarcely an intermission.

Irritability and depression had mastered him now so wholly that he could neither eat nor sleep, and to these were added the usual sequences—derangement of nutrition, defective metabolism, and loss of weight. He began to run from one practitioner to another, and at length in the course of his peregrinations drifted to the consulting-room of a prominent practitioner of this city, who in turn referred him to me.

On examination the occipital and right parietal regions were discovered to be the seat of hyperæsthesia, the sensitiveness being especially exquisite throughout the region supplied by the small occipital. Two points of tenderness were found in the course of this nerve, and one in the auricularis magnus near the cranial attachment of the sterno-cleido-mastoid muscle. No such sensitiveness could, however, be made out above the great occipital. Moreover, the cervical portions of the two nerves first mentioned were devoid of painful points, the neuritis confining itself largely to the ramifications about the head. This predilection of the inflammation for the exposed portions of the nerves is quite characteristic of the type of neuralgia under consideration, and the fact itself has a favorable bearing upon the plan of treatment here advocated. Indeed, to say the truth, it is easier to divide the nerves subcutaneously as they spread out upon the cranial bones than lower down, where they spiral up between the cervical muscles.

Finding this patient set in his determination to submit no longer to medication of any kind, and encouraged not a little by the success obtained in the previous case, I proceeded to divide both the small occipital and auricularis magnus, choosing as before the most centrally located painful point. The point of section of the occipitalis minor is shown at 2, Fig. 3, that of the auricularis magnus at 3 of the same diagram. As to the manipulations, they were precisely the same as in the first case, viz.: (1) Injection of the melted oil about the nerve, at the point of section, and subsequent congelation of the same by the application of cold. 2. Passage of the cannulated knife into the mass of congealed fat, immediate division of the nerve, and separation of the cut ends by lateral pressure with the flat of the blade. 3. Expulsion of melted oil through the canal of the knife, during withdrawal of the latter, and prompt congelation of the oil by the application of cold, whereby the canal is filled and a substantial barrier formed between the cut ends.

I may add that the hemorrhage caused by burrowing thus into the tissues—and more especially by the lateral movements of the knife—ceases coincidentally with the solidification of the oil in the canal.

The result in this case was as happy as that obtained in the first, viz.: immediate cessation of pain about the head, and indeed of all pain, if we except slight soreness and stiffness in the neck—a condition that disappeared completely within the next two or three days. Nor is there now, several weeks after the operation, the slightest token of a relapse. With this emancipation from pain could be observed the passing of the irritability and melancholia, and the speedy restoration of the power of attention and the zest of living. He began to sleep as never before, remaining unconscious for fifteen hours at a time—a remarkable performance for a man of sixty. His appetite returned and he ate ravenously of all kinds of food. Soon his weight began to increase, the lines of his face to relax, and in no long time he was completely restored.

These cases are their own best commentary, and I shall therefore spare the patience of the reader by refraining from further disquisition.

In conclusion, however, let me recall the fact—for it may well happen that what I have here invoked for neurological purposes may receive a further application at other hands in other fields—that I have employed this same principle of treatment before, notably for the fixation of remedies (analgesics) in painful areas, and for the purpose of inhibiting the exaggerated action of the muscles in torticollis and other forms of local spasm.¹

53 WEST THIRTY-EIGHTH STREET.

After-Pains.—Dr. Winterburn (*Journal of Obstetrics*) says that in many cases a nice warm meal is better than any medicine; but, when pains are exhaustingly severe, he uses amyl nitrite. This potent drug is a very efficient controller of after-pains, and, used with caution, it need not result harmfully. A neat way of using it is to saturate a small piece of tissue paper with five or six drops, stuff this into a two-drachm vial, and request the patient to draw the cork and inhale the odor when she feels the pain coming on. It acts with magical celerity.

¹ "The Localization of Remedies about the Sensory Nerves of the Skin: Induction of Protracted Local Anæsthesia," *The New York Medical Journal*, December 26, 1891. *Also* the author's monograph on "Pain," J. B. Lippincott & Co., Philadelphia, 1884, p. 216 *et seq.* Also, "Elaomyenchysis, or the Treatment of Local Spasm by the Injection and Congelation of Oils in the Affected Muscles," *The New York Medical Journal*, April 14, 1894.

HEREDITARY SYPHILIS AND GENERAL PARESIS OF THE INSANE.

By EDWARD H. WILLIAMS, M.D.,

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IN cases of general paralysis of the insane, the history of direct syphilitic infection, together with a life of general dissipation and excitement, is so often found that the disease has become very generally credited to, or at least associated with, primary syphilitic infection. The temperament of the majority of "paretics," the past history, and the general train of delusions are so characteristic that in a large percentage of cases the description of one will answer almost equally well for any other. For, as is well known, general paralysis presents more uniformity in symptoms than perhaps any other form of mental disease.

The cases in which there is positive proof of primary syphilitic infection (practically seventy-five per cent. of all cases) form such a majority that the small number of cases in which the history of such infection is lacking is generally ignored. The typical "man of the world"—ambitious, fond of society and high living, a light sleeper and a deep drinker—forms so characteristic a picture of the forerunner of the deplorable "paretic," with his delusions of grandeur, that we usually overlook a minor number of cases that present at first few typical symptoms and whose past history may be different in many respects from that of the majority of cases. If such cases are examined, it will be found that many of them, while having no history or proof of direct syphilitic infection, do bear unmistakable marks of hereditary syphilis—usually shown by the presence of Hutchinson's teeth. These cases are often obscure, even to the alienist, in the beginning, and the diagnosis is not facilitated by the lack of a characteristic syphilitic history.

As a marked contrast to the highly-organized, brilliant-minded, general paralytic, we often see in this man a dull and sluggish-minded being, who may have been more or less dissipated, but who has never attempted what might be called mental work of any kind, and who is in no sense of the "paretic temperament."

Yet this man is sometimes the victim of general paresis. I say "victim," because his more brilliant prototype is generally counted not so much a victim of the disease as an inviting host to it.

I have selected four cases from among quite a large number showing the syphilitic teeth and giving the



FIG. 1.

histories which do not coincide, in some respects at least, with those of a typical case.

In Fig. 1 are shown the teeth of J. T—, who was thirty-nine years of age when committed to an asylum. He was a harness maker by trade, was married, and had always lived a quiet, industrious life. He had been an habitual but rather a moderate beer drinker, and had been intoxicated several times, but

was not a drunkard in the ordinary sense of the term. After a family reunion and feast, at which he indulged freely both in eating and in drinking, he had an attack of "acute mania." This lasted for about three weeks, during which time he was emotional but happy, expressing no characteristic ideas of grandeur, only occasionally remarking that "he was a very fine man" and that "he felt splendid." There were no muscular

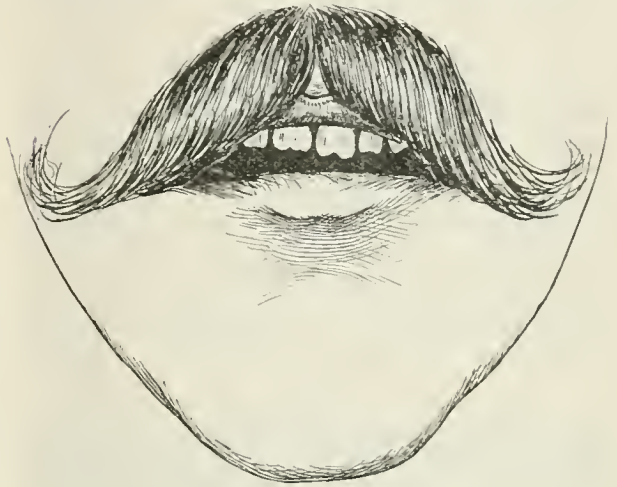


FIG. 2.

tremors of the tongue or lips, or ataxia of the throat muscles, and the diagnosis of general paresis was not made at the time. He remained in an apparently semi-demented condition, however, and was confined in an asylum. After nineteen months with practically no change, he had an epileptiform convulsion, which left him with marked paresis of the left side, irregular pupils, lip tremor, and well-developed ataxia of throat muscles. From this condition he did not fully recover, and gradually developed into the happy, talkative, ataxic-spoken "paretic," with unmistakable symptoms. These symptoms progressed rapidly, and he died eleven months after the first epileptiform seizure. At no time did he exhibit many delusions of grandeur—in fact, they were conspicuously absent. As was stated before, he had no history nor evidence of primary syphilitic infection; but, as is shown in the cut, his teeth had the telltale marks of hereditary syphilis.

Fig. 2 shows the teeth of J. B—, a grocery clerk, who was admitted to the asylum at the age of twenty-seven. He had always been quiet and industrious, was not given to venereal excesses, and had never had syphilis. He had been a steady drinker all his life, but was not given to excessive drinking. Insanity was first suspected when he began claiming other people's property as his own. The diagnosis of general paresis was not made until after he had been confined in the asylum for eighteen months. After that time he developed lip and tongue tremors, and gradually developed into a well-marked case of the disease. From the cut it will be seen that he had well-marked Hutchinson's teeth.

In Fig. 3 are shown the marked teeth of hereditary syphilis. This man, a stone-cutter by trade, was thirty years old on admission to the asylum, had no history of venereal excesses nor of primary syphilitic infection, but had been a hard drinker and given to frequent drunken debauches. Lip and tongue tremors were present almost from the beginning, and he developed delusions of grandeur early, and became a typical case after the first year of his confinement.

In Fig. 4 the right incisor shown is an artificial tooth; the left, however, shows the characteristic notch of hereditary syphilis. This man was a blacksmith by trade, was rather a "thick-headed" and in-

different workman, and a periodical drinker. There was nothing peculiar in the nature of his attack of paresis, but he had absolutely no history or evidences of ever having had primary syphilis, and the temperament of the man was quite opposite to that of the majority of general-paresis patients.

I have found that in about seventy per cent. of cases of general paresis, in which no history or evidences of



FIG. 3.

primary syphilitic infection could be found, there were evidences of hereditary syphilis in the teeth. In fully sixty per cent. of these cases there was no history of excessive dissipation, although almost to a man they had been addicted to the use of alcohol, and sometimes to an excessive degree. In ninety per cent. of these cases they were men of anything but the "parietic type"—men of rather sluggish mentality, with corresponding habits.

Since it is so definitely established that at least seventy-five per cent. of all cases of general paresis have had primary syphilitic infection, and as so large a percentage of those not showing primary syphilitic infection have marks of hereditary syphilis; and, furthermore, since almost all of both classes have been confirmed alcoholics, it is certainly interesting to notice the pathological conditions which closely resemble each other in primary syphilis, hereditary syphilis, chronic alcoholism, and general paresis. We know that both in primary and hereditary syphilis a thickening of the cerebral meninges, not unlike the condition found in general paresis, is a common thing; while a thickened condition of these membranes is also common to chronic alcoholism.

As yet we are unable to tell the exact relation which



FIG. 4.

the thickened membranes have to the mental condition in any of these diseases, but that they do have a definite relation cannot be doubted. It is possible that hereditary syphilis, which is sometimes manifested in the thickened membranes, not unlike those found in general paresis, may, through their agency, act as a

predisposing cause to this disease. If we assume this hypothesis to be true, it would be reasonable to suppose that a man with syphilitic meninges might develop general paresis without the great amount of dissipation and primary syphilitic infection of the ordinary general paretic patient. With such a man, it would be natural to infer that a less amount of alcohol might tend to produce changes in the cerebral meninges, since alcoholism tends to produce a somewhat similar change even in primarily healthy membranes.

Of course, any theories concerning the relative condition of the cerebral meninges in general paresis, hereditary syphilis, and chronic alcoholism are purely tentative; and whether or not the thickened membranes, caused either by primary or by inherited syphilis, could cause or assist in causing general paresis, aided, perhaps, by the effects of alcohol, is mere speculation. If, as many alienists think, alcohol produces insanity only in those who have some pre-existing neurosis, it may be that that neurosis is sometimes of syphilitic origin. Since syphilis is so closely associated with general paresis, one disease might thus be a manifestation of the other, or a factor in producing it.

Of course, until we establish the exact relation of syphilis to general paresis, we can do no more than draw relative inferences from existing conditions; but I believe that closer observation of the teeth in doubtful cases will assist in making a diagnosis in many cases of general paresis whose history and symptoms might be otherwise misleading.

ORRHOTHERAPY AT NURSERY AND CHILD'S HOSPITAL, 1895-96.¹

BY ALLEN M. THOMAS, M.D.,

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DURING the past year the orrhoterapy of diphtheria has excited much additional interest among us on account of the brilliant results recorded, covering a large field both in private and hospital applications of it, and because of the more or less unique discussions which have gone on at the academy meetings. A little over a year ago a report was made to the society of the results of the immunizing effect of diphtheria antitoxin under the direct auspices of the late brilliant house physician, Dr. Mapes, of the Nursery and Child's Hospital. It may be of passing interest, at this time, to relate a little incident of that report. Shortly after publication it happened to the author of the paper to meet a physician of prominence in the case of a child of another physician of this city. The case being considered sufficiently indicative of diphtheria to warrant immediate treatment for that disease, without waiting for a culture test, the question arose at once as to the nature of the treatment to be installed.

In the course of ensuing discussion, upon referring to the report and asking what was thought of the result of immunization obtained at the hospital, the reply was: "It could only be considered a coincidence." This circumstance is narrated, not in a spirit of personal antagonism, but solely in the interest of the subject and to emphasize the ridiculous assumption of such opposition should it continue its adhesion to similar untenable statements in the face of the stultifying facts which the records of a successful orrhoterapy are constantly accumulating. In other words, the value of diphtheria antitoxin, in the record of results achieved and published, was never more conclusively in its favor than now, and no factor of that value more successful in its practical application than its use as an immunizing agent. What-

¹ Read before the New York Clinical Society, October 23, 1896.

ever future trials may determine, our judgment of it must continue to be weighed in this balance of results obtained, and will be rightly formed for that future, as it has been for the present, solely upon such evidence.

An honest purpose does not permit of continued miscalculations of "the returns," but rather guarantees us unprejudiced observations and ultimately true and easily reconcilable conclusions. Setting aside all personal issues and applying this principle to our practice, we may fairly assume that future work in the premises will bring to us still more wonderful and satisfactory results, sufficiently convincing in their simplicity to make all of one mind at the final settlement.

The object in addressing you to-night upon this topic is especially to present, in continuation of the report read last year, the results of our further work in this line at the Hospital from April, 1895, to July, 1896. Following upon the cessation of our epidemic of diphtheria, which was so successfully controlled by the immunization of the entire hospital in April, 1896, no case of diphtheria occurred in the institution for a period of six months thereafter, *i. e.*, until October 26, 1895. On account of the fatal illness of Dr. Mapes, the work has been chiefly carried on, since the time of the last report, by Dr. Neumann of the house staff, who, under my direction, has kindly collated the results of our subsequent work in the following report. Culture tests showed the case of October 26th, above spoken of, to be one of true diphtheria by the presence of the Klebs-Loeffler bacillus. The child was immediately isolated and antitoxin administered. All the other children in the ward, twenty-three in number, were given immunizing doses of serum, the amount varying from fifty to two hundred units, according to age. Although directly exposed for a number of hours, not one of these twenty-three children contracted diphtheria. A certain number (unfortunately not recorded) had nasal discharges prior to the development of the initial clinical case. Cultures taken from those having such discharge showed the presence of diphtheria bacillus in nine. These cases were all kept isolated until the bacilli were no longer demonstrable in subsequent cultures.

During and since the epidemic of diphtheria last year, a peculiar feature among the children, in regard to nasal discharges, has been that many of these patients, apparently well in other respects and with no visible or constitutional disturbance, would evidence upon culture test (for more or less prolonged periods) the Klebs-Loeffler bacillus in the discharge, and seemed, in some instances at least, to be the cause of outbreaks of decided cases of diphtheria in the same wards before showing any clinical signs of it themselves. The lesson it taught us was to beware of a running nose, each case of which is now considered worthy of special investigation. Cultures were then invariably taken from nasal discharges as well as from all suspicious sore throats, and if the Klebs-Loeffler bacilli were present children were isolated and subjected to treatment as a means of prophylaxis, and, as before, all the remaining children in the respective wards were given immunizing doses. Up to August, 1896, three hundred and twenty-six children have received antitoxin. Of this number fifty-nine were twice, and nine three times subjected to treatment, the youngest child to receive treatment being two weeks old.

The ages of the children were as follows: Under three months of age, 58; from three to six months of age, 45; from six to twelve months of age, 69; from one to two years of age, 75; from two to four years of age, 79; total, 326.

In all, there were eighty cases having the above

mentioned muco-purulent or bloody discharge from the nose, in which the diphtheria bacilli were found upon repeated examinations and confirmed by the bacteriologists of the health board. These children manifested no local or constitutional symptoms of diphtheria, yet, in many instances, the characteristic bacilli could be demonstrated in cultures three and four weeks after the most persistent and energetic local treatment. In one case, the bacilli were found in the nasal secretion and also in the discharge from a chronic otitis media and persisted for four weeks.

Of these eighty special cases immunized, none developed a clinical diphtheria or other untoward effect, though the majority at the outset were in poor physical condition, as the following shows: Chronic otitis media, 10; molluscum contagiosum, 3; marasmus, 5; syphilis, 1; suppurating tuberculous glands of neck, 1; chronic catarrhal gastro-enteritis, 1; pleurisy with effusion, 1; hypertrophied tonsils and adenoids, 3; catarrhal enteritis, 1; bronchitis, 2; rickets, 2; convalescent from broncho-pneumonia, 1; dentition and diarrhoea, 1; chronic eczema of scalp and face, 1; broncho-pneumonia, 2; enteritis, 1; pertussis, 6.

These continued good results from our use of antitoxin as an immunizing agent are surely most satisfactory, and in full accord with last year's work and that simultaneously done elsewhere. No serious ill effects from its use have been obtained in any of the three hundred and twenty-six cases. On the other hand, its positive value as a prophylactic agent is very pointedly evidenced from last year by the sudden cessation of our epidemic immediately after immunization was practised, and in this year by our escape from the usual and, for the past many years, more or less severe and fatal epidemic of diphtheria in various wards of the hospital.

Urticaria and erythema, circumscribed and diffuse, were observed in less than five per cent. of the cases. In one case (that of an adult) oedema, with redness and tenderness, followed a deep injection in the arm. In another case (that of a child) oedema extending from the hip to the toes was observed three days after a deep injection into the buttock. A moderate elevation of temperature followed the injection in some cases, and a slight diarrhoea was of frequent occurrence.

Of the persistent nasal-discharge cases, four showed cultures of Klebs-Loeffler bacilli for a period of at least two months after immunization and local treatment. Dr. Park, of the board of health, reported upon special examination that these bacilli showed no virulence when injected into guinea-pigs. Smears were also taken from the intestine of one child who died of entero-colitis and who had previously shown Klebs-Loeffler bacilli in the nasal discharge. Dr. Park reported upon the case that he found bacilli which looked like the diphtheria bacilli, but could not get them in pure culture and so had no means of demonstrating whether they were virulent or not.

This single investigation of Dr. Park, upon the four cases spoken of above, would, if supplemented later on by others in similar condition, with the same result, simply confirm the logical conclusions of our clinical observations and experience in the premises. As, however, our work in this direction is necessarily incomplete, no definite conclusion can at present be drawn from this class of cases. The very interesting question of the period of protection warranted in a given case of immunization is still unsettled, and our experience of the year adds little of value in this particular beyond the knowledge already obtained. As a rule, it was from four to six weeks or longer, though the following irregular cases are of interest in regard to this matter of time limit:

CASE I.—Child received two hundred units on January 12th, 1896; on January 24th, patient developed measles, which was followed in four days by diphtheria, the membrane involving the uvula, soft palate, and roof of mouth, spreading to the tongue and out on the corners of mouth. In this case the child developed the disease sixteen days after receiving an immunizing dose of two hundred units.

CASE II.—June 3, 1896, twenty-two children were admitted to the reception house, and, as is the custom, all received two hundred units of antitoxin as a means of prophylaxis. On June 27th, twenty-four days after immunization, one of the number, a rachitic child fourteen months of age, developed a severe diphtheria ophthalmia and died on July 2d.

CASE III.—Two children were found with Klebs-Loeffler bacilli in nasal discharge fifteen days after injection of two hundred units. (The condition of nasal discharge was not known in these cases at time of injection and its virulence at time of observation was not tested.)

CASE IV.—June 1, 1896, child received two hundred units, and on June 3d developed a severe diphtheria ophthalmia. (In this instance only two days elapsed between the time of injection and the development of the disease, and here too the condition of the conjunctival mucous membrane was not known at the time of injection. The observations in Cases III. and IV. are consequently of doubtful value.)

In several instances in which a mother with true diphtheria refused to be separated from her suckling infant or young child, she was permitted to keep her child with her in the diphtheria ward during her entire illness, the child being carefully watched and immunized. In no case of this sort did the child develop diphtheria.

Board-of-health virus was invariably used in the concentrated solutions and in the regularly established rules of dosage of that department. The following summary of all cases given prophylactic treatment by immunization, since its inception at the hospital, April, 1895, will be of interest:

Age.	Previously reported.	Present report.	Total.
3 weeks to 3 months	19	58	77
3 weeks to 6 months	36	45	81
6 months to 1 year	22	69	91
1 year to 4 years.	59	154	213
	136	326	462

In conclusion: the facts established for future guidance are, as forecast in the report of last year:

1. The safety of the agent (properly prepared and administered), even when given to patients of tender years and poor physical condition.
2. Its evident control for a variable period (about one month) over the inception of diphtheria by those who, having been exposed or subject to exposure, are protected by proper immunizing inoculations.
3. Its positive value as a therapeutic agent, in established cases of true diphtheria, particularly when given early in the course of the disease and administered in full doses, according to age and under careful aseptic precautions.¹

AUGUST 21, 1896.

¹ Although this third deduction is made independently of the foregoing report, it does not appear irrelevant to the tenor of the paper; that the statement may not seem presumptuous, it should be understood the deduction is made from personal observations and experience, but these are not at present in shape for statistical report. This, however, cannot detract from the significant fact that the conclusion wholly agrees with the accepted opinions of those whose broader observations and larger experience combine to give the added weight of recognized authority.

POISONING BY AMYL NITRITE.

By R. CADWALLADER, M.D.,

FALL RIVER MILLS, CAL.

Cases of poisoning from amyl nitrite are so rare that each is deserving of notice. Especially is the history of the following case peculiar, and I regret that I did not keep more careful notes of the same. My excuse is the personal interest I had in the result, and the strain and fatigue I was under, which have blended details into a confused remembrance. For many details of dates and sequence of events I am indebted to William H. Vale, D.D.S., of San Francisco, who was present and saw the case to the end.

While reporting a fatal case, I am also paying the last tribute to a friend and brother practitioner, who, at the age of twenty-four years, with a brilliant future before him, has contributed by his tragic death the material for the article.

On Wednesday, October 14th, Dr. F. A. Lutz, of Bieber, Cal., demonstrated the effects of amyl to several persons by inhaling the drug. Thursday he was unwell from indigestion, and made the remark that he believed a pain in his head was due to the amyl of the day before. Some state that his actions were peculiar that day, but this did not occur to them until later.

Thursday evening he stocked a new buggy case and put in a bottle all the amyl nitrite he had, one-half ounce of Merck's. A defective cork was used as a stopper. This case he placed in his room; then he made several calls, and retired at 10:30 P.M. He was not disturbed until 12:45 P.M. Friday, when he was found unconscious, with face dusky red, breathing slow and regular, pulse rapid and weak. He had evidently vomited during the night. The windows were closed, but were at once opened. Those present at first report the room "very close." Dr. L. F. Cate, of Adin, and myself were called. Dr. Cate reached him about 4:30 and I arrived about 7 P.M. Dr. Cate gave him iced milk and cold applications to the head.

A little after 6 P.M. he became semi-conscious, and was so when I arrived. I found him able to recognize every one. His face was suffused and dusky red; tongue swollen, dented by the teeth, and partially paralyzed. He could only with difficulty and after several attempts partially protrude it. Articulation was impossible. He was in no pain, but there was a spasmodic jerking of the muscles of the left leg. The pulse was full, bounding, regular. Temperature was 97.3° F.; respiration, 18, full; and urine normal upon examination.

We opened his case and found the cork still in the bottle, but the volatile amyl had soaked through and wet the case. It was too volatile to endure even until the labels could be looked over.

That night he rested well, and on Saturday, the 16th, dressed and came out to a sofa. His pulse was rapid and weak, and he complained of muscular relaxation and weariness; but he joked and tried to speak of his condition, but could not articulate. There was a tendency to sleep.

Saturday afternoon I returned home, but was sent for Sunday at dark. The messenger said his pulse was worse.

I arrived at his side about 11 P.M., and found him much the same—tongue enlarged and helpless, face dusky, temperature subnormal, respiration 12 to the minute and deep. Urine was drawn by the catheter. While he recognized persons, I found a condition of aphasia. He could pronounce names after me as well as his tongue would permit, but would misname even his best friends. Deglutition was never lost until his death; in fact, he was hungry continually and asked for food.

Up to this time no medicines were given: rest, food,

cold applications to his head and hot to his feet embraced the treatment. About 2 P.M. the heart was 70, but the pulse became soft, full, and the beats run together. I gave one drachm of fluid extract of ergot and ten minims of tincture of digitalis. By daylight Monday the pulse was 55, strong, and the radial arteries were well filled. The condition of somnolence, or partial coma, became persistent and lasted until his death; but he could always be aroused, and then seemed fully conscious of all going on around him.

Monday night the urine was discharged during his sleep. That night and Tuesday forenoon I gave one-sixtieth of a grain of strychnine sulphate and one-sixtieth of a grain of sparteine sulphate hypodermically, a few drops at a time, every few hours, as the heart seemed to require it.

Tuesday, about 3 P.M., the first failure to breathe occurred. Prior to this the respiration had been full, regular, and deep. I was called instantly and told that he stopped all at once, but upon being aroused he had begun again regularly. That morning I drew urine and cleaned the rectum by a solution of Epsom salts and glycerin. The urine was tested and found normal.

Tuesday night and Wednesday there was no change. Small shots of atropine were given every few hours. The heart was fair only, breathing normal. He slept most of the time, but was easily aroused.

Thursday morning, at ten o'clock, there was a momentary failure to breathe, but it passed off in a few minutes. The pupils were now somewhat dilated, and no more atropine was given. It had failed to affect the respiration noticeably, and was unsatisfactory. From this time on strychnine was used in minute doses every hour or two.

Friday, at 2:30 A.M., there was another failure to breathe, and when I reached the room Dr. Yale had begun artificial respiration, which was kept up fifteen minutes before he could be aroused.

Friday afternoon, about 2:30, while I was talking to him, he ceased breathing absolutely, and for two hours only did so when told to take a breath. He breathed for that time mechanically every so many seconds when told to do so. One-half grain of caffeine and the same of strychnine were given. The pulse was then for the first time irregular, running 60 to 70 per minute, and, as usual, weak.

Saturday morning, after sleeping well during the early part of the night, he suddenly failed again, and for four hours artificial respiration was kept up. The pulse was 60 to 70, weak and irregular, improving under strychnine, but the twitching muscles showed that our limit was about reached. At 6 A.M. digitalis was given, and by 10 A.M. the pulse was regular, fairly good, at 38 to 45 per minute. He was only semi-conscious all day. Brandy in egg-nog and by injections was given. All that forenoon he breathed only when punched and told to do so. Saturday night he rested well.

Sunday, at 4 A.M., there was a momentary failure to breathe. Pulse, 36 to 42; respiration, 14, full and regular. During the day he was semi-conscious when aroused.

Monday morning, at one o'clock, it was found impossible to arouse him. Pulse, 36 to 38; respiration, Cheyne-Stokes. This coma lasted until his death. From 7 until 11 A.M. he was kept alive by artificial respiration. The pulse was weak and irregular, intermittent, from 70 to 120. He rallied a little, but ceased to breathe again at 2 P.M. From 2 to 2:45 artificial respiration was used, the pulse ranging from 90 to 180. At 2:45 he began to breathe alone faintly: pulse, 180. At 3:10 only an occasional breath was drawn; pulse, 180, and very weak. The face became con-

gested and purple. At 3:20 the last breath was drawn, and at 3:28 the last flutter of the heart occurred.

During the first few days he would complain occasionally of violent neuralgic pains in the occiput and branches of the fifth nerve.

No post-mortem was allowed, but I embalmed the body and noticed the great difficulty of distinguishing the femoral artery from the vein; both were equally relaxed.

The reader must draw his own conclusions. I have been unable to learn of another even serious case: in fact, authorities seem to ignore the dangerous side of this drug. I would call attention to the fact that life was prolonged so long and that the heart seemed to show the effects long before the respiration. Were I to hazard a theory of its action, I would suggest that the drug exerts its effects directly on the centres controlling the muscular fibres of the blood-vessels, paralyzing them, and especially those of the brain; that this results in an extravasation of serum and increase of intracranial pressure, deranging the nuclei of origin of the spinal nerves. This would account for the symptoms of involvement of the fifth, tenth, and twelfth nerves.

There is no doubt that amyl nitrite alone was the cause. The presence of it in his room and his statements to me, together with my certain knowledge of his private affairs, forbids any mixed poisoning, either intentionally or by accident.

Progress of Medical Science.

Vaginal Hysterectomy.—In a paper discussing bilateral suppurative processes of the uterus and adnexa, Dr. W. D. Haggard, Jr. (*The Southern Practitioner*, November, 1896), says: "In suppurative disease of the uterus and appendages requiring removal, the vaginal method is preferred to the abdominal for the following reasons: 1. The preliminary step, vaginal section, allows thorough exploration and the application of any appropriate conservative treatment, with a minimum of risk. 2. The vagina is the natural approach and logical avenue for drainage of the pelvis and its contents. 3. It is immune from the unpleasant sequelae of laparotomy, possibility of ventral hernia, of stitch abscess, of infected ligature and sinuses, and the abdominal supporter. 4. There is less immediate shock: the convalescence is smoother and shorter. 5. There is no exposure or handling of intestine. 6. The mortality is lower."

Infantile Syphilis.—Dr. Coutts (*British Medical Journal*, 1896, No. 1,843) gives the results of his studies on this subject, summarized from the Hunterian lecture. He thinks a syphilitic mother much more potent in infecting than a syphilitic father. As far as prognosis in the treatment goes, it makes no difference whether the father or the mother is the infecting agent. In syphilis by conception, the mother's entire or partial immunity is caused by the production of antitoxins in her body, which increase with successive pregnancies. Marasmus and congenital atrophy of the secretive and absorptive surface of the intestinal tract are considered among the most important symptoms of inherited syphilis. First symptoms commonly appear in the second month, but may be delayed twelve months. Enlargement of the spleen and liver was found in most cases. Bone lesions are less often observed; pain was often absent in syphilitic epiphysitis; suppuration is rare and is usually seen in the long bones of children old enough to walk. Acquired syphilis is always accompanied by a chancre, followed by roseola and often by sore throat. Dr. Coutts calls attention to

two propositions embraced in Colles' law—the mother of an infant with inherited syphilis cannot acquire it from the infant, but such an infant would infect a healthy wetnurse. Inherited syphilis is very feebly contagious, while acquired syphilis is actively so. The limitations he would place on nursing would be that the mother or wetnurse should have no excoriations on the nipples, and that no ulcerations or fissures be present on the mouth of the infant.

Congenital and Pathognomonic Symptoms of Syphilis.—Dr. Silex (*Annals of Ophthalmology and Otolaryngology*) says the diagnosis is more difficult after the fourth year, especially when complicated by scrofula or rickets: after this time the eye specialist is in a better position to judge of the existence of inherited syphilis than the general practitioner. Fournier reported that the eyes were affected in one hundred and one out of two hundred and twelve congenital syphilitics. In eighty-two only were osteoplastic changes noted. In sixty-two to eighty-three per cent. of cases we find keratitis. The peculiar form of teeth described by Hutchinson and Knies were referred to. Hirschberg stated that choroiditis areolata, serpiginata, and disseminata were all believed by him to be the results of congenital syphilis. The writer would add Virchow's sign of congenital syphilis, the smooth base of the tongue.

Practical Treatment of Typhoid Fever.—Dr. C. E. Skinner writes as follows in the *New York Medical Journal*, October 24, 1896: "It is a prevalent notion that a too rapid return to solid from a liquid diet is capable of inducing a relapse of the disease. I do not believe this. This fever is infectious, and if, in any given case, it started to run another cycle, there must certainly have occurred another infection with fresh germs. It is much more logically explained by the probability that the faeces had not been thoroughly disinfected early enough to kill all the micro-organisms, and that some article—clothing, bedding, or the carpet, for instance—had suffered contamination. As their virulence is not destroyed by drying, it would be quite possible for some of them to effect a re-entrance into the patient's intestinal tract and set up mischief anew. Too heavy (*i.e.*, indigestible) a diet would be likely to produce acute dyspepsia, with its accompanying systemic disturbances, and this would be rendered more intense and easier of induction by the debility present; but I do not believe that it ever directly caused a relapse into true typhoid fever."

Erythromelalgia.—Not much has been added to our knowledge of the symptom complex designated by Weir Mitchell as erythromelalgia since his first description of the disorder in 1872. As the name indicates, the condition is characterized by pain and redness, not of an inflammatory nature, usually confined to an extremity, worse on dependency and in hot weather, with hyperalgesia and increased local temperature, and without definite trophic disturbance. Of the ultimate nature of the disorder we have no positive knowledge, although hypotheses as to its pathology are not wanting. One of Mitchell's cases was believed to be of spinal origin. In another the symptoms were attributed to a terminal neuritis; and this view seemed to receive support from the relief afforded by excision and stretching of the nerves presumably involved in the morbid process. A number of cases of erythromelalgia have been recently reported by German observers, two of whom, Lewin and Benda (*Deutsche medicinische Wochenschrift*, 1894, Nos. 3, 4, 5, 6), have collected a total of forty cases from the literature. A study of these leads to the conclusion that the affection is not a disease *sui generis*, but a manifestation at times of spinal or cerebral disease, at

others of some general neurosis, while in some instances it is to be viewed as the expression of a neuralgia, or of a neuritis, or even of a reflex influence. In reporting in detail a case recently, Dehio (*Berliner klinische Wochenschrift*, 1896, No. 37, p. 817), after an analysis of the symptoms, comes to the conclusion that the manifestations of erythromelalgia are due to abnormal irritability of the posterior and lateral horns of the gray matter of the spinal cord and, perhaps, also of the medulla oblongata. In this case examination of the nerves of the part of the body in which the symptoms of the disorder were manifested failed to disclose any morbid alteration. The local arterial sclerosis found was ascribed to the persistent diminution in vascular tone. The evidence thus far accumulated would seem to justify the conclusion that the group of symptoms included in the designation erythromelalgia may result from a multiplicity of causes acting upon different parts of the nervous system, and prognosis and treatment will vary accordingly.

Nervous Manifestations of Syphilis.—The diagnostic features of value are enumerated as follows in a paper by Dr. Hodges, read at the Richmond Academy of Medicine: 1. Headaches, which disappear if paralysis occurs. 2. Insomnia, nearly always associated with headache and disappearing with the appearance of convulsion or paralysis. It differs from the insomnia of neurasthenia and melancholia in that it occurs in the early night, the victim arising in the morning ready for his daily labor. 3. Vertigo, occurring usually with the headache. It may be transient, but becomes worse as the disease progresses. 4. Tremor, present in one-half of the cases. It occurs most often in the order named: In the hands, tongue, and over the whole body, and is accompanied by headache. If it occurs in a limb, it is the precursor of paralysis of the limb. 5. Hemiplegia. 6. Erratic distribution of paralysis, as aphasia with or without hemiplegia, ptosis, insanity, or epilepsy, with paralysis of one arm or leg. It is suggested that ptosis occurring suddenly points nearly always to syphilis. 7. The use of electricity to determine central or peripheral lesion. 8. The presence of great weakness and mental dulness. This is one of the most valuable of the nervous manifestations, being out of proportion to the seeming condition of the patient. 9. History of the case. In women, the history of many abortions in succession would point to syphilis.

Are Microbes Necessary to Human Life?—A correspondent writes to the *Philadelphia Polyclinic* in opposition to the theory that microbes are necessary to physiological digestion. The experiments of Nuttall and Thierfelder indicate that the animal body is independent of bacterial life, for they have shown that in the absence of all micro-organisms an animal may live and thrive. Their experiments were as follows: "A young guinea-pig was secured by Cæsarean section, under strict aseptic and antiseptic precautions, and immediately transferred to an apparatus consisting of a bell jar placed over a small vessel containing water covered with a layer of oil. Over this vessel was laid a piece of wire netting, upon which the animal could move about. In the sides of the bell jar were two apertures—in one a rubber glove, in the other a suction tube communicating with a bottle of sterilized cow's milk. The glove was connected with a rubber bag containing wads of cotton, which by manipulation of the glove could be placed on the wire screen, and after use could be dropped into the water beneath. The coating of oil prevented the evaporation of the water. From time to time the apparatus was ventilated with sterilized air. For a time the animal lay on its side, but soon rose on its legs, and, as it became

dry, grew active and lively. It received milk for the first time twelve hours after birth; thereafter, every hour, day and night. After eight days it was removed from the apparatus, killed, and opened under antiseptic precautions. A microscopic examination of the intestinal contents, in stained and unstained preparations, revealed a total absence of bacteria. Tubes inoculated with the contents and kept under both aerobic and anaerobic conditions remained perfectly sterile; not a single colony developed." From these results the experimenters conclude that bacteria need not necessarily be present in the intestinal canal of guinea-pigs, nor in other animals, nor in man—at least, not so long as the food is purely animal.

A New Method of Artificial Respiration.—Calliano (*British Medical Journal*) describes a new method of artificial respiration, which he has practised successfully in cases of asphyxia. Place the patient in Sylvester's position, draw the arms up so as fully to expand the thorax, and fix above and behind the head by tying the wrists together. Respiration is then produced by simply pressing with the hands on the thorax some eighteen or twenty times a minute. The advantages claimed for this modification of Sylvester's method are its greater simplicity, the smaller amount of labor required, and lessened fatigue of the operator; the absence of danger from contusion of the shoulder-joints, and the ease with which such a method could be taught to and practised by uneducated and untrained people.

Massage Movements and Bandaging in the Treatment of Displaced Semilunar Cartilages.—Dr. Douglas Graham, in a paper published in *The American Journal of the Medical Sciences*, November, 1896, concludes: 1. That neither in their natural nor in their unnatural positions can semilunar cartilages often be distinguished from the surrounding tissues. 2. That the position of the leg affords the best means of inferring whether one or the other semilunar cartilages may have been dislocated when it cannot be felt, the leg being usually flexed and the foot turned out when the internal meniscus is dislocated, the leg flexed and the foot turned in when it is the external. 3. To attempt to replace a dislocated semilunar cartilage, it is wise to flex the leg, then extend suddenly, rotating the leg inward if it be the internal cartilage, outward if it be the external, while exerting pressure over the offending region. 4. That there is a natural tendency in some cases of dislocated semilunar cartilages to slip back into place when the leg is not artificially restrained. 5. That if the knee be immovably fixed by plaster or splints before the cartilage has gotten back into its natural situation, the joint is locked and restrained from gentle instinctive movements that might favor its return. 6. That cases of displaced cartilage are attended by voluntary and involuntary restraint of motion, on account of pain and mechanical impediment; and in some cases by synovitis and the formation of adhesions. Forceful passive motion might then have the double purpose of breaking the adhesions and rectifying the displacement. 7. That even after a meniscus has been restored to its natural situation, it is not so securely and comfortably held by plaster and splints as by a pad of a few folds of bandage and a figure-eight bandage applied over this, which affords support and comfort and a safe limit of motion. 8. That it is possible, by carefully applied massage, resistive movements, home exercises, and electricity, so to strengthen the muscles on the front of the thigh, the fascia, ligaments, and attachments of the knee-joint that they will safely hold a previously dislocated semilunar cartilage without artificial support. 9. These remarks do not apply to cases requiring surgical

operation, though the above-mentioned combination of treatment might be safely tried in some cases before cutting into a knee-joint, but more especially after operation for restoring motion and strength to the knee.

Cholagogues.—Dr. E. Stadelmann (*Berliner klin. Woch.*) thus classifies the so-called cholagogues: 1. Substances having no true cholagogue action: bicarbonate of sodium, chloride of sodium, sulphate of sodium, etc. 2. Drastic substances, having no assured cholagogue action and often diminishing the biliary secretion: gamboge, jalap, aloes, scammony, senna, calomel. 3. Substances diminishing the biliary secretion more often than they increase it: alcohol, olive oil. 4. Substances certainly diminishing the biliary secretion: atropine, pilocarpine (?). 5. Substances having a doubtful cholagogue action: antipyrin, acetanilid, caffeine, diuretin, santonin, Durand's remedy. 6. Substances which are cholagogue: salicylate of sodium, bile.

Hydronephrosis.—1. Lumbar nephrotomy, followed by packing and aseptic drainage. If urinary fistula remains after three months: 2. Operation for the stenosis, namely, for (a) stricture of the ureter, or (b) valve formation and oblique insertion. If the fistula still remains with the ureter patent, which occurs only when there is obstruction above the ureter: 3. Operation for sacculated kidney as designed by me, namely, bisection of the kidney and division of the partition walls between sacs. When the entire territory of the sac is thus laid open and the ureter is patent, as demonstrated by free passage of bougies from the kidney to the bladder, and by free passage of injected fluid, then—4. Closure of the fistula by reunion of the bisected kidney. This last operation may confidently be expected to be followed by disappearance of the fistula. It should not, however, be done until the pyelitis, if present, has been cured by thorough irrigation from the kidney to the bladder. Kuster observed a case of nephrotomy in which the fistula closed spontaneously, with patent ureter, but the pyelitis persisted, giving an incomplete cure. I have seen, however, when we closed the fistula before the pus has disappeared entirely from the urine, the pus in the urine having remained unchanged in amount for a considerable time, that the closure of the fistula acts as a curative measure and causes the pyelitis to cease.—FENGER, *Annals of Surgery*, June, 1896.

Etiology of Lobular Pneumonia.—Dr. Kreibich, in a monograph published by Braumüller, Vienna, 1896, examined twenty-seven cases of pneumonia, twenty of which were of the inspiration variety. In twenty-three he found the diplococcus pneumoniae, eleven times in pure culture, five times with bacillus coli communis, four times with staphylococcus pyogenes aureus, once each with bacillus pneumoniae, streptococcus pyogenes, and another unrecognized micro-organism. Dr. Kreibich asserts that bronchopneumonia, and especially inspiration pneumonia, are generally caused by the diplococcus pneumoniae; but he notes that in man bacillus coli is also capable of causing lobar and lobular pneumonia. As an auto-infection from the cavity of the mouth, the occurrence of lobular pneumonia dependent upon the diplococcus pneumoniae is favored by such conditions as heart failure, hypostatic hyperæmia, etc. In most cases of coli pneumonia there is infection by the blood from the intestine or from inflammatory processes in the urogenital tract. Inspiration pneumonia may end in suppuration, in gangrene, or in induration. With regard to the first termination, the variety of exudation is not generally influenced by the question whether the diplococcus was alone present or in company with other organisms, though the exudation has a tendency

to be bloody if large infective masses are suddenly inspired. Gangrene is generally caused by anaerobes and saphrophytes, probably present in the inspired mass, which induce putrid changes in the contents of the bronchi, and by their katabolic products lead to necrosis of the inflamed portions of the lung. Induration apparently occurs when the metabolic products of the bacteria constitute a long-continued stimulus to productive inflammation.

The Cause of Warts.—Mechanical irritation of the papillæ is thought by Schaal (*Archiv für Derm. u. Syph.*, Bd. xxxv., H. 2) to be the cause of warty growths. In his own person, spiculæ of glass seemed to lead to increased formation of epidermic cells and the development of warts. The exposed surfaces being those on which warts habitually develop would lend weight to this theory. The delicate tissues of childhood also favor easy penetration of foreign bodies.

Hayseed Sprouted in the Ear.—Dr. Macnaughton Jones reports, in the *Journal of Laryngology, Rhinology, and Otolology*, a case in which the patient had been suffering from noises in the ear for some years, and had other evidences of middle-ear deafness. He sought advice for the deafness, being quite unconscious of the presence of any foreign body. On examining the meatus, what appeared to be a pink sprouting mass of fungus was seen with the transmitted light. The appearance was most puzzling, and it was not until the sprouting hayseed was withdrawn that its nature was discovered. It was quite firmly attached to the wall of the meatus, being removed clean with the lever forceps. The patient then remembered having, over two years previously, at harvest time, suddenly felt as if something had entered his ear, and the tinnitus began.

Myxodermia.—At a recent meeting of the Paris Academy of Medicine, Dr. H. de Brun presented a communication based upon the observation of a girl of seventeen years, who had entered his hospital service with the diagnosis of typhoid fever, and upon the further observation of a similar case by Dr. Haïdar, an externe of the service. The conclusions presented were to the effect that there exists a disease characterized by the following *ensemble* of phenomena: Rapid onset, with high fever, malaise, vomiting, and headache, followed at once by the development of the typhoid phenomena common to all infectious diseases, with predominance of agitation during the night, when the delirium takes on a particularly violent character. The temperature range is characterized by three periods: A primary period, during which the thermometer, after having registered 39° C. from the first, oscillates during eight or ten days between 39° and 40° C.; a second period (apyrexia), during which the temperature falls for about eight days to below normal; a third period, in which the temperature goes up again rapidly to the neighborhood of 39° C. There is a generalized contraction of the whole muscular system, especially pronounced in the masticatory muscles (trismus), the muscles of the face (special facies), and the muscles of the neck (stiffness of the neck and impossibility to turn the head). Here are also special alteration of the skin, which becomes like soft wax; subcutaneous hemorrhages coming on at the onset of the third period; multiple ecchymoses, which are voluminous, painful, and characterized by a large white zone, which surrounds them and distinguishes them from ecchymoses which may be produced in other infectious diseases and in scorbutus. This disease is equally remarkable for the absence of meteorism and of rosy lenticular spots or other eruption. Its duration is from three to four weeks. Its infectious principle is still to be determined; however, we may affirm that it has nothing in common with the bacillus of Eberth.

The prognosis is grave. The diagnosis of this affection is relatively easy, thanks to the existence of a certain number of symptoms truly pathognomonic, which permits us clearly to establish its autonomy and to call it, until a better name is agreed upon, *myxodermie contracturante hémorrhagique*.

Vaginal Cæsarean Section.—Dr. Dührssen describes the vaginal method as less dangerous than the classical Cæsarean section. His operation was done in spite of closure of the cervix, and without opening the peritoneum. He delivered a living child by the vagina. The vaginal portion was exposed by a large speculum, and sagittal openings having been made in the anterior and posterior vaginal vaults, the bladder and vesical fold of peritoneum and that of Douglas' pouch were detached from the cervix and lower segment of the uterus, which were then divided in the median plane. After the bleeding had been arrested by ligatures, he introduced his hand, and turned and extracted a child of nine and one-half pounds weight. The operation is indicated when, with an undilatable cervix, the mother's life is imperilled by circumstances which may be improved, or set aside, by emptying the uterus; for example, in severe eclampsia or uræmia; in cases of serious internal hemorrhage from a normally situated but prematurely displaced placenta; in grave pulmonary or cardiac disease; in the interests of the child, when the condition of the mother is expected to prove rapidly fatal; and, finally, in pathological conditions of the cervix or of the lower segment of the womb. In new growths of the cervix the operation may be supplemented by vaginal hysterectomy, which, directly after delivery, can be performed in a few minutes, by Doyen's method. Dührssen considers these procedures as logical developments of Czerny's vaginal myotomy and total extirpation, and as instances of the influence of the advances of gynecological surgery upon the field of obstetrics.—*Berliner klinische Wochenschrift*.

Tuberculous Hernia.—According to Dr. Renault, tubercle developing in a hernial sac or in its contents may assume two forms: Gross tubercle or miliary. These two forms may be either primary or may coexist with other lesions of the same kind in different organs, and the author points out as curious that femoral hernias are much more rarely tuberculous than inguinal, and that tuberculous umbilical or obturator hernias have never been observed. In general, it is those hernias of long standing that are more likely to become tuberculous. It is probable that the propagation of the tubercle takes place by the intestine, and the author believes that traumatism, being fairly frequent in hernia, may have a marked influence in the development of tubercle. He also suggests that variations in the local circulation may have an important bearing. Tubercle in a hernia may be found in either children or adults, and in the former it is important to bear it in mind, for a child already the subject of a congenital hernia may develop tubercle very insidiously, as a slight loss of weight and irritability may be the only general symptoms. Locally there may be an increase in the size of the hernia and marked pain on palpation, as constituting the only physical signs. That the diagnosis is important is shown by the fact that the tubercle may be confined to the sac and its contents, but can, and often does, spread to the general peritoneum. If diagnosed before extension takes place it is possible, the author believes, to obtain satisfactory results by treatment. This latter should be the ordinary treatment of hernia, the tubercle under these circumstances appearing to subside, as in the case of a general peritoneal invasion.—*Journal de Médecine de Paris*.

MEDICAL RECORD:

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LEGAL RESPONSIBILITIES OF THE OPERATING SURGEON.

A RECENT suit for damages against a surgeon in London for exceeding the wishes of a patient regarding the extent of an operation has just been decided for the defendant. The case was one of double oöphorectomy, against the express wishes of the patient that but one ovary should be removed. During the progress of the operation it became evident to the surgeon that the removal of the remaining offending organ was necessary for a radical cure. The patient, in consequence of this act, was compelled to break a marriage engagement which had been pending. The testimony in the trial bore upon some very important questions of professional responsibility in this and similar cases. While the course to be pursued must be governed by individual circumstances, the general reasons for specific action are admittedly controlled by well-understood general principles. The result of the case in hand carries with it a lesson of danger in lawsuits which every surgeon should thoughtfully consider. It is legally held in this country and in other civilized communities that the consent of the patient, when such can be obtained, is always necessary in dividing the responsibility of any operative treatment. In the case of a child or of an insensible patient in imminent peril, the nearest relatives or friends are competent to decide for or against surgical interference. When such precautions are not or cannot be taken on the part of the operator, he assumes the sole responsibility of the result. No surgeon cares to do this when he can avoid it, and as a consequence he protects himself against the possibility of subsequent misunderstanding accordingly. A refusal to take proper advice under given circumstances is the affair of the patient and that of no one else. Hence, in the eyes of the law the patient has the right to decide his own chances; in other words, is privileged to take his life in his own hands, in spite of the judgment of the person who is summoned to his aid.

In the actual course of an operation the case is entirely different, and the discussion of the duties of the operator opens up a wide field for the exercise of his judgment in assuming unlooked-for risks, in meeting unsuspected conditions of emergency, or pressing matters of expediency. It is just here that a line can be drawn between what may be actually necessary to

avert immediate death or subsequent disability and the surgeon's ideal of a complete operation. Especially is this true when the loss of an important organ is to be considered, and when the patient has forbidden its removal under any circumstances. No good operator would care to undertake the treatment of any case with such an embarrassing handicap; but when he does, he must, save in very exceptional instances, religiously abide by the conditions.

In the present case, the testimony showed that the operator, when asked to promise that but one ovary should be removed, replied that he would use his best judgment in complying with the request. The tacit consent to such a proposition was legally implied by the patient voluntarily placing herself upon the operating-table, although she positively declared that she had given no direct assent to the proposal of the surgeon. Although it was not claimed that the removal of the second ovary was necessary to save the life of the patient at the time, but that it was for the sake of an ultimate cure, the jury, fortunately for the defendant, took the lenient side and most liberally endorsed what on general principles might be considered a laudable motive. Strictly speaking, however, there was a dangerous possibility for an entirely opposite view. That such chances should not be taken again is the real moral to this particular tale. One of the experts for the plaintiff expressed his belief that the second ovary was not sufficiently diseased to require removal, but he evidently merits the pity of every practical gynecologist.

While this case may be looked upon as a leading one in protecting the surgeon in doubtful emergencies, the pros and cons cannot be weighed too carefully to prevent a disastrous reversal of the present ruling. If it were necessary that one more word should be said on this point, it is better in cases of doubt, when such can be safely done, to perform an exploratory operation and obtain consent for more radical measures afterward, than to be called to account for what the patient may term to be disobedience to his or her commands; but safest and best of all is never to undertake any operation whatever without the freest possible liberty for the use of personal judgment on any and every contingency.

MEDICAL FEES AND MULTI-MILLIONAIRES.

It is said that since John W. Mackay refused to pay the bill of the physicians who extracted the assassin's bullet from his body, amounting to \$12,500, he has paid an attorney bill of \$26,160, for taking a will of which he was executor through the probate court—an automatic procedure requiring neither skill, great ability, learning, nor judgment.

The California press was unanimous in condemning the physicians for rendering so large a bill, and in congratulating the lawyer upon receiving a handsome fee. We have only ourselves to thank for the way the public look upon these matters. Lawyers often think better of us than we have thought of ourselves, to judge from the excitement which is occa-

sioned when a physician dares assert his rightful claims.

In a recent speech to the Charing Cross medical students, Justice Vaughan Williams dwelt upon the affinity of law and medicine. Both required the same qualities. Both lawyer and physician were the recipients of confidences from their clients, and clients rarely found their confidences misplaced. As a lawyer he came into contact with doctors in the law courts, where the most important issues were often determined solely on the evidence of medical experts, who were for the most part safe guides in the administration of justice. One point, however, in which the professions differed was that the medical profession was essentially progressive, while the legal profession was in a sense stationary. If the doctors of the last century should come to life again, they would know comparatively nothing of contemporary medical science; but if the judges of former times were installed in the law courts to-morrow, they would try the cases quite as well, if not better than the judges of to-day.

This eminent representative of the bar might have proceeded to designate one other point in which the professions differed. If the legal profession is stationary in one sense, it has advanced in knowledge of how to secure at least fair remuneration from men of great wealth. This the medical man has yet to learn—and in learning it, the public will be taught.

ITCHING AND THE ITCH.

IN a recent number of *La Médecine Moderne*, the frequency with which formulæ are published in American medical journals for the relief of pruritus vulvæ is made a subject of comment. The question is asked whether there are peculiarities of race, climate, or environment which tend to make the affection so prevalent among American women that editors have become possessed of the necessity of bringing the matter forward so frequently in their publications. We do not know how others may account for the fact that pruritus vulvæ receives so much attention at American hands, but our itch editor, to whom we referred the matter, informs us that personally he is a great admirer of French journalism, and constantly flatters French editors in the sincerest way by imitating them. Now, as every one knows who reads the Paris journals, it would be considered an unpardonable oversight for an editor to send out a weekly issue which did not contain the recipe for at least one *pommade contre la gale*.

Having little or no scabies in this country, and much more pruritus scribendi than any other variety, these formulæ are reproduced and made to do service under the faked caption of "pruritus vulvæ."

Now, will our esteemed friend of "modern medicine" enlighten us upon the prevalence in France of *la gale*, to which his own and his contemporaries' journals devote so much attention?

Syphilis has been recognized as a cause for divorce by a Paris court.

News of the Week.

"Ian Maclaren" to Physicians.—The Rev. John Watson, D.D., "Ian Maclaren," author of "A Doctor of the Old School," will preach to medical men and medical students in the Fifth Avenue Presbyterian Church, Fifth Avenue and Fifty-fifth Street, on Sunday, December 7th, at 8 P.M. Tickets can be obtained free by medical men, medical students, and other college graduates, on personal application at the Students' Club, 129 Lexington Avenue. An opportunity is thus offered to the medical profession of this city to see and hear one who, by his charming creation of "Dr. Maclure," has endeared himself to the hearts of every one of his thousands of enthusiastic readers.

Pigeon Calls.—Dr. Harrey, a Scotch physician, is said to make a practice of leaving with such patients as are likely to require his prompt attendance one or more carrier pigeons to be dispatched with messages. He also takes the winged messengers with him on his rounds and sends them back to his office with prescriptions to be filled. It is not stated whether or not they carry back the medicine to the sufferer.

A Photo-Fluoroscope has been invented by Dr. Bleyer, of this city, by means of which it is said pictures of interior parts can be taken which are a surprise to scientists.

The New York Civil Service Commission will hold the following examination at its office in the new criminal court building, at 10 A.M. on the date named. Citizens of the United States, who are residents of the State of New York, and hold the degree of M.D. are eligible for this examination. Applications may be obtained from S. William Briscoe, secretary, new criminal court building, New York City. December 15th.—House physician, Bellevue Hospital, department of public charities. Candidates must hold degree of M.D., and will be examined on nervous and mental diseases. Salary, \$1,200 per annum.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending November 28, 1896. November 21st.—Surgeon A. G. Cabell detached from the *Michigan*, ordered home, and granted three months' leave. Passed Assistant Surgeon F. J. B. Cordeiro detached from the *Constellation* and ordered to the *Michigan*. Assistant Surgeon L. Morris detached from the naval hospital, *Philadelphia*, December 5th, ordered to examination for promotion at New York, December 7th, and then placed on waiting orders. Assistant Surgeon R. G. Brodrick ordered to the *Constellation*. November 24th.—Medical Director T. C. Walton detached from the naval academy, January 18th, instead of December 15th, and ordered to the naval laboratory, New York, January 19th. Medical Director H. M. Wells detached from the naval laboratory, New York, January 19th instead of December 19th. November 25th.—Surgeon W. S. Dixon detached from special duty in Washington and ordered to the *Brooklyn*, December 1st.

Pædiatric Society of Philadelphia.—At a well-attended meeting of Philadelphia medical men on November 19th it was agreed to form a pædiatric society.

Vienna Medical Society.—Dr. Adam Liewicz, a prominent member of this society, has been expelled for securing a patent upon his "cancroin," a cancer remedy.

The Late Dr. Thomas H. Burchard.—The Northwestern Medical and Surgical Society adopted the following resolutions in regard to Dr. Thomas H. Burchard:

Whereas, It has pleased God to take away Dr. Thomas H. Burchard, distinguished by twenty years of active and faithful membership in the Northwestern Medical and Surgical Society of New York; and

Whereas, Our hearts are touched with a deep sorrow by the suddenness of his decease; therefore,

Resolved, That we desire to place on record an expression of our esteem of our late colleague, who had endeared himself to us by a long line of friendly and generous offices—that we desire to commemorate his devotion to the medical profession, exemplified in so high a degree by his many contributions to this and to other medical bodies, and by his acknowledged skill as a surgeon—and that we realize in the life of our friend the large equipment of mind and body essential to the success of a true physician.

Resolved, That a copy of these minutes be sent to the bereaved wife and sons and near relatives of our late colleague, to whom we extend our sincere sympathy in their great affliction.

Resolved, Further, that a copy of these resolutions be sent to the various medical journals of New York for publication.

For the society,

EDWARD S. PECK, *Committee*.

Mortality in the State.—There were 8,676 deaths in the State in October, according to the monthly bulletin of the State board of health. The decrease in the mortality from all causes, which was reported in the last bulletin to amount to 500 fewer deaths than in the corresponding month of last year, has continued during October, the reported mortality being 600 less than that of October, 1895. There is also a decrease of 800 in the number of deaths reported from the preceding month. The estimated death rate is 16 per 1,000 population annually, against 17.50 in September and 17.20 in October, 1895. The number of deaths from diarrhœal diseases is unusually small, and has diminished from 1,077 in September to 338, and this decrease is distributed over all parts of the State. The number of deaths from diphtheria, compared with the mortality of a year ago, is less for the month by 100, but there is an increase from 294 deaths in September to 361 in October. This increase occurs in all parts of the State except the central and southern. Its prevalence is reported from thirty-five towns in the northern and eastern parts of the State. In New York City there were fewer deaths than in September, but the disease has increased in Brooklyn

and Long Island. Diphtheria caused less than 2 per cent. of the mortality in rural towns and 4.5 per cent. of the urban mortality. Scarlet fever is reported as prevalent from twenty-five towns in the southwestern counties; thirty-five deaths occurred, which is a slight increase over last month. Typhoid fever has slightly decreased; it caused 5.50 per cent. of the rural and 2 per cent. of the urban mortality. From acute respiratory diseases the mortality is excessive, the 1,123 deaths reported being 300 more than either that of the preceding month or the corresponding month of last year. No special cause for this increase has been reported. From other local diseases the mortality is diminished.

Obituary Notes.—HIRAM HENRY DARR, Caldwell, Tex., died November 22, 1896. He was born April 4, 1853, on the old Darr homestead in the vicinity of Yellow Prairie, Tex., and obtained a general education in the local schools and by private study; attended lectures at Louisville Medical College, Louisville, Ky., from which he was graduated February 25, 1875, with first honors, receiving the gold medal for general proficiency in all branches, and also the first prize in surgery. He then took an *ad eundem* course at the Kentucky School of Medicine, and was graduated from that institution in June of the same year, 1875. Locating near Hearne, Tex., he practised medicine there until 1879, and spent the winter of 1879-80 in study at the College of Physicians and Surgeons in the city of New York, giving special attention to diseases of the eye, ear, and throat. Returning to Texas, Dr. Darr located at Caldwell, in his native county. He was a member of the following-named organizations, having joined them in the years given: Texas State Medical Association, 1877, vice-president in 1884; American Public Health Association, 1882; American Medical Association, 1883; Burleson County Medical Society, which he helped to organize in 1885 and of which he was the first president. International Medical Congress, 1887; National Association of Railway Surgeons, 1891; American Academy of Political and Social Science, 1892.—DR. PINCKNEY WEBSTER ELLSWORTH, who had been a physician and surgeon of Hartford for fifty-three years, died December 1st, from a paralytic shock. He was born in Hartford on December 5, 1814. He was a descendant of Governor Bradford of the *Mayflower* and also of John Webster, one of the first governors of the Connecticut colony. Dr. Ellsworth graduated at Yale in the class of 1836 and from the College of Physicians and Surgeons of New York in 1839. He was one of the organizers of the Hartford Medical Society, a member of the Connecticut Medical Society, and an honorary member of the New York State Medical Society. His distinction as a surgeon led Governor Buckingham to appoint him surgeon of the Connecticut brigade of volunteers, and he participated in the first battle of Bull Run. He was a member of the Centre Church for over fifty years, the same church in which his father, Governor Ellsworth, was deacon for over half a century. He leaves a widow and six children.—DR. JACOB T. FIELD, who died at his home in Bayonne,

N. J., was fifty-seven years old, and was born in North Branch, Somerset County, N. J. His academic education was received at Rutgers College, and his medical degree was conferred by the College of Physicians and Surgeons. He was a war veteran, and leaves a widow and one son.

Generous Endowment.—The children of the late George Leib Harrison have added \$150,000 to the endowment fund of the "George L. Harrison Memorial House" of the Episcopal Hospital of Philadelphia, thus completing the total of \$300,000.

Typhoid is reported very prevalent at Paterson, N. J.

The Late Dr. Francis H. Rankin.—At a special meeting of the Newport Medical Society, held at the residence of Horatio R. Storer, presided over by First Vice-President Dr. C. F. Barker, the following preamble and resolutions were adopted:

Whereas, In His inscrutable wisdom Almighty God has seen fit to remove from the scene of his earthly labors, our beloved president; therefore,

Resolved, That we bow in submission to His divine will.

Resolved, That in the death of Dr. Francis H. Rankin, the medical society of which he was the founder has met with an irretrievable loss.

Resolved, That the profession of medicine has parted with one of its brightest leaders, a man who was always working for the sanitary welfare of this city, for the good of the poor, and the benefit of the profession of which he was so bright an ornament.

Resolved, That no man could have led a purer or more useful and disinterested life, and that the urbanity of his manners, the gentleness of his disposition, the truthfulness of his character, and the manliness of his nature served to bind with bonds of sincerest love the enduring friendship which he always inspired in all who had the privilege of knowing him.

Resolved, That we offer our sincere sympathy to his afflicted wife and relatives.

Resolved, That the society attend his funeral in a body.

Resolved, That a copy of these resolutions be published in the daily papers of this city and in a prominent medical publication in New York, Boston, and Providence, and that a copy be presented to his family.

V. MOTT FRANCIS, M.D.,

Second Vice-President,

HENRY E. TURNER, M.D.,

STEPHEN C. POWELL, M.D.,

Committee.

Philadelphia County Medical Society.—At a stated meeting of the Philadelphia County Medical Society, on November 11th. Dr. J. T. Rugh read a paper entitled "Eight Primary Movements of the Normal Spine as a Basis for Gymnastics in the Treatment of Scoliosis and Allied Conditions." These movements consist in bending forward, bending backward, bending to the right, bending to the left, combination of these movements in circumduction to the right, combination

of these movements in circumduction to the left, rotation of the spine upon its vertical axis to the right, and rotation of the spine upon its axis to the left. By special invitation, Mr. Tallerman, of London, exhibited a localized hot-air bath apparatus, and demonstrated its extraordinary efficacy in a case of saturnine gout and in one of lumbago. This device promises to prove of large service in the treatment of such disorders, especially, as chronic and painful affections of the joints and muscles of varied kind, and has for several years been in successful employment at the hands of English surgeons and physicians. Dr. Max J. Stern made a "Report of Work with Roentgen Rays at the Polyclinic Hospital, with Exhibit of Skiagraphs."

Traffic in Corpses.—The department of charities has suspended Morgue-Keeper White for selling bodies to the Polyclinic. Under the section of the penal code which makes it a felony for any person to sell a human body for dissection purposes, Mr. White was arrested. The penalty for each offence is \$1,000 fine or five years' imprisonment, or both. It has long been suspected in certain institutions that the difficulties in obtaining autopsies when bodies were not claimed by friends was because they were too valuable to some one.

Leprosy in Russia.—In July, 1895, the Russian government issued a decree that every case of leprosy must be notified to the authorities. In July of the present year it was found that in the course of the previous twelve months 894 cases had been notified. Of this number, 63.3 per cent. suffered from the tubercular form of the disease. As regards the age of the patients, 3 per cent. were under five; 14.42 per cent. under twenty; 28.2 per cent. over fifty; and 4.1 per cent. over seventy. In eighteen cases the disease appeared to have been transmitted from man to wife, or *vice versa*. There are already five leper asylums and two leper colonies in Russia, and it is in contemplation to increase the number of these places of isolation.—*British Medical Journal*, November 7, 1896.

College of Physicians of Philadelphia.—At a stated meeting of the section on gynecology of the College of Physicians of Philadelphia on November 19th Dr. C. B. Penrose reported a case presenting an enormous fibroid tumor of the uterus, weighing upward of eighty pounds. The patient died from heart failure several hours after the operation, in consequence, it was thought, of the sudden removal of the intra-abdominal pressure that had previously existed. Dr. Penrose also reported a case of spontaneous rupture of an oöphoritic cyst, in which removal was practised successfully. By invitation of the executive committee Dr. W. A. Newman Dorland read a paper entitled "Gestational Disturbances and Dystocia Subsequent to Anterior Fixation of the Uterus." Dr. Richard C. Norris reported the course of two labors following suspensio uteri, and Dr. Barton Cooke Hirst also reported two deliveries succeeding the operation of suspensio uteri. Dr. Hirst also read a paper entitled "Technique in Cæsarean Section."

Brooklyn Hospital.—Three members of the medical staff of the County Hospital in Brooklyn recently submitted a report to the commissioners of charities in regard to the overcrowding of some of the buildings. In the hospital nearly seven hundred patients were crowded into a space originally intended for four hundred.

The Late Dr. F. W. Ring.—Resolutions adopted by the medical board of the Manhattan Eye and Ear Hospital on the occasion of the death of Dr. Frank Whitman Ring, on July 17, 1896:

Whereas, The hand of death has removed from our midst our executive surgeon, Dr. Frank W. Ring:

Resolved, That, in submitting to the will of Almighty God, we wish to express our personal sorrow at the loss of a most faithful and efficient colleague.

Resolved, That we extend to his widow and family our deepest sympathy in their bereavement.

Resolved, That the surgical staff of the hospital attend his funeral services in a body, and that a committee of four be appointed to accompany his remains to their final resting-place.

Resolved, That the flag of the hospital be displayed at half-mast until after his interment.

Resolved, That a copy of these resolutions be forwarded to his widow.

Resolutions adopted by the board of directors at its stated meeting, November 17, 1896:

Whereas, we are called upon to record the death of our associate, Dr. Frank Whitman Ring, which occurred on July 17, 1896; and

Whereas, Dr. Ring has, for the past twelve years, been actively connected with the Manhattan Eye and Ear Hospital, New York:

Resolved, That we heartily indorse the action taken by the medical board at the time of his death.

Resolved, That we hereby express our love and appreciation of Dr. Ring as a man, a surgeon, and a director of this hospital, and our own sorrow, as well as the loss to the institution, by his untimely death.

Resolved, That a copy of these resolutions, in conjunction with those passed by the medical board, be published in our annual report, the New York medical journals, and the *Maine Journal of Medicine and Science*, and that a copy of these resolutions be sent to his widow with the sympathy of this board.

DAVID WEBSTER, M.D.,

J. B. EMERSON, M.D.,

JOHN STEWART,

Committee.

Army Department, Bureau of Medicine and Surgery, Washington, D. C. The following changes in the stations and officers of the medical department are ordered under date of November 14th: Major John J. Hall, surgeon, will be relieved from duty at Madison Barracks, New York, by the commanding officer of that post, and will report to the commanding officer of Fort Wadsworth for duty at that post, to relieve Major Edward T. Comegys; Major Comegys, upon being relieved, will report to the commanding officer of Fort Sill, Oklahoma Territory, for duty at that post. Lieut.-Col. Albert Hartsuff, deputy surgeon-

general, and Capt. Norton Strong, assistant surgeon, have been ordered to Chicago to assist in examination of officers for promotion. Major J. V. Lauderdale, surgeon, was placed on the retired list.

Obituary.

EDWARD HAZEN PARKER, A.M., M.D.,

POUGHKEEPSIE, N. Y.

DR. EDWARD HAZEN PARKER, for many years one of the leading physicians of Poughkeepsie, N. Y., died in that city on November 10th, in the seventy-third year of his age. Widely known as a physician and surgeon, he was still more widely known as the author of that beautiful poem in which occur the following lines, which were inscribed over the remains of the late President Garfield:

"Life's race well run,
Life's work well done
Life's victory won;
Now cometh rest."

Dr. Parker was born in Boston in 1823, and was the son of Hon. Isaac and Sarah (Ainsworth) Parker, and nephew of Hon. Joel Parker, chief justice of New Hampshire and afterward Dane professor of law at Harvard University.

Dr. Parker graduated from Dartmouth College in 1846, and received his medical degree from Jefferson Medical College in 1848. After graduating in medicine he was at once appointed lecturer on anatomy and physiology at Bowdoin Medical College, and was connected editorially for several years with the *New Hampshire Medical Journal*. In 1853, on being called to the chair of physiology and pathology in the New York Medical College, Dr. Parker left Concord, N. H., and established himself in practice in New York City, two of his confrères in the college being the late Professors Peaslee and Fordyce Barker. During the three years that Dr. Parker held this professorship he established the *New York Medical Monthly*, which he continued to edit personally for many years with great ability and success.

In 1854 he received the degree of A.M. from Trinity College. In 1858, at the solicitation of many friends and patients, Dr. Parker was induced to remove to Poughkeepsie, where he practised with distinguished ability to the time of his death, a period of nearly forty years.

Dr. Parker was at one time president of the State Medical Society, to which he made several important contributions in the way of medical papers. He also was president of the Dutchess County Medical Society for the year 1861, was one of the prime movers in the establishment of the St. Barnabas Hospital, and for many years was attending surgeon and at the time of his death consulting surgeon to the Vassar Brothers' Hospital.

Dr. Parker was a physician of signal competency and skill, and as a surgeon he had few superiors. He was also a man of extremely fine fibre, of unusual cultivation, and high scholarly attainments. His classical education was liberal and sound, his sympathies were most acute, and he was also possessed of a fine poetic talent, which in his busy life was less frequently exercised than his friends could have desired. The single poem mentioned has already enjoyed a world-wide fame, and is one on which many an author would willingly rest his claims for immortality. Surely, as we review the long arduous career now closed, and recall the conspicuous purity and sweetness of character and the self-sacrifice which marked our friend and colleague's long years of devotion to his work, we can think of no other life to which his own tender lines will more fittingly apply.

Society Reports.

SECOND PAN-AMERICAN MEDICAL CONGRESS.

(Special Report to the MEDICAL RECORD.)

Wednesday, November 18th—Third Day.

SECTION ON GENERAL MEDICINE.

Autumnal Fevers of the Southern Atlantic States, and Their Treatment.—DR. BEDFORD BROWN, of Alexandria, Va., presented a paper with this title. The forms of autumnal fever are intermittent, or ague, remittent, and pernicious congestive. The remittent is subdivided into the acute, with sudden onset without premonition, chill, followed by acute active sthenic form of fever, temperature ranging from 103° to 105° F., followed by remission. In this form the curves of temperature are angular, extreme, sudden.

In the prolonged form there are certain premonitory signs lasting several days, as lassitude, neuralgic pains in the head, back, and limbs, loss of appetite, constipation. These are followed by a slight rise of temperature in the evening and remission toward morning. The curves of temperature in this form are slight, gentle, moderate. They never rise high, and during remission fall to the normal or near that point. During the first week of fever they rarely rise higher than 102° F.; in the second week to 103° F.; in the third week to 104° F.; and in the fourth week to 105° F.

This is the form usually mistaken for typhoid fever.

Etiology: The autumnal fevers of the Southern States are almost invariably of malarial origin. Occasionally there are cases of true typhoid. But the epidemic fevers in nineteen out of twenty cases are malarial in origin. The carriers of the malarial parasite, the author held, are both water and air, although the evidences are now greatly in favor of the belief that water is the principal means of the introduction of the parasite into the system. Dr. Brown then discussed the action of the plasmodium malariae on the blood in its relation to the phenomena of fever.

The season of prevalence of autumnal fevers of the South is from early in August to the middle of October. They cease to prevail after the appearance of frost, which is antagonistic to malaria. The symptoms of malarial fever were described, especial note being made of the rhythmic features of the disease. The differentiation between the symptoms of prolonged malarial fever and typhoid was also dwelt upon; and then Dr. Brown discussed the onset, symptoms, morbid phenomena, and course of pernicious congestive fever.

The prophylactic measures discussed were the purification of water, deep and surface water, artesian wells, sterilized water, filtered water, and the sterilization and filtration of water combined. The prophylactic powers of quinine and cinchona were also insisted upon. The author also discussed separately the treatment of intermittent fever, or ague; of remittent fever, acute and prolonged; and of pernicious congestive fever.

Quinine will ever be the chief and only reliable antidote to the malarial parasite. The important question in its administration is the manner of giving the remedy.

Malaria in Morelia.—DR. MARIANO CORDOBA, of Morelia, Mexico, presented a paper containing a study of the causes from which arises the endemic character of malaria in Morelia; the forms under which the disease generally presents itself; the treatment which the experience of many years has indicated as the best; and reflections on the hygienic works which it will be necessary to undertake with the view of suppressing this general scourge.

Facts of Practical Utility with Respect to Malaria.—DR. JOSÉ TERRES, of Mexico City, said that he was about to repeat what he had already said before other medical gatherings, and he did so because he deemed these facts of great practical importance, and they could not be stated too frequently or too emphatically. He had remarked that there was no appreciable difference, either in the number of the parasites or in the form under which they appear in the blood extracted from the finger tip, at whatever period of the attack the examination was made—that is to say, that the plasmodia are equally found during the access of malarial fever, shortly after its appearance, in full apyrexia, or shortly before the next attack comes on.

In malarial cachexia, and when the attacks do not present themselves at stated periods, the parasites are scarcer, and the half-moons and the grains free of pigment are then more frequent.

Ever since the year 1892 he had insisted that it is of the greatest importance in diagnosis to find in the blood, whether free or not, granulations of dark coffee-colored pigment, as such discovery almost guarantees the diagnosis, seeing that the pigment which results upon destruction of the red globules is of a very light coffee color, really yellow, and that the pigment of melanotic cancer is rarely found in the blood.

It being easier to see the pigment than to distinguish the plasmodia, the author considered it both useful and practical to recommend that the former be searched for rather than the latter, by physicians who are not very expert with the microscope or who have not one of high power at hand. The examination for plasmodia ought always to be made with one that increases at least seven hundred diameters.

The administration of quinine to the patient causes the disappearance of the hamatozoa from the blood only when it cures the disease, and in this case it causes them to disappear within two days after the administration is begun; on the intermediate day immovable forms are seen, which are almost always of an irregular shape.

The hamatozoa can live a long time in the blood, multiplying only slightly and without making their presence manifest. Their ordinary course is to make themselves manifest in such cases by destroying the red corpuscles; this is the mechanism of production of the true malaria anemia, which presents itself without any access of fever.

This anemia is the immediate cause of neuralgia, which therefore immediately depends on the action of the parasites. It is probable that they act directly or by means of their secretions on the nervous system, and thus favor the production of the neuralgic form of latent malaria.

When a person whose blood is known or supposed to contain hamatozoa is about to suffer from an attack, he can avoid it by taking, two days previously, the dose of quinine that in that locality prevents the access. This is an important fact for the application of hydrotherapy in the cure of malarial anemia.

Contrary to what is stated by Burdel, the speaker had never seen any glycosuria after the accesses, even after administering one hundred and fifty grams of syrup to the patients.

Quinine ought to be administered immediately after the diagnosis is made. It is an error to believe that it should be given any specific number of hours before the attack.

Orrhothorapy of Leprosy.—DR. JUAN DE D. CARRASQUILLA, of Bogota, United States of Colombia, presented a communication upon "A New Serotherapeutic Process for the Treatment of Leprosy," of which the following is an abstract:

1. The leprous patient is bled, and the serum separated from the blood.

2. The serum of the leper is injected into a horse.
3. The horse so prepared is bled, and the serum separated from the blood.
4. Patients are treated with hypodermic injections of the horse serum.
5. A horse is injected with thirty cubic centimetres of human serum three times, at intervals of ten days. He is bled ten days after the last injection, and is injected afresh after the bleeding. He is bled twenty or thirty days later, and so on successively.
6. The patient receives a hypodermic injection of one to five cubic centimetres every third day, or at longer intervals if any reaction should set in.
7. The injection produces a normal reaction, chill, fever, perspiration or accidental myalgias, arthralgias, neuralgias, cutaneous eruptions, asphyxia, vertigo, etc.
8. The lesions which are characteristic of the disease are at the same time modified: the tubercles are smoothed down and eliminated by absorption, suppuration, or scaling; the spots lose their color or disappear; the ulcers are healed; the sensibility becomes normal; the lost senses are recovered, and the general condition becomes satisfactory.
9. No medicine is administered to control the symptoms of reaction, unless it is lemonade to calm the thirst, and aromatic drinks.
10. The body is washed every day with a warm solution of permanganate of potassium, one to two parts per thousand. The ulcers are dressed with the same solution, aseptic cotton, and a bandage to cover the whole.
11. There are no special requirements as to diet.
12. The injection is not administered when the pulse is accelerated, the temperature is above the normal, or any other symptom of reaction is shown.
13. The horny ulcers on the feet are treated with salicylic acid in collodion. Those on the nasal and pharyngeal mucous membranes are treated with a solution of borate of sodium; the conjunctivitis, with sulphate of copper in a weak solution.

Acute Yellow Atrophy of the Liver.—DR. MANUEL CARMONA Y VALLE, of Mexico City, reported the following case: A man, thirty-eight years of age; a merchant, native of Mexico City, married; a moderate drinker; had never suffered from any previous serious illness. He was obliged to go to Vera Cruz on business, remaining there a week, and returning to the City of Mexico about the end of May. Three days after, and without any known cause, he suffered an intense chill at night, accompanied by cephalalgia, great lassitude, intense fever, and a feeling of nausea without vomiting. On June 24, 1883, he was admitted into the San Andres Hospital. He awoke the next day jaundiced, and suffering from an abundant epistaxis.

At the time of admittance to the hospital his temperature was 40.6° C.; the facies was animated; he showed a marked jaundice color, both of the skin and of the mucous membranes, together with a slightly delirious loquacity, but was able to give rational answers to any questions asked.

He complained of pains in the whole body, but said that he had no fixed pain except in the head; nevertheless, on examination, it was found that a pain appeared with the exercise of pressure on the right hypochondrium. The hepatic dulness was notably diminished and the spleen was very much swollen.

During the four days that the patient was in the hospital, his temperature varied between 39° and 41° C. (102.2° – 105.8° F.); he suffered from frequent epistaxis, hemorrhages from the gums and mucous membrane of the mouth, and, what was most remarkable, a spontaneous sanguineous flow through the urethra, but the urine did not contain any more blood than that which was carried by its natural flow. The symptoms

of ataxo-adyndamia shortly set in, and the patient died on the fourth day after admission to the hospital and the seventh of his sickness.

In the post-mortem the liver was found to be very much reduced in volume, and weighed six hundred and fifteen grams. It was of a yellow color like wash leather, of a soft consistency, and contained very little blood. The spleen was swollen and diffuent, and the blood in the vessels was dark and glutinous.

A microscopic examination of the liver showed that the cells had completely disappeared, and that the hepatic parenchyma had been transformed into a network of connective tissue, with its meshes entirely empty. The veins, especially the suprahepatic veins, had their walls thickened and their lumen was obstructed by thrombi.

The doctrine that now prevails with respect to the nature of icterus gravis can be summarized in the following formula, taken from the "Manual of Medicine" by Debove and Achard: "Icterus gravis is the visible sign of the rapid destruction of the hepatic cells, manifested by a typhoid condition with jaundice and hemorrhages."

Probably it is not necessary that the cellular destruction should be very rapid, seeing that there are certain forms of icterus gravis which last for a year and even more.

This being the case, it may be asked: Why is it that in ordinary cirrhosis and in simple atrophy of the liver there are no symptoms of icterus gravis? On the other hand, how can we explain the appearance of jaundice by the sole fact of the cellular destruction, when we know that the hepatic cell is that which produces the bile?

In the case presented there was evidently a suprahepatic endophlebitis, resulting in an obstruction of these vessels and a consequent destruction of the hepatic cells.

Comparing this result with that obtained by the study of the disease called by the speaker "intercellular hepatitis," and which consists in a swelling and hardening of the liver, accompanied by all the phenomena that are characteristic of severe jaundice, it is seen that in the latter disease the anatomical lesion is the periphlebitis that commences in the suprahepatic veins, obstructing their channels through the abundant conjunctive proliferation, and later on destroying the cells that form the hepatic lobes. From this, Dr. Carmona concluded that icterus gravis is produced by a disturbed circulation (produced by microbes or not) in the suprahepatic veins; that these disturbances first exaggerate the cellular functions, and later on destroy the cells themselves.

The variations in the progress of the disease and in the concomitant symptoms depend on the extent of the lesion and the form of the phlebitis.

Among other papers read by title or by the authors in this section were the following: "Connection Between the Temperature of the Patient and the Species of Bacteria which are Found in Appendicitis," by Dr. Robert T. Morris, of New York; "Antitoxin of Tubercle," by Dr. Paul Paquin, of St. Louis, Mo.; "Pernicious Malaria," by Dr. H. L. Bibb, of Colonia Station, Mexico; "Scirolula," by Dr. Fred. R. Weber, of Milwaukee, Wis.; "On Medicine," by Dr. Joaquin Martinez, of Pachuca, Mexico; "Tuberculosis in Mexico," by Dr. Francisco Blasquez, of Mexico City; "Notes for the Study of Typhus in Mexico," by Dr. Jesus Jiménez, of Mexico City; "Results of Several Original Experiments on Cancer in Animals," by Dr. Joshua M. Van Kott, of Brooklyn, N. Y.; "Narcotic Intoxication in America," by Dr. Mattison, of Brooklyn, N. Y.; "Treatment of Tuberculosis with Products of the Cultivation of Bacillus of Tuberculosis," by Dr. Karl Von Ruck, of Asheville, N. C.; "Antitoxic Se-

rum," by Dr. Joseph McFarland, of Philadelphia, Pa.; "Melanotic Sarcoma of the Spleen—History of Two Cases," by Dr. Hughes Crouse, of Rockport, Tex.; "On the 'Mal del Pinto,'" by Dr. Amador Espinosa, of Jojutla de Juarez, Mexico; "Mildness of Pulmonary Diseases in San Diego de la Union," by Dr. Donaciano Cano, of San Diego de la Union, Gto., Mexico; "Medical Philosophy," by Dr. Juan N. Revueltas, of Coyoacan, Mexico; "Functions of Physical Agents in Infectious Diseases," by Dr. Jesus E. Monjaras, of San Luis Potosi, Mexico; "Diseases of the Stomach and Intestines," by Dr. J. Jesus Chavarria, San Gabriel, Mexico; "Poisoning by Strychnine," by Dr. Manuel Delfin, of Havana; "Glanders in Havana," by Drs. J. M. Davalos and E. Acosta, of Havana; "Hydrophobia in Havana," by Dr. E. Acosta, of Havana; "Pathogenesis of Influenza," by Drs. Tomás V. Coronado and Y. Calvo, of Havana; "Orrhothorapy of Erysipelas," by Drs. Garcia Rijo and Y. Calvo, of Havana; "Specific Medication," by Dr. Joseph D. MacCann, of Monticello, Ind.; "Typhoid Fever," by Dr. Miguel Tena, of Morelia, Mexico; "Yellow Fever," by Dr. Luis D. Abrisqueta, of New York; "Modern Therapeutics," by Dr. C. J. Fox, of Connecticut; "Treatment of Hemorrhage with Large Doses of Acetate of Lead," by Dr. Llewellyn Eliot, of Washington, D. C.; "Application of Hot Damp Cloths to the Intestines," by Dr. Joseph William Stickler, of Orange, N. J.; "Tuberculosis in Southern California," by Dr. George B. Rowell, of San Bernardino, Cal.; "Tuberculosis in Colorado," by Dr. S. G. Bonney, of Denver, Col.; "Multiple Abscesses of the Liver with Diabetes Mellitus," by Dr. H. W. McLanthin, of Denver, Col.; "Treatment of Tuberculosis and Anæmia by Means of Rarefied Air Baths," by Dr. Daniel Vergava Lope, of Mexico City; "Diphtheria," by Dr. William B. Travis, of Covington, Ga.; "Cis-Atlantic Medical Ideas," by Dr. E. Cutter, of New York; "Treatment of Whooping-Cough by Means of Asaprol," by Dr. Moncorvo, of Rio de Janeiro, Brazil; "Pyrexias Observed in the Island of Cuba," by Drs. Tomás V. Coronado and D. L. Maday, of Havana; "Treatment of Chronic Invalids by Diet and Exercise," by Dr. J. H. Kellogg, of Battle Creek, Mich.; "A New Clinical Symptom," by Dr. Silvio Tatti, of Buenos Ayres, Argentina; "Recent Plans of Treatment of Pulmonary Tuberculosis," by Dr. Louis Faugères Bishop, of New York; "Malaria in Mexico City," by Dr. Antonio A. Loaeza, of Mexico City; "Gastro-Intestinal Septic Fever," by Dr. Efren Ornelas, of Chihuahua, Mexico; "Typhoid Fever of Malarial Origin," by Dr. John Herbert Claiborne, of Petersburg, Va.; "Modern Method for Treating Diseases of the Intestines," by Dr. Fenton Turck, of Chicago, Ill.; "The Use of Tincture of Gelsemium in Malaria," by Dr. F. Bulman, of Mexico City.

SECTION ON GENERAL AND ORTHOPÆDIC SURGERY.

Arterial Catheterism.—DR. ROQUE MANCOZET, of Morelia, Mexico, reported two cases of amputation, one of the thigh at the junction of the lower and middle thirds, the other at the point of election in the leg. The disease necessitating amputation in both cases was dry gangrene.

In the first case, a rheumatic endocarditis produced embolism of the femoral artery, thereby causing gangrene of the foot and leg up to the upper third. Having made certain of the diagnosis, the speaker amputated the thigh in the lower third, and to his great surprise, on removing the tourniquet, no arterial blood issued, but only venous. The femoral artery was completely open and empty, and he then decided to perform an arterial catheterism, with the object of re-

moving the obstruction in the artery and saving the patient from an operation for disarticulation of the thigh. This operation was carried out by means of a urethral bougie, made of whalebone and carefully disinfected. Dr. Mancozet lightly pressed against the obstacle, and with the help of the left hand, practised a soft massage in its neighborhood and over the artery. He commenced by moving the embolus and then loosened it, immediately after which a torrent of arterial blood burst forth.

The history of the other case was similar to the above, and in both cases the method resulted in a perfect and lasting success.

Radical Cure of Prostatism.—DR. RAMÓN MACIAS, of Mexico City, presented a communication on this subject. Prostatism, he said, is generally initiated in youth, is confirmed at the adult age, and is complicated by terrible accidents, which unfortunately are often mortal, during old age. Masturbation sometimes, and blennorrhagia almost always, are its first causes. The neglect of patients on the one hand, and the insufficient or erroneous treatment on the other, account for its passing on to a chronic condition.

The imprudent conduct of some old men, carelessness on the part of the physician, and the want of surgical therapeutics of a wise and timely character, explain its sad mortality.

That blennorrhagic infection engenders prostatitis is beyond a doubt. What is open to discussion, although for the speaker it is a fact, is that many cases of profound urethritis, and all those cases which up to now have been called cystitis of the neck, are nothing more than inflammation of the prostate.

Prostatism in youth and in mature age is not similar to that of old age, just as the anatomic-pathological condition of the urinary organs at these ages is not similar.

In the youth and in the adult man, congestion and enlargement predominate in the cells, though mostly of a transitory character, together with inflammation, exudation, and suppuration. In old age, passive congestion, new formation with cellular transformation, permanent enlargement of the tissues, neoplasms, and degeneration predominate.

In the youth and the adult, the hæmatic infection is of a vital origin through toxins. In old age, the blood is infected through the products of disassimilation, which are not eliminated, or which are reabsorbed together with certain chemical products, which mostly arise from putrid or ammoniacal fermentation.

The symptomatology of prostatism between the ages of eighteen and forty-five is not uniform. The books treating of genito-urinary diseases speak of spermatorrhœa, of chronic prostatitis, the existence of which some accept and others deny, of deep urethritis which is propagated or not to the seminal ducts, of cystitis of the neck, of vesical or renal calculus, etc.; but in none of them do we find any consistent doctrine which shows that all or the greater part of these diseases have originated in the prostate gland.

The principal intention of this paper was that of unifying the pathology of the uro-genital apparatus, demonstrating that prostatism exists as a constant cause for the sufferings of a great number of patients who up to this date have been treated only for secondary affections. We should be able to have uniform symptomatological tables that would lead us to reasonable medical or surgical therapy.

Internal medication exercises a very limited action on prostatism and its consequences. Surgical treatment constitutes the only means we have for the prompt and radical cure of confirmed prostatism.

The author includes among surgical measures antiseptic washings, medicinal instillation, catheterism, and, naturally, bleeding; also perineal cystotomy,

prostatotomy, curettage, and direct or indirect canalization.

Prostatic hypertrophy can not only be alleviated but also radically cured in many cases. The urethral form ought to be treated by the process which Dr. Macias calls "enucleation."

When the vesical form is greatly exaggerated, it requires a total extirpation of the growth and the restitution of the vesical funnel. The author's method by four sections with the galvano-caustic loop realizes this intention, he believes, with less danger and with a better guarantee of cure than any other procedure known up to this date. He proposes the use of an instrument which he calls an "enlarging speculum" of the bladder.

Diphtheria of the Penis.—DR. WILLIAM P. MUNN, of Denver, Col., reported three cases of this condition, which he regarded as one of rare occurrence, there being, so far as he could discover, no previous references to it in medical literature. It may occur whenever any operative treatment of the penis has been undertaken under circumstances that have permitted of diphtheritic infection. Before bacteriological methods of diagnosis were perfected it is probable that this condition was confounded with erysipelas, gangrene, or simple septic infection following operation.

The three reported cases occurred in the practice of three different surgeons, in the persons of children and subsequent to circumcision. In two, the diagnosis was made by bacteriological diagnosis, confirmed by a perfect succession of clinical signs. In the other, clinical appearances alone led to the diagnosis. In one instance, the child's mother was suffering from a mild sore throat at the time of operation and the infection probably came from her. In another the patient's mother and brother were found to have diphtheria after the operation; it could not be stated whether they infected the child or whether the child was first infected and conveyed the disease to them. In the other case, there was no recognizable history of infection, although the patient suffered from faucial diphtheria one year later.

All cases of infection of circumcision wounds, in children at least, should be subjected to bacteriological examination, both to promote exact diagnosis, to guide in the treatment of the case, and to permit of proper precautions for the prevention of contagion.

Antitoxin should be administered without delay, and local antiseptic measures should be resorted to. Catheterization should not be permitted, as there is danger of infecting the urethra and bladder.

Suprapubic Cystotomy.—DR. MIGUEL OTERO, of San Luis Potosi, Mexico, read a paper on cystotomy in which he expressed the conviction that perineal cystotomy was being gradually abandoned and that it was not long before it would cease to be a recognized surgical procedure, except under special and very rare conditions. The suprapubic operation was the one which would be chosen by preference, as it is free from the dangers of perineal section, such as hemorrhage, laceration of the prostate, persistent fistula, etc.

Other papers read in this section, either by the authors themselves or simply by title, were the following: "Kraske's Operation for Imperforate Rectum," by Dr. Rudolph Matas, of New Orleans; "Asbestos Fire-proof Surgical Dressing as Adapted to Army and Emergency Practice," by Dr. Evan O'Neill Kane, of Kane, Pa.; "Surgical Treatment of Bladder Diseases," by Dr. Ramon Guit  ras, of New York; "The Surgical Treatment of Epilepsy," by Dr. Edmund J. A. Rogers, of Denver, Col.; "The Treatment of Colles' Fracture," by Dr. Leonard Freeman, of Denver, Col.; "Treatment of Stricture of the Urethra by Continuous Elastic Dilatation," by Dr. Robert J. Wilding, of Malone, N. Y.; "Treatment of Chronic Gonorrh  a,"

by Dr. Ferd. C. Valentine, of New York; "The Value of the Roentgen Rays in Surgery," by Dr. Carl Beck, of New York; "The Effect of Operations *per se* in Tuberculosis and Malignant Growths," by Dr. A. C. Bernays, of St. Louis, Mo.; "Cerebral Tumors and Abscesses," by Dr. George N. Lowe, of Randall, Kan.; "The Surgical Treatment of Movable Kidney," by Dr. W. Easterly Ashton, of Philadelphia, Pa.; "Surgical Treatment of Gall Stones," by Dr. James T. W. Ross, of Toronto, Canada; "New Method for the Radical Cure of Crural and Inguinal Hernias," by Dr. Adrian de Garay, of Mexico City; "On Surgery," by Dr. Guillermo Parra, of Mexico City; "Personal Experience in the Treatment of Gunshot Wounds during the late Civil War in the United States as Contrasted with the Modern Aseptic Treatment," by Dr. Robert Reyburn, of Washington, D. C.; "The Deformity Following Fracture of the Femur," by Dr. Edward Martin, of Philadelphia, Pa.; "Hypnotic An  sthesia," by Dr. Thomas Bassett Keyes, of Chicago, Ill.; "Surgical Treatment of Insanity," by Dr. Ernest Laplace, of Philadelphia, Pa.; "A New Operation for the Radical Cure of Femoral Hernia," by Dr. George M. Edebohl, of New York; "The Electro-Cautery as a H  mostatic in Surgery," by Dr. Alexander J. C. Skene, of Brooklyn, N. Y.; "Suturing of Arteries Injured in Continuity, Experimental and Clinical Research," by Dr. John B. Murphy, of Chicago, Ill.; "On Surgery," by Dr. Joaquin Martinez, of Pachuca, of Mexico; "Renal Calculus" (the author presented a specimen weighing forty-five grams), by Dr. Ignacio Espinosa, of Morelos, Mexico; "Laparotomy and Fixation of Rectum by Sutures to Anterior Abdominal Wall in Several Cases of Prolapsus of the Rectum, with Report of a Successful Case," by Dr. Herman Mynter, of Buffalo, N. Y.; "Mastoid Diseases and Operations," by Dr. Seth Scott Bishop, of Chicago, Ill.; "Varix in the Lower Extremity," by Dr. Thomas H. Manley, of New York.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Intestinal Anastomosis.—DR. J. FRANK, of Chicago, read a paper on this subject, showing his decalcified bone button and numerous specimens in which divided ends of intestine had reunited while held by it in apposition. The dog which had been operated upon the previous day at the San Andres Hospital was shown and was then killed by chloroform. Upon opening the abdomen, the portion of the intestine on which the operation had been performed being cut out, it was found that a perfect union had resulted in the twenty-eight hours intervening between the operation and the animal's death. The bone plates were partially dissolved, and the continuity of the intestine was practically demonstrated.

Statistics from the Maternity Hospital of Puebla.—DR. JOS   MARIA DE ITA, of Puebla, Mexico, read a paper based upon the statistics of this hospital for the two years ending September 30, 1896. The mortality was one-half of one per cent., and no case of puerperal septic  mia occurred in this time. The antiseptic used was bichloride of mercury, and the following was the mode of its employment: Before labor, the genital organs having been washed externally and internally with soap and water, after the tepid-water bath and thorough evacuation of the rectum and bladder, an injection of solution of bichloride of mercury 1-2,000 was made, care being taken to disinfect thoroughly the fundus of the vagina by swabbing with the finger. The douche was repeated every six or eight hours during labor. After labor a vaginal injection of the same solution was made. In case of surgical interference or when rupture of the membranes had occurred before the arrival of the physician or mid-

wife, an intra-uterine injection was made with the same solution. The bichloride injections were continued also during the first three days after parturition.

The following papers were read by the authors or by title: "Management of Occipito-Posterior Positions," by Dr. Louis Faugères Bishop, of New York; "Treatment of Post-partum Hemorrhage," by Dr. J. C. Currie, Chicago, Ill.; "Intestinal Obstruction," by Dr. George W. Woods, U. S. Navy; "Vaginal Incision and Drainage in the Treatment of Peri-uterine Septic Diseases," by Dr. W. E. B. Davis, of Birmingham, Ala.; "Electrolysis in Endometritis," by Dr. Gustavo O'Farrill, of Puebla, Mexico; "A Contribution to Abdominal Surgery," by Dr. Alfonso Ortiz, of Alamos, Mexico; "Penetrating Wounds of the Abdomen," by Dr. Santos Medina, of Juchipila, Mexico; "On the Treatment of Puerperal Fever," by Dr. Rafael Norma, of Tulancingo, Mex.; "On the Technique and Results of Abdominal Hysterectomy," by Dr. Ernest Cushing, of Boston, Mass.; "Hysterectomy, its Applications and Technique," by Dr. Charles Bingham, of Philadelphia, Pa.; "Indications Respecting the Best Technique in the Operation of Shortening the Round Ligaments, with Favorable Results in Seventy-five Cases," by Dr. Laphorn Smith, of Montreal, Canada; "Treatment of Uterine Diseases and Appendages through the Vaginal Channel," by Dr. R. Stansbury Sutton, of Pittsburg, Pa.; "Rational Treatment of Pelvic Abscesses," by Dr. H. J. Boldt, of New York; "Hysterectomy," by Dr. Albert H. Tuttle, of Cambridge, Mass.; "Hysterectomy," by Dr. J. T. Johnson, of Washington, D. C.; "Septic Endometritis and Its Cure," by Dr. T. Griswold Comstock, of St. Louis, Mo.; "The Relation that Pelvic Deformity Bears to Unassisted Instrumental and Surgical Obstetrics," by Dr. Hugh Hamilton, of Harrisburg, Pa.; "Review of Disputed Points in the Treatment of Inflammatory Trouble of the Pelvic Organs," by Dr. Joseph Price, of Philadelphia, Pa.; "Remarks on Hydrocele of the Umbilicus with a Report of a Case," by Dr. Charles G. Cumston, of Boston, Mass.

PAN-AMERICAN CONGRESS NOTES.

The Inaugural Session was held in the Teatro Nacional, which had been specially and most effectively decorated for the occasion. The background of the decoration of the body of the theatre was scarlet. The fronts of the boxes were artistically draped with the flags of all the republics of America and with their coats of arms. The flags and escutcheons of Spain, France, and England were also displayed. The stage decorations were Aztec. An imitation of the calendar stone rose behind the dais of the President. The sides of the stage were enclosed with scenery representing Aztec architecture and trophies. In the centre of the tiers of boxes opposite the stage was a mammoth star of tricolor electric lights, in the centre of which was the mortar with coiling serpent. Flowers were everywhere in reckless profusion, such as can be seen only in this land of roses. Between each of the addresses a musical selection was rendered by an excellent orchestra. Following the report of Dr. Licéaga the Mexican national hymn was sung by the pupils of the Conservatory of Music, the audience in the mean while standing.

The President's Address.—The following is the full text of the address of welcome pronounced by General Diaz at the opening session, as stenographically reported by the *Mexican Herald*:

"Gentlemen: In the name of the government and the people of this republic, I extend to you the most cordial welcome. The Mexican nation, and the people of this capital in particular, rejoice at your presence, for it signifies not only the brotherhood of all

the nations on this continent, but the community of their efforts to promote a science which is of more interest to humanity than any other. The aim of that noble science is to preserve or restore the priceless blessing of health, and when it fails of attaining that aim to the fullest extent, it at least alleviates the ills that constitute the sad inheritance of humanity and is a timely auxiliary in warding off ailments.

"On this account, gentlemen, your coming to Mexico is for me and for all my countrymen a source of profound and sincere gratification, and, on this account, too, the Mexican government takes pleasure in aiding you in your labors to the best of its ability.

"We are cordially grateful for your choice of this city as the scene of the sessions which have to-day been inaugurated. It is to be hoped that those sessions will strengthen the cordial understanding and growing intercourse among the physicians of the New World, to the immense advantage of the useful science to which you have devoted your lives. I hope, too, that your short stay in this country, besides being useful in promoting the cause of science, will also be agreeable to you personally and that you will carry away with you as pleasant a memory of Mexico as I am sure your visit will leave among us."

The Number of registered members of the congress was four hundred and forty.

The Entertainments.—On Sunday evening preceding the opening of the congress, a reception was tendered the visitors in the School of Medicine by the physicians of the city. On Wednesday evening the members of the congress were entertained by the city council in the rooms of the Municipal Palace, the Cathedral Square and the principal approaches to it being illuminated. There were also fireworks in the plaza in honor of the guests. The rooms were beautifully decorated, and supper was served in the patio, or central court, of the building, which had been transformed into the semblance of a grotto brilliantly illuminated with incandescent lights. The crowning entertainment of all was a reception tendered to the visiting physicians and their ladies by the President of the Republic and Mrs. Diaz on Thursday afternoon in the Castle of Chapultepec. The palace is built upon a high mound which rises from the plain about two miles from the city. It was the ancient seat of the Aztec kings, later the residence of the Emperor Maximilian, and now the home of the President. The view from the broad balconies of the palace is accounted one of the most beautiful in the world. On Friday evening those members of the congress who still lingered in the city were pleasantly entertained at a reception given in the handsome rooms of the Jockey Club. The various hospitals, the schools, the new slaughter house, the penitentiary, the libraries, and all of the public buildings were open for inspection of the visitors. Excursions were also made in small parties to the drainage canal, the Shrine of Guadalupe, the gardens of Tacubaya, and other points of interest in the neighborhood. On the Sunday preceding the opening of the congress, the churches and the promenade in the Alameda were visited in the morning, and the Basque ball games, the bull fight, the horse and bicycle races, and the drive on the Paseo de la Reforma all received their quota of strangers in the afternoon.

The Spirit of Investment which is abroad in Mexico invaded the sacred precincts of the congress halls. Those attending the general session had thrust into their hands a circular of a Mexican physician who claimed to know a remedy for pulmonary tuberculosis, and desired to establish a sanatorium in a favorable locality of which he also knew. He modestly asked for a partner willing to put \$20,000 (good American gold, not Mexican silver) into the enterprise. Several

others of the visitors were approached to take up and exploit an herb growing in some secluded spot in Mexico, which was asserted to be an unfailing remedy for rheumatism of all sorts, acute and chronic. Others were solicited to throw medicine to the dogs and invest in coffee plantations in a country where the wages of the laborers could be paid in silver while the product of the soil would be sold for gold.

The Speakers at the First General Session were in most cases inaudible. They occupied a little box at one side of the stage, and addressed the President of the Republic, nearly turning their backs on the audience. A notable exception was Dr. Pepper, who stationed himself in the centre of the stage, seemingly to the consternation and horror of those who were escorting him to the little box, and turned toward the President only when he was directly addressing him, but toward the audience when his remarks were directed to them. His voice also was that of a practised speaker, and it was evident that his words were understood by many, even of his Spanish-speaking auditors.

The First Medical School in America was established in Mexico; the first printing-press on the western continent was set up in the same city.

The Altitude of Mexico (the city lies about seven thousand feet above the level of the sea) affected most of the visitors rather unpleasantly, causing them to suffer from shortness of breath on slight exertion. Several were even more seriously inconvenienced, and some had to descend at once to a lower level, on account of threatening heart symptoms, before the congress was over.

The Weather of the Congress Week, like weather everywhere and always, was exceptional. The temperature was abnormally low a part of the time; the mornings, which should have been brilliant, were usually dull, cloudy, and chilly; and the rain, which ought not to have come at all or at most in brief, smart showers, fell on several occasions in a persistent drizzle.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, November 19, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

The Object of the Anniversary Meeting.—THE PRESIDENT, before introducing the essayist, explained the purpose of the anniversary meetings to that portion of the audience, composed largely of the lay public, not familiar with the academy. It was customary, in commemoration of the birth of extraordinary events and of persons, to have an anniversary. The academy had regularly held an anniversary since its establishment. At that time it was customary to review important medical history. It seemed to him that an anniversary was a very wise provision, inasmuch as it connected with great distinctness the past with the present and the present with the future. The anticipations of the past became the realizations of the present, and we appreciated that the realization of the present gave hope for the future. At the last anniversary the library contained fifty-five thousand volumes, to which there had been added during the year twenty-five hundred more—a most healthy increase. That which might be of greater interest to the profession and the public was the fact that by the efforts which had been put forth during the year the library fund had been increased \$30,000, making a total amount of \$52,000. The aim of the academy was to secure a sufficient amount of money so that, with what it already possessed, it should have a round sum of \$100,000, the income of which should be devoted to no other purpose than that of adding to the library. The president an-

nounced that some time in January the academy would celebrate its semi-centennial, for which purpose the use of Carnegie Hall had been secured. President Cleveland would honor the occasion by his presence and by his speech.

The Evolution of the Surgery of the Twentieth Century.—DR. GEORGE R. FOWLER delivered the anniversary address. In choosing for his subject the evolution of the surgery of the twentieth century he sought to do more than simply chronicle the brilliant achievements accomplished during that period. It was his endeavor to point out the relations which the more important events bore to those processes of intellectual evolution which had made all things possible which had come to pass during the century. Discovery had followed discovery in unceasing and rapid succession. In looking back over the century, how rich the harvest had been, and yet how much had not yet blossomed! The development of the ligature for the control of hemorrhage, the discovery of anæsthesia and of antisepsis, stood in as important a relation to surgery as did Newton's discovery of the law of gravitation to astronomy. It was upon the development of these three essentials to the perfection of the surgery of the twentieth century, and the discovery of the Roentgen ray, that the orator dwelt in his essay. "The lessons of the past gather about us like the falling leaves of a summer's departing glory. But these lessons are not wasted. They but serve to emphasize man's opportunity now present and his hopes for the future. Not the least among these is that which teaches us that the unfolding of nature's secrets is but a part of the law of creation: that irresistible forces are at work evolving truth and casting out error: and that man's present position in this great work removes him from the place of the creation of the hour, and stamps him as the product of time and the heir of all eternity. The century upon the threshold of which we stand is lighted with jewels of hope in golden setting, and its atmosphere is filled with the sweet music of promise."

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 16, 1896.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

Appendicitis Complicating Pregnancy.—DR. ROBERT ABRAHAM read the paper. If appendicitis in general merited so much attention as had been given it the past few years, how much more in pregnancy, when two lives instead of one were in jeopardy! Yet up to a short time ago appendicitis in pregnancy was unknown in medical literature, if a brief report of one case were excepted. It was not quite two years since Dr. Mundé's celebrated case was put on record, but now physicians everywhere realized the possibility of its occurrence, and were on the lookout to diagnose it. Up to the present, eleven cases had been placed on record, ten of them suppurative, one catarrhal. The author in this paper added four new ones, and their interest lay in the fact that the mothers as well as the children escaped an untimely death. The first case was one of catarrhal appendicitis, seen with another doctor in the city, October 1, 1895. The symptoms related to pain at McBurney's point, tumor, increased pulse, some elevation of temperature. These symptoms gradually disappeared, but on October 20th labor set in and a child was born at seven and a half months. It lived six days. The mother fully recovered, and had no pain after delivery. The second case was in a woman seven months pregnant. There were the constitutional symptoms referable to the pulse and

temperature, and locally pain, but no tumefaction. Diagnosis, catarrhal appendicitis. This patient was much constipated. The symptoms subsided after nine days, under cathartics, etc. She was delivered of a healthy child at term. He had treated her in two attacks of recurrent appendicitis since, but she refused operation. In the third case the patient was also habitually constipated: the temperature, pulse, localized pain, vomiting, and later some tumefaction established the diagnosis, and the patient was sent to the hospital, where the diagnosis was concurred in and an operation was about to be performed, but improvement began and she recovered without operation. He had not seen this patient since. The fourth case was one of traumatic appendicitis, which was also seen by Dr. Mundé, who concurred in the diagnosis but suggested waiting for a time. The patient markedly improved, but still had some pain in the region of the appendix. She was in the ninth month of pregnancy.

The pathology and etiology were for the most part the same as in women not pregnant, but the enlargement of the uterus would affect adhesions: and in all of his cases but one there was a history of obstinate constipation, which he thought might have been a cause, and pointed to the necessity for attention to the bowels during the pregnant state. As to diagnosis, the presence of the enlarged uterus would interfere somewhat with palpation and percussion, but with care local signs could be recognized if present. In all obscure cases, anæsthesia should be employed. The chief disease in differential diagnosis was tubal pregnancy, but here the duration of the tumor before rupture was only four months, and it need hardly be thought of after that period. As to hæmatocele, in only one of the cases on record had a tumor of doughy feel at the vault of the vagina proven to be a case of appendicitis. Inflammation of the pelvic organs, ovaritis and salpingitis, was almost always infectious in origin, so that the history would be found of value in diagnosis. Floating kidney and renal calculus might occasionally be mistaken for appendicitis, but patience and care would clear up the error. Typhoid fever offered some difficulties in diagnosis.

As to prognosis, in reported suppurative cases there had been seven deaths out of ten, or a mortality of seventy per cent. In all of the cases of catarrhal appendicitis the patients had recovered. Of subjects operated upon, only one child had lived; the others had perished before or after the operation. Of the total number of reported cases of pregnancy complicating appendicitis—fifteen—eight resulted in recovery, and eight in death.

All cases, unless running a very mild course, should be operated upon early. He gave the following rules, partly his own and partly from Willy Meyer: 1. Operate early, within twelve hours, in acute perforative appendicitis. 2. Take the pulse as a guide, 106 to 120 being an indication for operation. Dr. Abrahams added to this rule that the pulse should not only be rapid, but should be out of proportion to the temperature. 3. In cases of doubt operation is better than waiting. 4. Sudden lull of the symptoms, and within ten or twelve hours sudden recurrence. 5. In cases of old appendicitis lit up during pregnancy, operation ought to be done, even if the attack is a mild one, especially if it occurs early in pregnancy. Laparotomy is then easy and removes the possibility of future attacks when operation may not be easy.

Commends Early Operation.—DR. PAUL F. MUNDE referred to his case which had been mentioned in the paper, and said that when it was published it became the subject of general attention, as if it had never occurred to anybody that a woman who was pregnant could have appendicitis. But after his attention had been called to the subject by this case, he could see no

reason why a woman who was pregnant might not have appendicitis as well as anybody else. Since then he had seen several cases, and had published a very instructive one in the *MEDICAL RECORD*. He would not hesitate to operate, no matter what the period of pregnancy, and would expect to get as good results as in non-pregnant women. He was under obligations to the author for having put several cases into his hands, and was glad to share any honors with him.

DR. ROBERT T. MORRIS thought appendicitis had in all probability occurred frequently in pregnant women, but had been overlooked on account of there being other diseases which simulated it. We could fairly expect it to occur rather more frequently during pregnancy, for two reasons: 1. In pregnant women the appendix hung over the pelvic brim in about thirty-five per cent. of the cases, and in this position was liable to become bruised by the enlarging uterus. 2. In many cases adhesions existed, and as the uterus enlarged and rose out of the pelvis they were likely to be broken up and excite appendicitis. He thought he had had four or five cases of appendicitis in which pregnancy had played a rôle, but had not published them separately from his other cases. Regarding catarrhal appendicitis, he had not seen it in any case operated upon, yet he did not doubt that catarrh of the intestine might extend to the appendix. When symptoms arose peculiar to appendicitis, infection and exudation had taken place, which put the case out of the category of catarrhal appendicitis. Regarding diagnosis, he supposed there was some difficulty in distinguishing in some cases between typhoid and appendicitis. At least, he had seen a few cases with eminent physicians in this city, in which there was a difference of opinion, and, inasmuch as an operation was not performed, the diagnosis was not settled. Resisting tonic spasm of the abdominal wall served to distinguish acute appendicitis from typhoid and salpingitis. It was very seldom that surgeons made a mistake and operated for appendicitis when it did not exist. Dr. Morris said doubt was disappearing among the experienced with regard to ability to palpate the normal appendix.

Tubal Pregnancy Mistaken for Appendicitis.—DR. WILLIAM T. LUSK related a case which showed that even experienced surgeons as well as gynecologists sometimes made a mistake in diagnosing appendicitis. The patient was a girl of nineteen years, of excellent character, exceptional family, who had an attack of pain in the right side and other symptoms of appendicitis. The symptoms subsided, and she had another attack, in which he was called to examine the pelvic organs. The pain was in the right side. He found the tumor behind the uterus on the right. A surgeon of distinction saw the patient and diagnosed appendicitis, and recommended operation. All who examined her thought they felt the thickened appendix. On operation Dr. Lusk found in this young girl of exceptional character, who had given no history of passing by a menstrual period, tubal pregnancy. In this instance, the clearness with which his experienced friends had felt the supposed diseased appendix through the abdominal walls, was certainly very delightful!

DR. H. J. GARRIGUES had operated upon one case of appendicitis complicating pregnancy, and while he thought before the operation that the mass might be the diseased appendix, yet there was no reason to suppose that it might not be a neoplasm. The operation decided the diagnosis. The patient did well, but subsequently developed pleurisy, which led to exhaustion.

The Appendix Better Nourished in Females.—DR. WILLY MEYER had operated in about two hundred cases of appendicitis, and in only one did the disease complicate pregnancy. He had seen one of Dr.

Mundé's cases also. It seemed to be a clinical fact that appendicitis occurred more frequently in males than in females, and in trying to account for it he was disposed to think it might be due to better nutrition of the organ in females, and in them this was at its height during pregnancy. The case seen by him was a patient of Dr. S. Marx. She had had her first attack of appendicitis about the eighth month of pregnancy. It subsided under expectant treatment. A week later she had pain again, and gave birth to a child. A few hours after delivery she had a chill, high temperature, and symptoms of acute appendicitis. She was again treated on the expectant plan, recovered, and Dr. Meyer saw her afterward with Dr. Marx in a third attack, and they operated. An unusual condition was found. The appendix was situated in a sheath of new tissue, and when withdrawn was found to measure eight and one-half inches in length. Dr. Meyer had seen so many cases of recurrent appendicitis that he had come to the positive conclusion that all persons should be operated upon who had had one well-defined attack. The conscientious physician should turn them over to the surgeon at a time when ideal surgery could be done, guaranteeing the patient against future attacks of appendicitis and also against hernia in the operation wound.

Another Mistake in Diagnosis.—DR. HOWARD LILIENTHAL agreed with what seemed to be the consensus of opinion, to operate in time in all cases of severe appendicitis. He then mentioned a case of what seemed clearly to be appendicitis complicating pregnancy, although the possibility of typhoid fever was not excluded. He saw the case with Dr. Vineberg, who had already made up his mind to operate, but at the request of the family called Dr. Lilienthal in consultation. They operated and found an absolutely normal appendix, and nothing to account for the patient's symptoms. The patient growing steadily worse, Dr. Vineberg emptied the uterus. The collapse became more profound, and nobody supposed she would live, but there was a sudden turn for the better and she recovered. Regarding the diagnosis between appendicitis and typhoid fever, it should be remembered that the appendix might become perforated in the latter disease. He had seen two such cases.

Catarrhal Appendicitis.—DR. BERNARD S. TALMEY said, with regard to one not seeing the appendix in a state of catarrhal inflammation, the reason was clear: one did not operate in such cases. To deny the possibility of its occurrence was as reasonable as to deny the existence of catarrhal nephritis or catarrhal inflammation of the lungs, because not found in cases operated upon. Perhaps in not more than ten per cent. of all cases of appendicitis was it necessary for the physician to call in the surgeon; the other ninety per cent. got well. Now, since but few of the other forms of appendicitis recovered without operation, it was fair to infer that the ninety per cent. were catarrhal.

Constipation and Appendicitis.—DR. HENRY ILLOWAY referred to the fact that in most cases of operative appendicitis fecal concretion had been found, and to the further fact that in many instances, especially in pregnant women, there was a history of constipation. He thought the constipation might be an important factor in lighting up an attack of acute appendicitis by the pressure exerted through the hard masses upon the fecal concretion, which really was a foreign body within the appendix. In this way the fact was accounted for that appendicitis was set up from within the organ and not from without, the pressure simply being the means of opening the way to infection from within.

DR. ABRAHAM made some closing remarks.

Fatal Secondary Hemorrhage Following Nephrectomy.—DR. THOMAS MANLEY presented a kidney, the

seat of pyonephrosis from multiple abscess, which he had removed. He lost his patient the next day from secondary hemorrhage, although he had taken the extra precaution to put two ligatures around the vessels at the time of the operation.

Resection of Intestine in Hernia.—DR. MANLEY also presented twenty-six inches of small intestine, removed for gangrene in a case of strangulated hernia, the anastomosis practised being that of Connel, of Milwaukee. It was the operation which he commended above all others. His patient recovered.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Semi-Annual Meeting, Held at Hagerstown, Md., Tuesday and Wednesday, November 10 and 11, 1896.

WILLIAM OSLER, M.D., PRESIDENT, IN THE CHAIR.

First Day—Tuesday, November 10th.

AFTER an address of welcome by DR. J. W. HUMRICHOUSE, of Hagerstown, which was responded to by DR. WILLIAM OSLER, of Baltimore, the regular order of business began.

Continued Fevers.—This was the subject of a paper by DR. C. BIRNIE, of Taneytown. He related several cases of fever lasting from two to six weeks, or sometimes longer, lacking the characteristic symptoms or lesions of typhoid or malarial fever and not due to any definite lesion. He gave the points of distinction between the two cases related and typhoid fever. In many instances he treated the patients symptomatically. He found that antipyretics were useless and harmful. Phenacetin was very successful in his hands.

DR. JOHN C. HEMMETER asked what were the latest views concerning gastric fever; some insisted that such fevers did exist and others that they did not.

DR. BIRNIE said that no microscopic examination had been made in these cases, and he was of the opinion that gastric fever was more of a gastric catarrh.

DR. OSLER said that he had no personal knowledge of gastric fever.

DR. CHARLES M. ELLIS, of Elkton, said that he had had an experience similar to that related by Dr. Birnie.

DR. A. S. MASON, of Hagerstown, said that such cases as those related by Dr. Birnie were known to physicians and he was inclined to call them continued fevers; he did not know how else to classify these cases if not as simple continued fevers. In some cases quinine had no effect at all. He referred to an epidemic that spread over this country twelve years ago. He had had sixty or seventy such cases and typhoid cases from polluted water, but also many cases with no local disturbance. He did not know the classification of these fevers.

DR. GEORGE J. PRESTON said that the subject of the continued fevers was of great practical importance, and spoke of the physiology of heat and cold production in fevers. We did not give due weight to the physiological questions in the study of this fever. We often had distinct hysterical fever running over weeks; these were rare cases but they did occur. We rarely saw such cases in the hospital, because these mild cases did not usually enter the hospital. We did have certain cases, in typhoid fever, as a rule, such as walking typhoid fever, which was made known by the relapse. The enlargement of the spleen and liver was not diagnosed. The diazo reaction had not met with much success in his hands. There were many cases of fever in which quinine was of no use.

The Nature and Treatment of Gastric Acidity.

—This was the subject of a paper by DR. JOHN C. HEMMETER. He asked if there was a distinct lesion in these troubles or not. The question had often been asked, but, not having arrived at conclusions, he had examined the gastric contents with the double test meals of Salzer. These two consecutive meals represented an ordinary diet, and by them one could determine the number of important pathological states in gastric digestion almost without further analyses. These test meals consisted, first, of a cup of milk and a plate of rice with a piece of bread, followed four hours later by a roll and a glass of water. If the stomach contents were removed one hour after the second meal, there should be no remnants, if the stomach was healthy. Proteid remnants, such as meat and eggs, would point to anacidity, while a hyperacidity would be indicated by a large amount of carbohydrates in the remnants. After a few words on the digesting power of the stomach, he concluded by some important directions on the dietetic treatment in this trouble.

Cerebral Syphilis.—This was the subject of a paper by DR. GEORGE J. PRESTON. The symptoms of this trouble were very varied and the history of the primary lesion was often uncertain. Moreover, the interval between the primary lesion and the brain troubles might be so long as to make the connection between the two uncertain. Meningitis from syphilis was nearly always chronic, the symptoms coming on gradually, the first one being headache; then there might be paralysis of the third pair of nerves, or of the fourth or sixth, with hemianopsia. The most common form was great mental depression, or rather apathy. He related six typical cases, illustrating some of the most important symptoms of the cerebral syphilis. We should make our diagnosis and then treat vigorously. This method of treatment was much more used in this country than in Europe, hence the better results obtained here. He had given as much as three hundred to five hundred grains of iodide of potassium a day and felt justified in doing this. He thought that mercury very materially helped the iodide.

DR. E. N. BRUSH thought that the interval between primary lesion and the brain troubles was much longer than Dr. Preston intimated in his paper. In one case he had given nine hundred grains of iodide of potassium a day. He did not believe in the therapeutic test, and did not think that because a patient could take large doses of the iodide that he should be treated for mental troubles as for the specific complaint. Some syphilitics could not take large doses, while those who had never had the disease could often stand very large doses.

Malaria Complicating Gynecological Operations.

—This was the subject of a paper by DR. JOHN WHITRIDGE WILLIAMS. He spoke of the importance of examining the blood in all febrile conditions and the necessity for great accuracy, and said that post-partum fever was more frequently attributed to puerperal fever than to malarial fever and that in the text-books there were few references to malaria as post-partum. He had had two cases recently. In the first, the examination of the blood had given him great confidence and had allowed him to exclude sepsis. In the second case neglect of the blood examination had resulted in a faulty diagnosis, and as a consequence an operation was performed, although as it turned out this operation was entirely justifiable. These two cases convinced him of the importance of blood examinations in all febrile cases after labor, even though malaria be suspected. He was confident that malarial fever was often mistaken and treated for other post-partum troubles.

DR. J. M. HUNDLEY said that he had had several cases of late in which malaria complicated gynecological operations, and the blood examination had made the diagnosis certain. He thought that this year, especially, such malarial complications were more common.

The Cystoscope in the Diagnosis and Treatment of Diseases of the Female Bladder.

—This was the subject of a paper by DR. J. M. HUNDLEY. Heretofore the treatment of these diseases had been unsatisfactory; drugs internally and washing out the bladder were the two methods of treatment commonly used. Through the skill of Dr. H. A. Kelly, the modern cystoscope had been so perfected that the interior of the bladder could be examined and treated, and the openings of the ureters could be seen. The bladder was more frequently subject to organic disease than was believed before the use of the cystoscope. Not only uterine but also rectal diseases caused an irritable bladder. He thought that the routine examination of the bladder with the cystoscope should be made in every gynecological case, whether the complaint was referred to that organ or not. He related two cases attesting the value of the cystoscope in this line of work and urged the profession not to neglect this modern means of diagnosis.

DR. A. C. WENTZ, of Hanover, Pa., related a case in which he applied ichthyol ointment by balloon to the interior of the bladder, as recommended by Dr. Clarke. He also used applications of ten to fifteen per cent. of nitrate of silver.

To What Extent Does the Hypertrophied Pharyngeal Tonsil Atrophy at or about Puberty?

—This was the subject of a paper by DR. S. K. MERRICK. He had been struck by the frequency with which the family physicians had told parents that the enlarged pharyngeal tonsils of their children would disappear spontaneously at from twelve to fourteen years of age. Indeed he had found that several of the text-books gave this same opinion or else avoided the question altogether. He had been able to collect a few statistics from his own practice, and in none of the subjects whom he had seen who had refused operation in childhood had the tonsils disappeared at puberty. Some information was obtained in observing the ages at which patients applied to him for treatment: out of fifty subjects operated on in 1895 and 1896, sixteen were under fourteen years of age, while thirty-four were above that age. If the tonsils atrophied after puberty it was strange that so many cases came to operation after puberty. We might conclude that an insignificant number of hypertrophied glands would disappear at puberty if left to themselves. Not only this, but adenoids made a patient prone to repeated colds, as well as other throat affections that may become tuberculous in character.

DR. JOHN N. MACKENZIE said he had never allowed such a case to reach puberty without operation. It was amazing what troubles these pharyngeal growths might cause and what fearful inroads these troubles might make on the health. He had operated on infants in arms. The growth should be operated on as soon as discovered, and should never be allowed to proceed unchecked. He spoke of the great liability to disfigurements of the countenance from this trouble and the affections of hearing, etc.

The Early Symptoms of General Paresis.

—This was the subject of a paper by DR. GEORGE H. ROHÉ. We should look for the early symptoms, although the results of treatment are not encouraging. The diagnosis must be made from a collection of symptoms partly physical and partly psychical. The disease generally begins after the thirty-fifth year and rarely after the fiftieth. Those in the higher walks of life are attacked by preference and men more than women.

Clergymen are almost exempt and actors are most frequently affected. Syphilis may be one of the causes. The symptoms are various and the treatment is unsatisfactory, and rarely does more than prolong life a few years. The iodides may be given.

DR. EDWARD N. BUSH was much pleased with Dr. Rohé's paper. He thought that the early symptoms of paresis occurred in this order: 1st, vasomotor; 2d, motor; and 3d, psychic. Sometimes depressing ideas usher in the disease.

DR. WILLIAM OSLER presented a case of diffuse scleroderma. The patient was a white man, about thirty years old, who had suffered from a hardening, thickening, and gradual immobility of the skin. There had been inflammation, erosion, and finally disability. This trouble was most marked in the hands and arms and face, although the skin of the whole body was somewhat hide bound. It was hard to pinch the skin. The patient could not close his hands tight. There were two forms of this disease—the diffuse form and the local form. This was a case of diffuse scleroderma. The etiology of the disease was not known and the pathology was very obscure. Thyroid extract was sometimes efficacious in this disease and sometimes not. In this case the man had been helped very much by it, and there were chances that it would stop the progress of the disease, if not cure it. He could not elevate his shoulders. Scleroderma was a slow progressive disease and it was very rare; he himself had been in practice twenty years before he saw a case and had seen only six cases altogether.

The Pathology and Bacteriology of Typhoid Fever.—DR. SIMON FLEXNER made some remarks on this subject. We have every reason to believe that the disease comes from the germ, the bacillus, in the anatomical tract. There is no ground for believing that it gets into the body in any other way than through the intestines. This fact is based not only on the pathological anatomy but on experiments as well. We cannot produce the disease in animals. Not all parts of the intestines are alike prone to infection to the same extent. Infection takes place where the lymphatic follicles are in aggregation. Not all the lymphatic aggregations are affected to the same extent. There is a general distribution of these lymphatic follicles throughout the whole tract of the intestines, but not all are affected in typhoid fever. The agminated glands are more susceptible to the poison than the solitary ones, and those nearer the lower part of the small intestine are especially affected. Here the infectious material of typhoid fever is kept a long time, owing to the anatomical character of the parts. The ulceration produced by the bacilli may be very superficial, affecting only the mucous membrane, or the whole thickness of the intestinal coats may be affected, causing perforation. Many epidemics are from an infected water supply. The organism of this disease is not particular as to where it lives and can thrive in water a long time, also in milk. It is hard to discover and separate it from other organisms. The growth is often invisible and causes no change in the color or taste of the milk infected, nor does it cause coagulation. This fact helps in its recognition, because the organisms with which it is confused grow visibly, and recent methods allow the typhoid germ to be discovered in the intestines. By the use of the differentiation method of Elsner in culture media of varying acidities, the growth of the typhoid organism in plate culture may be easily separated. The methods of Pfeiffer and Widal, by which the disease is made out in its early stages, is very ingenious. A bouillon culture of typhoid germs is mixed with blood from a suspected case of typhoid. If the disease really exists, the effect of the serum from the typhoid case causes a loss of motility, a clinging together, and fi-

nally a disintegration of the organisms. Wyatt Johnston has been able to make a diagnosis of typhoid fever in many cases in a short time by means of a hanging drop of a pure culture of the typhoid organisms to which serum from a typhoid patient has been added. This is a great advance in our diagnostic methods and should be made use of by all physicians.

DR. WILLIAM OSLER spoke of the prevalence of typhoid fever, and said there were too many cases in the State of Maryland and in Baltimore. He said this prevalence was an index of the sanitary intelligence of the community and of the physicians, and that with the help of the public and of the politicians it could be stamped out within three years. He then called on Dr. Fulton, the new secretary of the State board of health, to make remarks on typhoid fever.

DR. JOHN S. FULTON said that within his one month of service as secretary of the State board of health he had made one observation, and that was that, while the country-bred bacillus enjoyed great prevalence in the city, the city-bred bacillus seemed to be especially prevalent in the country. As a preliminary step to obtain statistics he had written to fifty-six physicians throughout Baltimore and Maryland and had received twenty-three replies, and to explain his opening remark he had found that the city physicians maintained that the cases in their care had originated from infection in the country, while the country physicians blamed the city infection for their cases. He said there was also many cases of typhoid fever concealed under the name of typho-malarial fever, the majority of persons apparently thinking that this combined form of the disease was less serious than either one disease alone. To show how unreliable the statistics were, he would quote from one of the hospital reports (Bellevue Hospital), which showed sixteen cases of typhoid fever with a mortality of sixteen and seventy-six cases of typho-malarial fever with no deaths. Either the diagnosis was very bad, or the therapy was murderous. He had been studying the health reports of the State of Michigan since 1886 and had noticed that at first many cases of typhoid and typho-malarial fever were reported, but gradually, year by year, the typho-malarial cases had been disappearing, while the malarial and the typhoid cases were slightly increasing. He said that the State board of health of Maryland would shortly make a complete investigation to ascertain the sanitary conditions in reference to typhoid in Maryland, and letters would be written to every physician in the State. This would be the happiest and most profitable investment Maryland ever made. If we could place with the board of experts enough money to make a substantial beginning of the reform, its members would realize the possibilities that Dr. Osler had maintained.

Modern Method of Examining Urinary Sediment.

—DR. WILLIAM B. CANFIELD made some remarks on this topic. He said that, as a rule, the chemical examination of urine was easy, but the examination of the sediment not so easy unless it was especially abundant. When the sediment was scarce or apparently absent, important ingredients might be overlooked. The method of allowing the urine to stand in a conical glass had some disadvantages, especially in warm weather, when decomposition might occur; also casts might remain suspended, and often they adhered to the sides of the glass and escaped observation. Moreover, this method of examination involved a waste of time. For this reason he would advocate the more general use of the centrifugal machine. The centrifugal had been long known and used; for example, in sugar refining and also in many physiological experiments; but only of late had a smaller and portable machine been made which could be easily used. It was surprising to find so little mention in books of the

use of this machine, in even the most modern text-books on urinary analysis, and he also thought that, with the exception of the larger hospitals and a very few physicians, the centrifugal was still unknown. He then exhibited the machine which he had used and demonstrated the method employed.

DR. J. M. T. FINNEY then made some remarks on the use of the x-rays in surgery. Agents of the Edison Company first explained the use of the machine exhibited by them, and then Dr. Finney explained the advantages of it in diagnosing dislocations, fractures, or other deformities made visible by it, and suggested that by the use of photographs, which could be easily taken in the light without a lens, the surgeon could keep a complete record with illustrations of every case adaptable to the machine, and thus protect himself against malpractice suits. In conclusion Dr. Finney related some cases and explained the advantages of the machine from a surgical standpoint. After this general discussion followed and there was a demonstration with the machine of various cases which had been brought in by local physicians.

Second Day—Wednesday, November 11th.

Cancer of the Tongue.—DR. FRANK MARTIN read a paper on this subject, in which he described the character of the growth usually present, the epitheliomatous; the age when it was most prevalent, forty-five to sixty-eight; the length of time it took the growth to develop, six months to three years; and the various operations for its removal. He said that the symptoms at first were very undefined, with very little pain. It usually began on the side of the tongue and in its anterior half, and the duration of life without operation had been recorded as from one year to eighteen months. He spoke of the various operations, such as that done with tracheotomy, with excision of the jaw, and with operation through the mouth. He found that the operation by excision of the jawbone gave the most complete results and in his experience the wound healed kindly.

DR. JOHN M. T. FINNEY said that his experience with the wound left by the excision of the jaw was that it granulated very slowly and gave much trouble. He referred to several cases that he had had with such a result.

DR. J. W. HUMRICHOUSE, of Hagerstown, then read a paper on some of the results of bacteriological research, in which he reviewed what is known up to the present time of the various diseases and their specific organisms, and outlined the treatment. This paper was discussed by DR. DAVID F. UNGER, of Mercersburg, Pa.

DR. RANDOLPH WINSLOW then reported two cases of gastrostomy for cesophageal obstruction.

DR. JOSEPH GICHNER read a paper on "The Present Status of the Treatment of Tuberculosis," in which he reviewed various methods of treatment of that disease in vogue at the present day.

DR. H. O. REIK read a paper on "The Practical Use of Skiascopy."

Extra-Uterine Pregnancy.—Differential diagnosis: We must differentiate between: 1. Retroflexed pregnant uterus, possibly complicated by a cervical polyp, bleeding occasionally. 2. Pregnancy in bicornuate uterus. 3. Intra-uterine pregnancy complicated by an adnexa tumor. 4. Ruptured pus tube. 5. Ruptured varicose veins of tube, broad ligament, hamatocele from ruptured Graafian follicle, hamatosalpinx. 6. Rupture of an ulcer of the gastro-intestinal tract and appendicitis.—FRANKENTHAL, *Medical Standard*, November.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

ANNUAL MEETING AND DINNER OF THE ANGLO-AMERICAN CONTINENTAL MEDICAL SOCIETY—REMARKABLE CASE OF CATALEPTIC SLEEP LASTING OVER THIRTY-TWO YEARS—CONSULTATIONS BY CHARCOT AND BROUARDEL—AGITATION AGAINST EXPENSES ATTENDING THE STUDY AND PRACTICE OF MEDICINE IN FRANCE—LAYMEN DO NOT WISH THEIR SONS TO BECOME DOCTORS, ETC.

PARIS, November 15, 1896.

ONE of the most important professional events of the year took place on November 10th—we refer to the annual meeting of the Continental Anglo-American Medical Society, whose object is to serve as a bond of union between the British and American practitioners established on the continent of Europe, the Rivières, French as well as Italian, and in northern Africa. To become an active member of the society it is necessary to have a French qualification, which is calculated to keep the membership somewhat limited, although there are at present on the roll a hundred and more names, including, of course, the honorary presidents and members, among whom we note Sir Richard Quain, Sir Joseph Lister, Sir Spencer Wells, Dr. S. Weir Mitchell, Dr. J. B. Billings, Dr. W. M. Polk, and Dr. W. T. Lusk. On the executive committee are such men as Dr. the Hon. Alan Herbert, Dr. Clarke, Dr. Halsted Boyland, Dr. Austin, Dr. Bull, and Dr. Baldwin.

This society has been productive of great good in holding together the European physicians, chiefly the English and Americans, in upholding the dignity of the medical profession in general, and in elevating the tone thereof. Seventeen new members were elected, quite a phenomenal number. It is always customary to invite some distinguished guest to preside at the dinner, which comes off the same evening. This year the society delegated the Hon. Alan Herbert, Dr. Halsted Boyland, and Dr. Barnard to invite Mr. Austin Lee, C.B., H. B. M.'s attaché, to preside at the annual banquet, which invitation he accepted, and referred in a neat speech to the amity of the two nations, England and America, between whom so many ties existed, professional as well as other, proposing the health of the Queen and President Cleveland. The orator was of opinion that the society should exert its influence to obtain some mitigation of the present draconian laws, which really debar English and American practitioners from exercising their profession in France. He spoke in highly complimentary terms of Baron de Rothschild, who, with his great wealth and social position, had elevated himself still more by becoming a physician and practising his profession. Dr. Rothschild has also founded a polyclinic, in which he is doing valuable work for science and for the poor.

Dr. the Hon. Alan Herbert replied in a few well-chosen words, referring to the high standing, both professionally and socially, of physicians in England, the United States, and France, and thought that the medical profession was about to surpass all others in these respects.

The most curious and longest-lasting case of catalepsy known to science is still to be seen at the little village of Thérèlles, some hours distant from Paris.

On May 29, 1883, Marguerite Boyenval, then nineteen years of age, frightened by the appearance of a squad of gendarmes, who, she probably imagined, were coming to arrest her, suddenly uttered a cry and fell in a nervous attack. She was placed upon the bed

and went to sleep in a short time; from that day to this—that is, about thirteen years and five months—she has never awakened. The most distinguished physicians in France have seen her, and everything has been done, in vain. The young girl has become a woman sleeping. Charcot went four times to see her—the first time alone, the others in company with other consulting physicians; Professor Brouardel also, then Professor Bérillon. Dr. Charrier, the local practitioner, calls every day. The patient, reduced to a skeleton, lies with her head slightly bent upon the pillow, her arms concealed under the covers; pale and with hollow cheeks, she seems more dead than alive. The mouth and eyes are closed. If the eyelids are drawn up, only the white of the orbits is visible, the pupils being rolled upward under the orbital arches; and Marguerite Boyenval, with her white cap, has upon her face an ecstatic expression, such as we see in hysterical catalepsy less profound, reminding one of the pictures of nuns by the old Italian masters. At the beginning she made several starts, as if going to awaken, but the deep cataleptic sleep overtook her again in five or six minutes, to continue until the present writing. For a time she was nourished by sliding a teaspoon between her teeth, but for eight years past nutrient enemata, four times a day at regular hours, have been and are still resorted to. Of course, she has largely consumed herself, being now only skin and bones, with stiffened and fleshless fingers. The body to the touch shows some hyperthermia, for which the hot-water bags kept constantly at her feet are not sufficient to account.

The physicians who have seen her are of opinion that during the first months she could hear what was passing around her, but to-day the organs are too much weakened. It was during this period that the thorax still rose and fell a little with the respiratory movements. Now, the only sign of breathing is a slight mist upon the glass. The functions of menstruation and defecation are accomplished, though, of course, in an extremely limited and irregular manner.

There is nothing hereditary about this truly wonderful case. Her only attendant is her mother. Madam Boyenval is a large, buxom peasant woman, in rugged health and exuberant spirits, as her parents were before her, and does not know what illness is.

The subjects of the practice of medicine and of medical education, which have for several years past been agitating the profession and government, having been settled as far as foreigners are concerned, the French laity is now anxious lest its sons should study medicine and graduate in the ranks of a profession already overcrowded. Consequently, leaders and communications of different sorts are appearing in the daily press, notably in the *Figaro*, the most influential journal in France, showing why young Frenchmen ought not to embrace the profession of medicine. Here is about what it costs a father to-day who wishes to make his son a doctor: Ten years of university studies, at 1,800 francs a year; say, 18,000 francs. At least five years of medical study, at 2,500 francs; 12,500 francs. The year of military service costs 2,000 francs. Total, about 40,000 francs, or eight thousand and some dollars. This sum does not include the amount necessary for instruments, say 2,000 francs; nor for books, say a like sum, 2,000 francs. If the young doctor establishes himself in a large city, he will have his rent and furniture, to amount to six or seven thousand francs. In a word, the expenses of the average doctor in Paris are between four and seven thousand francs a year at the very beginning and before he has begun to subsist, with nothing allowed for horse and carriage.

This agitation against the study of medicine is very wise, and should be imitated in New York, where the

profession is as overcrowded as it is here. In Paris the field of practice is always a hotly contested one, even among the older members of the profession. So what a hopeless warfare must the young doctor wage in his comparative youth and inexperience, not only against his own confrères, but against his enemies, such as quacks, bone setters, veterinarians, often druggists, rich young doctors who found polyclinics where his patients can get advice and medicine gratis; older doctors, some of whom receive him in practice on unequal terms, and insist upon having their full consultation fees when called in by him and half of his hard-earned money besides; others, whose equal he certainly is, often their superior in many respects, give the patients he sees with them and others to understand that he is only a promising tyro, an assistant, and consequently to be appreciated and remunerated accordingly. (Indeed, he would not have been called in at all oftentimes, if the elder doctor had known to whom to turn.) These are only a few of the difficulties that beset him at every turn; the heavy *patente* or tax that he will have to pay annually for the privilege of practising his profession, in addition to the tax upon his furniture, etc., is not included in the estimate given above.

OUR LONDON LETTER.

(From our Special Correspondent.)

IRISH COLLEGE OF SURGEONS—POOR-LAW MEDICAL OFFICERS IN IRELAND—EDINBURGH STUDENTS—MEDICAL COUNCIL—PATHOLOGICAL SOCIETIES—EXHIBITION OF SPECIMENS AND REMARKS ON THEM—SOME RECENT DEATHS.

LONDON, November 13, 1896.

THE Royal College of Surgeons in Ireland is a teaching as well as an examining body. The president, Mr. Thomson, opened the session on the 2d inst. with an introductory address. Both Irish and Scotch schools open a month later than English. Mr. Thomson, according to a newspaper report, warned the students that the medical life is by no means one of delectable ease, that they will be not masters but servants of their patients, and that there are no comfortable pensions or sinecure appointments to retire on. He then pressed upon them the importance of general education, and especially urged them to master the English language; and as to the defence of bad spelling sometimes heard, that some good scholars have been examples of it, he declared that such defence flattered neither the scholar nor his teacher. Bad spelling, he held, was the result of bad teaching or else of a boy's carelessness. There was no excuse for a young man to be illiterate in his own tongue, and Mr. Thomson urged the students to familiarize their minds with the writings of the great English authors.

This day week an important deputation waited on the chief secretary for Ireland, Mr. Gerald Balfour, brother of the leader of the Commons, to lay before him the abuses of the Irish poor-law system and seek some consideration for the medical officers. The presidents of the two royal colleges, the Academy of Medicine and the Irish Medical Association, were present and advocated the cause of the distressed medical officers. But the dignified deputation does not seem to have impressed the minister, who was content to repeat the ridiculous fictions which have been doled out by the local board to successive secretaries. Evils were admitted, as they could not all be denied, but no remedy was offered, no hope of amelioration held out. It is a strange sight for a strong government in this year of grace to acknowledge injustice and admit nothing can be done but "grin and bear."

The Edinburgh students have elected Lord Balfour of Burleigh lord rector. I am sorry to say that some

of them emulated the follies of their noisier brethren at Glasgow.

Electioneering literature is being freely distributed by the rival candidates for the General Medical Council, and the question how to vote is exciting a good deal of attention.

At the last meeting of the Pathological Society, Mr. J. Hutchinson, Jr., showed a specimen of rodent ulcer of the forearm. Among the large number of cases of true rodent ulcer referred to and exhibited before the society in 1895, not one was on the limbs, and some doubted the possibility of its occurrence in such a position. This growth was situated on the outer aspect of the forearm of a woman aged forty-five years. It measured about an inch in long diameter and had existed for over a year. Vertical sections showed reticular downgrowths of cells from the rete mucosum, having the typical structure of rodent ulcer as met with on the face. Cell nests were practically absent and the corneous layer took no part in the downgrowth. Mr. Hutchinson, Jr., said he had seen a typical case in the groin also, and thought its occurrence in other parts of the body than the head and neck not so rare as supposed. Dr. A. A. Kanthack said that, in deciding the position from which rodent ulcer started, the growth should be examined before any ulceration had taken place. When examined early enough the rete mucosum is always found normal; the sweat glands are unaffected, but the sebaceous follicles disappear. Mr. A. A. Bowlby agreed with this view.

Mr. W. G. Spencer thought that a slow-growing epithelioma presented much the same characters as a rodent ulcer.

Mr. James Berry said he had examined many cases of rodent ulcer and in all of them the growth had begun below the rete mucosum. He had seen one case in which the growth occurred in the groin.

Mr. H. T. Butlin said that one distinctive feature of a rodent ulcer was the scarring over the surface which took place, the structure of the rodent ulcer being demonstrable below the skin; this never occurred in epithelioma. Mr. Shattock said that the finding of cell nests definitely proved that a growth was not a rodent ulcer.

Mr. J. Hutchinson, Jr., also showed a series of sections of adeno-chondroma of the left submaxillary gland in a young man who, nearly two years later, was free from any recurrence. The innocent nature of these tumors has been proved in a considerable number of cases.

Dr. Rolleston showed a specimen of extensive tuberculous disease of the thyroid gland. There were caseous areas through the gland which were of the normal size. In the left lobe the caseous material had softened down and formed an abscess, which had discharged into the upper part of the œsophagus on the left side. The lymphatic glands around the innominate artery were caseous and had softened down, and the resulting abscess had tracked up into the neck and opened into the œsophagus by several sinuses, the highest and largest being nearly opposite that of the tuberculous abscess in the left lobe of the thyroid body. Half an inch below these roughly symmetrical openings the œsophagus showed slight cicatricial contractions. The rarity of tubercles in the thyroid gland and the extreme rarity of large tuberculous abscesses were mentioned in the conversation that followed, and it was stated that no specimen existed in the museum of any London hospital.

Dr. H. H. Tooth described under the name of multiple bronchiolectasis the appearance of the lung of a boy, aged eighteen months, which was found to be riddled with small cavities from one-sixteenth of an inch to a quarter of an inch in diameter, smooth-

walled and containing only air. They were probably dilated bronchioles, a sequence of peribronchial inflammatory processes. Dr. Norman Moore said that similar cavities were seen in children who had died of whooping-cough.

Dr. A. A. Kanthack and Mr. E. H. Shaw read a paper on the use of formalin in the preservation of museum specimens. Excellent results had been obtained in preserving eyes. Some specimens were shown which had preserved their original color most excellently, among them a broncho-pneumonic lung and a granular kidney, both of which had all the appearances of fresh specimens.

Dr. Rolleston showed specimens of secondary poly-poid sarcomatous (melanotic) tumors in the mucosa of the small intestine.

Favell, of Sheffield, died on the 31st ult., aged sixty-four years. He had been invalided by heart disease for some time and a change for the worse was rapidly fatal. William Fisher Favell was consulting surgeon to the Sheffield Infirmary, having been surgeon to it for above thirty years. He was also president of the medical school and vice-president of the college which is to be connected with Victoria University. He was a justice of the peace and an important supporter of all local movements for the benefit of the poor. In 1876 he delivered the address in surgery at the meeting of the British Medical Association. On his retirement from the infirmary in 1893 there was a manifestation of the esteem in which he was held. It was proposed to place his portrait in the institution and £1,000 was raised in a very short time to secure the services of a first-rate artist. Mr. Shannon was selected and his portrait pronounced excellent, and a replica was presented to Mr. Favell's only daughter.

Mr. Thomas Chambers, of Sydney, N. S. W., who died at the end of August, was well known in London, where he achieved considerable success as a gynecologist. It was with regret his friends learned in 1882 that his health was so broken that he had determined to seek a better climate. Tom Chambers, as we familiarly called him, accordingly went to Australia, and there, too, he achieved success in the same specialty. An attack of bronchitis terminated his successful career. He leaves a widow and six sons.

Dr. Henry Trimen, who became director of the Royal Botanic Gardens in Ceylon sixteen years ago, died there on the 16th ult. His "Flora of Ceylon," of which three volumes have appeared, is a masterly production, but he has not lived to complete it. His joint work with the late Professor Bentley on "Medicinal Plants" may be better known to your readers.

The name of Morris, of Spalding, was a prominent one for many years. He was surgeon to the infirmary and held many local public offices. He practised at Spalding for fifty years, retiring in 1890. He died lately, aged eighty-one years. Dr. Morris was author of a work on "Neuralgia" and one on "Shock in Railway Accidents," besides contributions to the journals. He was M.D. of St. Andrew's and F.R.C.S. Eng.

Deputy Inspector-General Francis Robert Waring died on the 31st ult., at the advanced age of eighty-seven years.

THE CONTAGIOUSNESS OF PULMONARY PHTHISIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A little common sense cannot fail to meet with your approval, and I therefore venture to address a few words to you.

The notices in street cars prohibiting spitting are

treated with contempt, and are consequently valueless. In spite of this fact, our health authorities in this city of Buffalo are anxious to prohibit expectoration upon the streets, except in the gutter—or, rather, in what is called a gutter. The intention is, of course, good, since spitting is a most objectionable habit, for which there is no excuse. But the regulation could not be carried out in practice, and would not be of any importance if it could. The streets of Buffalo are chiefly asphalt; the portion of the asphalt next the sidewalk is quite as dry as the centre of the road, and men are employed to collect the dust and dirt in heaps. If there were a gutter containing water, the case would be different; but, as it is, the accumulations are dry and are being continually stirred up.

Suggestion No. 1: Let us cease to try to make laws or regulations which cannot be enforced, and which would be valueless if they could.

Spitting upon the streets or in public places is virtually unknown in Great Britain. So disgusting is the practice considered that cuspidors are not mentioned in decent society, and consumptives, I fear, very often swallow their sputum or expectorate into their handkerchiefs. Pulmonary phthisis is a disease as old as medical science itself, and the extreme contagionist who has persuaded himself that it can be conquered by such a simple process as taking care of the sputa of its victims is deceiving himself, because he is only taking one source of contagion into consideration. Nor is this all. It is the fashion in this country to laugh at the idea of a tuberculous diathesis, without which nobody ever succumbs to tuberculosis. But no writer whose work I have been able to consult denies its existence, and Koch specially recognizes it. The words of Dr. Flick, of Philadelphia, the most extreme contagionist in America—or anywhere else, I hope—are: "Persons who have healthy stomachs, and who do not overburden them, and who take sufficient exercise in a pure atmosphere to secure them a free circulation of well-oxygenized blood, will not contract tuberculosis, no difference what the exposure."

Suggestion No. 2: Let us cease talking about the "extreme contagiousness" of consumption, for it is not contagious in the sense in which a zymotic fever is. Paterfamilias has been so frightened that he is liable at any moment to protest against hospitals for consumptives being erected within city lines! One word more. There is great difference of opinion as to the contagiousness of this terrible disorder. I can give the names of a small army of German and English writers who are opposed to the contagion doctrine; and the report of the committee of the British Medical Association throws serious doubt upon the accuracy of the opinions of the extremists. About ten years since, Koch remarked that American interpretation of his views was "perfectly ridiculous." The opinions of Williams, James, Powell, Wilson-Fox (English), Dettweiler, Brehmer, Spinna, and Aufrecht (German)—all recent writers and men of great experience—seem to be that "the degree to which contagion ordinarily extends is singularly small."

We do not know how nature works. The genesis of a disease is not the same thing as the artificial transplantation of it, although every contagion enthusiast appears to believe that it is. This subject cannot be discussed in a letter.

Finally, Suggestion No. 3: Let us cease to talk or write about what we have accomplished, for we have accomplished very little. Phthisis has been on the decrease for about forty years in Boston, for about thirty years in Philadelphia, for about seventy years in New York, and for about seventy-six years in London. This decrease has been due to the process of natural selection, and to nothing else. I have not been able to discover any place in which there has been an ap-

preciably increased rate of decrease since the revival of the contagion doctrine in 1882. The real decrease of tuberculosis will come when persons of the phthisical type are sufficiently educated to realize that they ought not to marry. In the mean time, the few who are saved from the bacillus tuberculosis appear to succumb to other pulmonary complaints.

I cannot imagine any habit that is more offensive than the American practice of spitting—unless it is the American habit of swearing. But I submit, with great respect, that the educational process alone will prevent it, and that, as a source of tuberculous contagion, it is being exaggerated beyond all reason, while little is being attempted to reduce the consumption of the milk of tuberculous cattle.

LAWRENCE IRWELL, M.A., B.C.L. Oxon.

BUFFALO, N. Y., November 16, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 28, 1896:

	Cases.	Deaths.
Tuberculosis.....	142	88
Typhoid fever.....	31	10
Scarlet fever.....	121	12
Cerebro-spinal meningitis.....	3	4
Measles.....	92	0
Diphtheria.....	215	30
Small-pox.....	0	0

Onions are popularly supposed to have a decided effect in preventing scarlatina and diphtheria, besides being generally healthful, inducing sleep and keeping away worms. It would really seem that the fragrance of the fruit should have power in at least a few of these directions.

Cardiac Movements.—Professor Benedikt has recently found that thin layers of blood cast so deep a shadow with the x-rays that during systole the apex can be seen approaching the base. During systole the heart is not wholly emptied, as the shadow shows. During deep inspiration the heart is drawn away from the diaphragm.

Professional Contagion of Cancer.—Dr. Guernonprez, of Lisle, has communicated to the Paris Academy of Medicine two cases in which the contagion of cancer appeared to be quite probable. The first instance relates to a physician suffering from a cancerous ulceration, whose starting-point was in an acne pustule. This physician had no cancerous antecedents, but had the habit of scratching his face. As he had several women affected with uterine cancer under his care, and as he was somewhat negligent in the matter of asepsis, it is believed that an inoculation took place in this manner. The second case relates to Dr. Guernonprez himself. He was operating on an epithelioma of the face and his index finger was in the patient's mouth, when his nail was suddenly turned back violently by a movement on the part of the patient. Following this a papilloma occurred under the nail, and resisted for nineteen months all forms of cauterization.—*New York Therapeutic Review*.

Anæsthesia during Sleep.—It does seem to me that chloroform may be administered during normal sleep, to the degree of perfect anæsthesia, without arousing the sleeper, more frequently than we generally believe.—ISRAEL CLEAVER.

I operated upon a little girl, who had been run over

by a trolley car. We went to the house at 10 P.M., and found the child asleep. We gave chloroform and amputated two toes. The child awoke later and knew nothing about the operation.—LONGAKER.

One element of danger is that in many persons during sleep the vitality is at much lower ebb than during waking hours, and a fatal termination might result.—BURR.

Cocaine Dangers.—A recent death under cocaine anæsthesia in a physician's operating-room is a warning of the dangers of this most useful drug. Only qualified and responsible persons should prescribe or apply the remedy.

A Cycle Saddle has been introduced in England, which provides complete bifurcation with an adjustable interval to suit individual requirements, and takes all pressure from the perineum. A really good saddle is greatly to be desired, and physicians will welcome one which obviates the danger of undue pressure.

The Plague in India.—Views differ as to the origin and nature of the plague as it has developed at Bombay. On the one hand, it is ascribed to a specific germ, disseminated by clothing, merchandise, etc., and encouraged by filth; while on the other it is attributed to the use of poisonous grain. Overcrowding, foul air, sewage-soaked soil, and defective drainage would appear to influence its spread more than contagion from person to person, according to latest reports from the infected districts.

Cocaine Anæsthesia.—In an address commemorating the introduction of ether, delivered by Dr. Roswell Park at the University of Buffalo, the following tribute was made to the discoverer of cocaine, which is worthy of reproduction: "I will spend no further time upon the subject, save to do justice to modern anæsthesia by a very different method and by means of a very different drug, which is to-day in so common use that we almost forget to mention the man to whom we owe it. I allude to cocaine and its discoverer, Koller. Cocaine is now such a universally recognized local anæsthetic that there is the best of reason for referring to it here—the more so because it affords another opportunity to do honor to a discoverer, who has rendered a most important service to not only our profession, but to the world in general. The principal active constituent of coca leaves was discovered about 1860 by Niemann, and called by him cocaine. It is an alkaloid which combines with various acids in the formation of salts. It has the quality of benumbing raw and mucous surfaces, for which purpose it was applied first in 1862 by Schroff, and in 1868 by Moreno. In 1880 Van Aurap hinted that this property might some day be utilized. Karl Koller logically concluded from what was known about it that this anæsthetic property could be taken advantage of for work about the eye, and made a series of experiments upon the lower animals, by which he established its efficiency and made a brilliant discovery. He reported his experiments to the congress of German oculists, at Heidelberg, in 1884. News of this was transmitted with great rapidity, and within a few weeks the substance was used all over the world. Its use spread rapidly to other branches of surgery, and cocaine local anæsthesia became quickly an accomplished fact. More time was required to point out its disagreeable possibilities, its toxic properties, and the like; but it now has an assured and most important place among anæsthetic agents, and has been of the greatest use to probably ten per cent. of the civilized world. To Koller is entirely due the credit of establishing its remarkable properties. Had he patented his discovery he would have been vastly richer in pocket, though poorer in fame, than at present. He is now estab-

lished in New York, where he enjoys a modest competency, but is by no means in receipt of the income which is properly his due from the world at large. To a man who has been the means of relieving so much pain as Karl Koller, no amount of pecuniary return is too great."

Foreign Clinics.—But what I do wish to emphasize is the undoubted fact that we can find as good a clinic of any given kind in such cities as New York or Chicago as anywhere in the world. And so far as hospitals are concerned, I must say, to put it mildly, I am very proud of our own.—BOYES, *Vienna Letter*.

The Female Intestine is five feet and three inches shorter than that of the male.—BYRON ROBINSON.

Treatment of Flatulence.—Dr. Stephen McKenzie states that a certain amount of air is swallowed in the process of mastication and deglutition, but this has never produced any of the phenomena associated with flatulence. This condition is also attributed to fermentation occurring in the stomach, but he does not believe the gas of flatulence is the result of food fermentation, for fermentative processes are too slow for the rapid development of the flatulence observed in dyspepsia. Sir William Roberts has shown that a certain amount of flatulence may occur in acid dyspepsia through the action of an acid mucus upon the alkaline saliva swallowed with the food; but this is certainly a rare and minor cause in the production of gas. The regurgitation of carbonic-acid gas from the duodenum may sometimes occur and cause a flatulent distention of the stomach, but this is also a rare phenomenon and occurs only when the gastric juice is hyperacid. The writer, after discussing other theories, concludes that flatulent dyspepsia is due to a lack of gastric tonicities. In other words, the wall of the stomach being weak, flabby, and lacking in tone, suddenly dilates, and a volume of gas which was before somewhat compressed expands and fills out the enlarged viscus. The gas does not increase in quantity in the stomach, but only in volume. Associated with this gastric atony and perhaps dilatation, there is often a slight catarrhal condition of the stomach which lessens the power of normal gastric digestion and helps also to weaken the walls of the stomach. The most important thing in the treatment of flatulent dyspepsia is to use remedies which will increase the nervous vigor; hence tonics, and especially nerve tonics, are of the greatest importance. Nux vomica and strychnine should be placed at the head of the list. When there is gastritis associated with flatulent dyspepsia, with a coated tongue, the author gives bicarbonate of soda, strychnine, and spirit of chloroform, dissolved in a bitter infusion of calumba or gentian; two ounces three times a day, between meals. If pain is associated with the flatulence, bismuth is added to the mixture, or a pill containing carboic acid, valerianate of zinc, and alum is given. The compound asafœtida pill and the extract of belladonna are sometimes useful. In cases in which pain is located lower in the bowels, Indian hemp in doses of one-third of a grain often answers better than any other remedy. For the violent spasmodic attacks which these sufferers often have, associated with distention of the stomach and intestines, a mixture is given composed of equal parts of spirit of cajuput, aromatic spirit of ammonia, and spirit of chloroform: a teaspoonful in a wineglass of water every half or quarter of an hour. The writer does not believe in the use of charcoal in flatulence, nor does he place great stress on the value of bismuth. The purpose of his paper is, he says, to urge the importance of tonics and antispasmodics as the rational and effective treatment of flatulence by improving the muscular tone of the stomach.—*Practitioner*.

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THE RADICAL TREATMENT OF PROSTATIC ENLARGEMENT BY PROSTATECTOMY.¹

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PROSTATIC enlargement is purely a local affection. Its consequences are due primarily to the obstruction which it offers to the outflow of urine. Treatment becomes necessary when it begins to interfere with the function of the bladder. The prostate may attain a very considerable increase in size without causing any symptoms of note, and it is certain that in at least one-half of all those cases in which the prostate is enlarged no treatment is required. In these cases the obstruction is so slight, and the muscular power of the bladder is so good, that the patient remains unconscious of the enlargement. Whenever, however, the enlargement begins to interfere with the functions of the bladder, when there is sufficient obstruction to prevent this viscus from emptying itself and to weaken its expulsive power, treatment becomes a necessity. The more promptly such a condition is recognized and treatment begun, the better for the patient's future comfort and safety. Delay is dangerous. The bladder and kidneys are threatened, and unless the obstruction is relieved promptly these organs must inevitably suffer.

The choice of treatment lies between the habitual use of a catheter for the remainder of the patient's life, or the complete removal of the obstruction; and, when neither of these is possible, the establishment and maintenance of an artificial channel through which the urine may pass.

It should be stated at the outset that, in the ordinary cases of prostatic enlargement of however long standing, in which the obstruction is not great and the power of the bladder is fair, in which there is not an excessive amount of residual urine, in which catheterism is easy and painless, and in which cystitis, if it exists, is not severe and can be controlled by aseptic washings and regular catheterism, operative treatment is not indicated.

The value of regular, careful aseptic catheterism, as a palliative measure in the treatment of many cases of prostatic enlargement, cannot be too highly estimated. There are many individuals who have prostatic enlargement who live in a fair degree of comfort for many years—often for the rest of their lives—by the more or less frequent passing of a catheter and by following strictly a proper course of treatment. There are many others, however, who either cannot or will not use the catheter; and still others to whom, in spite of all precautions, catheterism gives little or no relief. In these patients the symptoms continue, more or less rapidly, to grow worse. The expulsive power of the bladder grows less and less, the quantity of residual urine gradually increases,

the irritability of the bladder and prostatic urethra also increases, the introduction of the catheter becomes more and more difficult, cystitis of a severe type intervenes, and the condition of the patient becomes most pitiable. But the value of catheterism in the treatment of prostatic enlargement depends largely upon the care with which its details are carried out. Catheterism and vesical washing, when properly done, are a valuable means of treatment; unskilful and uncleanly catheterism is the active cause of many of the unfortunate complications of enlarged prostate.

There are certain patients who have a peculiar immunity from infection, who may disregard all established rules of cleanliness, and who may continue for long periods to use a dirty catheter without infecting the bladder. These cases are exceptional. There are also patients whose bladders easily become infected at the beginning of catheter life, but who may, later on, acquire a certain degree of immunity, so that some of the aseptic precautions which were at first necessary to prevent cystitis may be given up. But in most prostatics the bladder is liable to become infected at any time, from causes seemingly slight, so that it is never safe to neglect the precautions necessary to prevent this accident.

It follows, therefore, that if catheterism is to be of service, the patient should be of sufficient intelligence to understand the necessity for the precautions taken to prevent infection, should have sufficient manual dexterity properly to use the catheter, and should be so situated that the necessary precautions in using the catheter can be thoroughly and invariably carried out.

But there are many cases in which, even under the most favorable circumstances, catheterism fails to give relief, owing to the character and conformation of the enlarged prostate and the obstruction which it offers to micturition. In these cases catheterism may seem to act admirably for a time, the symptoms are relieved, and all goes well; but sooner or later the disease becomes rebellious, and palliative treatment is undoubtedly a failure. This should be early recognized, and, before it is too late, radical treatment should be employed.

The conditions that demand operative treatment for prostatic enlargement may be summarized as follows:

1st. When there is complete, or almost complete, retention of urine, due to prostatic outgrowths about the internal urethral orifice or projecting into the prostatic urethra, making the patient entirely dependent at all times upon the use of his catheter. The consequences cannot be doubtful in such cases, and operation affords the only means of averting fatal disaster.

2d. When there is marked and continuous vesical irritability, due to intravesical outgrowths, which cannot be allayed by the most careful catheterism and washing of the bladder. These patients usually suffer from frequent attacks of hæmaturia, and cystitis, when it develops, is usually severe.

3d. When, in spite of careful catheterism, the amount of residual urine is steadily and surely increasing, showing a gradual failure of expulsive force in the bladder.

¹ Read in a discussion before the New York State Medical Association, on October 16, 1896.

4th. When catheterism is becoming more and more difficult, in spite of all precaution, and when it is frequently followed by hemorrhages.

5th. When catheterism, in spite of all precaution, is frequently followed by attacks of cystitis.

6th. In cases of long-continued vesical inflammation which do not yield to treatment.

7th. In cases in which the patients cannot or will not use a catheter and take the necessary aseptic precautions to make its use of value.

In a word, it may be stated that catheterism, with all that the term implies in the treatment of prostatic enlargement, should be employed in all cases until it fails to give relief; but that when it fails, and the integrity of the bladder and kidneys is threatened, we should resort to operative treatment before these organs have become hopelessly damaged.

The question is then presented: What operations may be performed for the permanent cure of prostatic enlargement?

In the first place, I believe that any operations designed for the permanent relief of prostatic enlargement should fulfil the following conditions:

1st. The obstruction should be thoroughly and immediately removed.

2d. As little damage should be done to the mucous membrane of the bladder and prostatic urethra as possible.

3d. Efficient drainage of the bladder should be established.

In order that the relief shall be permanent, it is necessary not only to remove the portions of the prostate which are causing obstruction at the time of operation, but also all those portions which, if they be left, may cause obstruction by their progressive enlargement. If this proposition is true, then any operation that does not take away all portions of the prostate that are enlarged cannot be regarded as a radical operation. This I believe to be a sound position, in spite of the opinion of those who claim that only portions of the prostate should be removed, and that the danger of the operation depends largely upon the amount of tissue removed. Many of the failures to give permanent relief by prostatectomy operations, and the relapses which have occurred after the removal of portions of the enlarged prostate are, without doubt, due to the removal of an insufficient amount of the enlarged gland.

The only prostatectomy operations which fulfil these conditions are those devised by McGill, Belfield, Nicoll, and Alexander. McGill's operation is that which is usually performed at the present day. In this operation, the bladder is opened above the pubes. The mucous membrane covering the projecting portions of the prostate is cut through by scissors, and the obstructing portions are removed, partly by enucleation with the finger, partly by cutting with forceps. E. Fuller, of this city, has modified the technique of this operation by making a comparatively small opening in the mucous membrane and enucleating through this the prostatic growths with the finger. McGill drains the bladder through the suprapubic opening. Fuller, following Keyes and Belfield, opens the membranous portion of the urethra and drains through the perineum.

In cases of prostatic enlargement in which the lateral lobes are principally enlarged, it is sometimes extremely difficult to remove these by the suprapubic incision, and it was mainly to meet these cases that Belfield first employed the combined perineal and suprapubic incision. By passing the finger into the prostatic urethra through the opening in the perineum, he was able to bring the lateral lobes within reach of the finger passed into the bladder through the suprapubic opening.

Although these operations, in the hands of skilful surgeons, have given gratifying results, and as experience is gained the death rate will undoubtedly be lowered still further than it has been, there are certain objections to the suprapubic method.

The chief of these are:

1st. That the mucous membrane of the bladder and that of the prostatic urethra are cut through and more or less torn and bruised.

2d. That the hemorrhage is frequently severe, and requires packing of the wound to control it.

3d. Another and still more vital objection to these methods is that, after prostatic obstruction is removed, a cavity is left which is freely accessible to the urine. In this the urine collects, and, as this is often foul in the cases operated upon, there is great danger of septic infection. Nor can this cavity from which the prostate has been removed be efficiently drained. Suprapubic drainage alone is entirely inefficient, and even when perineal drainage is employed the tube, in order properly to drain the bladder, must be placed above the level of this cavity.

To overcome these objections, Nicoll's operation and my own operation were devised. Since the publication of our respective methods, in 1894, several writers have confounded the two operations, which are essentially different in their technique. In order to correct this misapprehension, I shall give a description of my own method, and then call attention to the points of difference between it and that devised by Dr. Nicoll.

Alexander's Method.—The patient is prepared, when possible, by giving a cathartic the night before the operation, and by emptying the lower bowel by a large enema the following morning. The bladder is washed immediately before the operation with a solution of nitrate of silver (1 to 6,000). The patient being anæsthetized, the bladder is emptied by catheter, and is then distended with borax solution, from eight to ten ounces being sufficient in most cases to bring the organ well above the pubes. I have discarded the use of a rectal bag. The bladder is then exposed by vertical incision between the recti muscles, and two retraction sutures are introduced through its wall. Between these an opening is made into the bladder, large enough to allow the operator to insert two fingers. The bladder and the projecting portions of the prostate can now be examined thoroughly.

The suprapubic opening is then covered with gauze, and the patient placed in the lithotomy posture. A broad median-grooved staff is passed into the bladder through the urethra and held by an assistant. The membranous urethra is then opened by a median perineal section, the floor of the urethra being thoroughly cut from just behind the bulb back to the apex of the prostate. This must be done thoroughly. The staff is then withdrawn and the gauze removed from the suprapubic wound. The surgeon now washes and disinfects his hands. Two fingers of the left hand are then passed into the bladder through the suprapubic wound, and by these the prostate is pressed downward into the perineum. With the forefinger of the right hand the surgeon begins the enucleation, which is performed entirely through the perineal opening. The fibrous sheath of the prostate covering its posterior and inferior surface is broken into by the finger, and the capsule entered; the entire prostate is shelled out from within its sheath by digital dissection. The inferior and posterior surfaces of the prostate should be first separated from the capsule. The mucous membrane of the bladder and prostatic urethra covering the enlargement, with the underlying muscular tissue, is stripped up from the part to be removed, but is not opened. The lateral lobes are first removed, after which, if there is a middle enlargement or a projecting

tumor or tumors, these can be pressed downward into the perineal wound and enucleated in the same manner. During the enucleation the prostate can be drawn down into the perineum by forceps, and for this purpose I use an ordinary ring sponge holder with a strong lock in the handle.

After the removal of all the prostatic growths, the lower wound is flushed with a 1 to 5,000 bichloride solution, a perineal tube is inserted into the bladder, and a rubber drainage tube of moderate size is placed in the bladder above the pubes. The retraction sutures are removed, and the bladder is allowed to drop back behind the pubes. The upper part of the suprapubic wound is then closed by sutures, and a dressing of gauze pads applied, which is perforated to permit the drainage tube to pass.

The after-treatment consists in daily washings of the bladder, the fluid being injected into the suprapubic tube. All urine flows out of the perineal tube. The upper tube is removed on the fourth day, and the lower tube three days later, after which the bladder is washed by catheter through the perineum for a few days. A full-sized sound is passed at the end of the second week, and then every five days until the perineal opening closes. Both wounds have usually healed in the course of five weeks.

If this description be compared with that of Dr. Nicoll's method, published in *The Lancet*, April 14, 1894, it will be seen that the two methods are essentially different. In each, the combined suprapubic and perineal incision is made, and the prostate is enucleated through the perineal wound, the suprapubic incision being used for the purpose of pressing the prostate into the perineum with the fingers, and thus facilitating its removal. In neither operation is the mucous membrane of the bladder or that of the prostatic urethra injured. But Dr. Nicoll exposes the prostate by a rather elaborate dissection, stripping the rectum away from its under surface; while in my operation a simple perineal section is made. Dr. Nicoll does not open the urethra, but drains the bladder by means of a catheter passed through the urethra; while I open the membranous portion of the urethra for the purpose of securing vesical drainage through the perineal wound. For the purposes of enucleation, Dr. Nicoll recommends, in difficult cases, the use of a blunt periosteum elevator and specially designed scissors and cutting forceps.¹ In the operations which I have done, the enucleation has been performed entirely with the finger. Dr. Nicoll packs the perineal wound and cavity, left after the removal of the prostate, with iodoform gauze. I simply allow the cavity to drain into the perineal wound, and keep it sweet and clean by frequent flushings with a mild antiseptic solution.

Dr. Nicoll's operation is certainly to be commended, and has been, I believe, eminently satisfactory in his hands. I have not personally performed it upon a living subject, but upon the cadaver it requires a much longer time than does my own operation. It has also the disadvantage that the bladder must be drained by a catheter tied in the urethra, a proceeding which is badly borne in most cases, and which in many becomes intolerable.

Dr. Nicoll states that in the cases operated upon by his method, up to the publication of his paper in January, 1894, he had not encountered a median projection of the prostate, the obstruction in his cases being due entirely to the enlargement of the lateral lobes. He recommends that when a median enlargement is present, it should be left at the time of the operation and removed some days later through the suprapubic opening. I can see no reason for this course, for it

seems as easy to remove such a projection through the perineum at the time of the original operation as to remove the lateral lobes. To do as Dr. Nicoll suggests is, practically, to perform McGill's operation as a secondary measure.

The operation which I have described above I first performed in January, 1894. Since then I have operated by this method in eight cases, with two deaths. The result in the six successful cases was complete restoration of voluntary micturition. The ability to empty the bladder completely was regained by all but one patient, and in this case the amount of residual urine is now only six drachms. I have removed by this method both lateral lobes entire, the lateral lobes and a median projecting mass, a lateral and median enlargement, the lateral lobes and two large projecting intravesical growths. These masses have been taken out entire. In none of these cases was the mucous membrane of the bladder or prostatic urethra cut or torn. The patients were usually confined to bed for three weeks, and both suprapubic and perineal wounds were closed in all the cases at the end of five weeks after operation. In one case in which I removed four very large masses, the patient had partial incontinence for several weeks after the wound had closed, but he subsequently gained good control over the sphincters. In none of these cases was the hemorrhage troublesome. In one of these cases the bladder contained six calculi, each about the size of a chestnut. In another about fifty small prostatic calculi were removed, together with the prostate. In all the cases the expulsive power of the bladder was greatly lessened at the time of operation; in most of the cases there was complete vesical atony. In one of the cases the bladder wall was greatly thickened and the mucous surface was markedly trabeculated. In all the cases but one the entire prostate was shelled out from its capsule. In the first operation performed by this method, the prostate was enucleated piecemeal; in all of the others, it was taken out in large masses.

The advantages I have claimed for this method of operation are:

1. The entire prostate is thoroughly and immediately removed by enucleation.
2. The mucous membrane of the bladder and prostatic urethra is uninjured, and the danger from septic absorption is thereby lessened.
3. Hemorrhage is reduced to a minimum.
4. The most efficient and thorough drainage is secured.
5. The time required by practised hands to perform the operation is comparatively short.

The Fatal Cases.—CASE I.—L—, aged fifty-eight years. Patient had been a hard drinker. History of prostatic obstruction for several years, frequent attacks of retention. On admission to Bellevue Hospital, patient could pass a very little urine voluntarily. He had great frequency and some overflow. The urine was ammoniacal, loaded with pus and blood: specific gravity, 1.018; twenty-five per cent. by bulk of albumin; hyaline and a few granular casts. He had a mitral regurgitant murmur, and a general atheromatous condition of the blood-vessels. A catheter was passed, and the bladder emptied and washed. Catheterism was difficult and produced hemorrhage.

Operation, September 30, 1895: Two large lateral lobes and a median enlargement were removed without much difficulty. Patient appeared to do well until October 2d, when he developed a pneumonia, urine became scanty, the perineal wound sloughed, and a small fistula formed between the rectum and the perineal wound. He died two days later. There was entire suppression of urine during the last twelve hours. The patient was operated on only as a last resort, and his death was not a surprise. This case is an exam-

¹ Letter in *Journal of Cutaneous and Genito-Urinary Diseases*, August, 1895.

ple of those in which operative measures are employed too late. I should prefer, with my present experience, to use vesical drainage in a similar case, rather than prostatectomy.

CASE II.—M—, aged sixty-four years. Patient a hard drinker; had several attacks of renal colic pre-

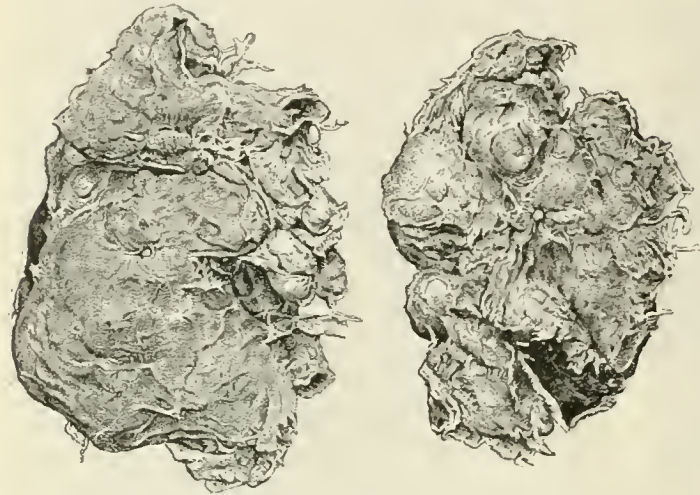


FIG. 1.—Both Lateral Lobes Removed from Case III. (exact size).

vious to his fortieth year. One year after his last attack he passed three calculi by the urethra. History of frequent micturition for several years. Five or six months prior to admission he began to have the acute symptoms for which he now sought relief. He had burning pain, especially severe after micturition, great frequency and urgency, which were increased by jolting. The stream of urine was feeble, and was suddenly arrested. He had never passed blood. Urine: specific gravity, 1.010; small amount of albumin and large amount of pus. A microscopical examination showed many blood cells; no casts. Rectal and urethral examination showed a moderate enlargement of both lateral lobes and a projecting median portion. The amount of residual urine was about five ounces. Examination of the bladder by searcher showed a number of calculi.

Suprapubic cystotomy performed, April 20, 1895, under ether anæsthesia. Six calculi, each about the size of a chestnut, were removed. Digital examination of the bladder showed that the prostatic enlargement formed a thick ring or collar about the vesical orifice, making thereby a very deep *bas-fond* behind the prostate. A perineal incision was made, and the entire prostate removed through the lower opening. Patient rallied well from the operation, but upon the second day developed uræmic symptoms, with almost complete suppression, and died April 24th, four days after operation.

The autopsy showed a general arterio-sclerosis, valves of the heart thickened, calcareous deposits in coronary arteries, lungs oedematous. Emphysema well marked, moderate bronchitis. Liver friable; weight, five pounds. A single renal calculus in pelvis of left kidney. Kidney showed chronic parenchymatous nephritis. No evidence of suppuration about the operative wounds. Mucous membrane of the bladder and prostatic urethra intact.

The Successful Cases.—CASE I.—Prostatic calculi and enlarged prostate. C. B—, aged fifty-three years, admitted to Bellevue Hospital, January, 1894. Symptoms of prostatic obstruction for over one year. Great frequency day and night. Intense tenesmus at end of act of micturition; frequent hæmaturia. Passed about one-half ounce at each act of micturition. Had never used catheter regularly. Rectal and urethral examination showed prostate rather irregular in outline, right lobe larger than the left, and small

median projection. Pressure upon the prostate caused great pain and revealed the presence of calculi in its substance, which could be rubbed together. Searcher showed presence of calculi projecting into the prostatic urethra. Residual urine about six ounces. Expulsive force of bladder fairly good. Urine showed chronic cystitis; kidneys were sound.

Operation, January 22, 1894, under ether anæsthesia. About fifty calculi and the entire prostate were removed. This being my first operation by this method, the prostate was shelled out piecemeal. The perineal tube was removed on the fifth day, as the patient complained of pain, and was reintroduced every two hours for the next twenty-four hours; the suprapubic tube was removed on the sixth day. Both wounds healed kindly. Patient passed all his urine by urethra at the end of the fourth week. He was kept under observation until March 22, 1894, when he was discharged cured. He could then empty his bladder completely, and his urethra admitted easily a No. 32 F. sound. Patient reported himself well in April, 1896.

CASE II.—E. R. B—, aged fifty-six years. Symptoms of prostatic obstruction for past six years; micturition difficult. During the past two months he had from time to time suffered from overflow. He had an attack of complete retention two years ago, after exposure to cold. This was relieved by catheter, and since then he had passed urine with greater difficulty, about every hour. Six months ago he had a second attack of retention, relieved by catheter, followed by severe cystitis. He had used a catheter since then every four hours, with little relief. Patient, when first seen by me, had complete retention—his third attack. Prostate was uniformly enlarged in the lateral lobes, and was rather tender. Coudé catheter passed with some difficulty; sixteen ounces of urine withdrawn. For two weeks patient was regularly catheterized and bladder treated. The residual urine, after voluntary micturition was restored, was nearly eight ounces. He absolutely refused to follow out directions as to catheterism and washing, and demanded an operation. This was performed by me early in February, 1894. Tubes removed on the fourth and sixth days respectively. Wounds healed kindly, and were completely closed by the fifth week. Patient left for his home in another State, and has since then reported that his urine remains clear and that he emp-

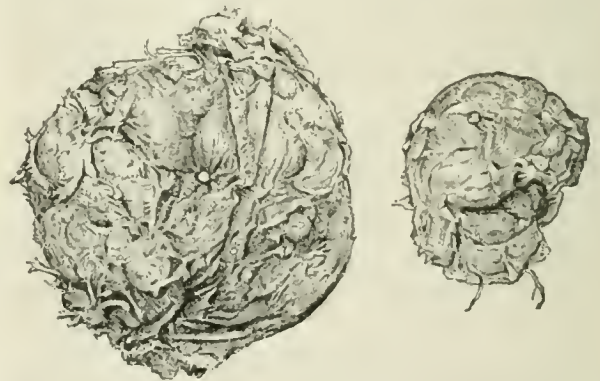


FIG. 2.—Lateral and Median Enlargement Removed from Case IV. (exact size).

ties his bladder completely. In this case, both lateral lobes were removed entire.

CASE III.—J. F—, aged sixty-six years. Prostatic symptoms dated back twelve years, when he began to have frequency. He had used a catheter every four hours for the past six years, and had washed his bladder once daily with various aseptic solutions. Six

months ago he had complete retention, and since then had suffered with severe cystitis. The intervals of catheterism had been becoming shorter for the past two months. He was now obliged to pass his catheter every two hours, night and day. Bladder had little expulsive force. He had eight ounces of residual urine. Rectal examination showed a smooth, rather soft enlargement of both lateral lobes. Urine: specific gravity, 1.021; alkaline, ammoniacal; thick, purulent sediment, trace of albumin, no sugar, no casts. As the patient's condition was growing very much worse, an operation was proposed and accepted.

Operation performed in October, 1895. Two large lateral masses were removed without great difficulty. The bladder was somewhat thickened. Drainage tubes removed on the sixth and tenth days respectively. Patient made an uninterrupted recovery; passed all his urine on the thirtieth day.

CASE IV.—This and the next case have been previously reported. T. O'C—, aged sixty years. Ten years ago he had a sudden attack of retention, which was relieved by catheterism; he was admitted to one of the city hospitals, and was there taught to pass a catheter, which he continued to use for several years. Three months ago he had a second attack of retention; this was also relieved by catheter. He was admitted to my service at Bellevue on February 11, 1895, with retention for the third time and considerable vesical distention and overflow. He was catheterized, and thirty-two ounces of residual urine were drawn. Rectal examination showed an enlargement of the prostate, the right and median portions being affected. The catheterism was not difficult when a Mercier instrument was used. A soft catheter could not be introduced. The bladder had no expulsive force. He was catheterized four times daily and the bladder washed once a day until March 17th. At the end of this time the patient could pass about half an ounce of urine voluntarily, there being about ten ounces of residual urine. It was found impossible to teach him to use a catheter and wash his bladder, and, as he had no facilities for performing this for himself out of the hospital, an operation was offered and accepted.

Operation, March 18th. Ether anæsthesia. A large right lobe and smaller median portion were removed through the perineal opening after enucleation without much difficulty. Bleeding slight. Bladder trabeculated and thickened. Suprapubic tube removed on sixth day. Perineal tube removed on thirteenth day. No. 32 sound passed. Suprapubic opening nearly closed. No urine escaped.

April 24th, perineal wound closed. All urine passed by urethra. At the present time he makes water every four or five hours and empties his bladder, except six drachms of residual urine.

CASE V.—James D—, aged sixty-two years; weight, two hundred and thirty-five pounds. Admitted March 26, 1895. Patient came in with a history of difficulty in passing water and great frequency, of several years' duration with a condition of acute retention of urine of twelve hours' duration. Catheterism was attempted by the house surgeon, but he was unable to pass any instrument into the bladder. After some difficulty I succeeded in passing a No. 6 E. styleted catheter, bent to an exaggerated curve, the stylet being withdrawn gradually as the catheter was introduced, so as to cause its point to override the obstruction presented by the middle portion of the prostate. Thirty-two ounces of ammoniacal bloody urine were withdrawn. Rectal examination showed an enormous prostatic tumor encroaching upon the cavity of

the bowel, the upper margin of which was well above the reach of the finger. The patient's bladder was washed and a catheter was passed by the above-described method every six hours. The urine continued to be foetid and to contain blood.

On March 28th the house surgeon again failed to make the instrument enter the bladder, and I succeeded only after a long trial. I decided to open the urethra through the perineum, as a preliminary to prostatectomy for the purpose of draining the bladder and disinfecting its cavity; I therefore, under ether anæsthesia, performed a perineal section, and attempted to dilate with my finger the prostatic urethra. I could not, however, pass my finger into the bladder, owing to the length of the prostatic portion of the urethra and the very great resistance offered by the prostatic growths. Accordingly, I simply introduced through the perineum into the bladder a No. 26 F. tube, and, having washed the bladder, secured this in place by tapes. This drainage I continued for a week; the loss of blood ceased, the urine became clearer, and the patient's condition improved. At the end of the week the perineal tube was taken out, and I then found no great difficulty in introducing through the urethra a Mercier catheter. Knowing, however, from the size of the prostate, that this improved condition would be only temporary, I decided to remove the prostate, which I did on April 11, 1895. The operation, owing to the depth of the perineum, was



FIG. 3.—Lateral and Median Enlargement Removed from Fatal Case II. (exact size).

difficult to perform. I succeeded, however, in removing the entire enlargement—two large lateral lobes and two large median tumors—without injury to the bladder or prostatic urethra. The tubes were removed on the tenth and sixteenth days respectively. The wounds healed slowly, but both were entirely healed at the end of the fifth week. The patient at first had almost complete incontinence, but now has control over his sphincter, and empties his bladder completely.

CASE VI.—O. D. H—, aged sixty-five years. Symptoms of prostatic enlargement for fifteen years. Had had retention, with overflow, for past two years, and had had to depend entirely upon his catheter for relief. His urethra was extremely sensitive, and catheterism was always followed by hemorrhage. He was obliged to pass the catheter every two hours, night and day, and these intervals were rapidly becoming shorter. He had a symmetrical enlargement of both lateral lobes, which projected far up into the bladder. He was put to bed, and an attempt made for a week to institute more perfect aseptic catheterism, but, as his symptoms showed no signs of improvement, I proposed an operation, which was accepted, and this was performed in September, 1895.

Two large lateral lobes were removed without difficulty. The drainage tubes were removed on the fourth and sixth days respectively. The patient entirely emptied his bladder on the thirty-fifth day. He re-

turned to his home, and I have not heard from him since his departure.

Prostatectomy, when it is performed before the kidneys have become seriously diseased, does not, I believe, involve much more risk than a suprapubic cystotomy for the relief of other conditions. The perineal incision does not increase the risk. In cases of advanced prostatic disease, however, when the bladder is the seat of severe cystitis, when the kidneys are seriously crippled, especially when pyelo-nephritis is present, the dangers of prostatectomy are greatly increased, as the principal cause of death after prostatectomy is failure of the kidneys to perform their function. In these cases I believe that it is better surgery to open the membranous urethra as a preliminary measure, and to

drain the bladder by a large catheter or tube introduced through the perineum; and later, when the conditions are more favorable, to do a prostatectomy. This course was pursued with good results in one of the cases which I have reported. The value of vesical drainage in cases of advanced prostatic enlargement is very great, and in these cases, unless the object of the operation be to make a permanent fistula, I prefer perineal to suprapubic drainage. In many cases in which catheterism has become difficult, especially if due to outgrowths from the lateral lobes into the prostatic urethra, dilatation of the latter by introducing the

finger through a perineal opening and drainage of the bladder make the introduction of a catheter comparatively easy for a time. This effect, however, is only temporary, and sooner or later these cases relapse unless the prostate is removed. I do not believe that prostatectomy should be performed during a period of acute congestion. It is better to wait until the congestion has subsided, as a result of careful catheterism, or, if this fails, to drain the bladder through the perineum for a few days, before deciding whether a more radical operation will be required. It may be stated, further, that an operation upon a highly congested prostate is certain to be accompanied by much more severe hemorrhage.

The question of relapse after prostatectomy is one deserving some consideration. If the operation has been thoroughly and skilfully performed and the entire prostate has been removed, it can be positively stated that no obstruction can occur in the future. If the prostate is only partially removed, return of the obstruction by progressive enlargement of the portion remaining is possible, and such cases have been reported.

Another question which requires careful consideration is: To what extent will the bladder regain its

power after prostatectomy? This cannot be positively answered in all cases. Cases have been reported in which the operation was performed after the bladder muscles had undergone structural change as the result of severe and prolonged cystitis and obstruction, and in these voluntary micturition was not restored by prostatectomy. My own experience has been that, in all cases in which structural changes of a severe type have not occurred in the vesical walls, even if the bladder is completely atonied, the power of voluntary micturition can be expected in the great majority of cases if the entire obstruction be removed. Even should the bladder fail in some cases to recover its power, and the use of a catheter be necessary after prostatectomy, it will be found that the difficulties and

dangers of catheterism are far less than before the operation.

The mortality after prostatectomy is still high—about eighteen or twenty per cent. for all operators. It is gradually becoming less as the indications for the operation are better understood. The death rate of individual operators will undoubtedly continue to grow less as they become more expert in performing the operation, and the cases of relapse and failure will be much fewer as more experience is gained.

In concluding, I desire to state that prostatectomy promises to be a more satisfactory method of radical treatment than any other yet proposed, provided that the

operation is performed before the kidneys have become hopelessly diseased.

5 WEST FIFTY-EIGHTH STREET, NEW YORK CITY.



FIG. 4.—The Two Lateral Lobes and Median Enlargement, with an Intravesical Projection, Removed from Case V. (exact size).

Tetanus and Its Antitoxin.—Dr. Ferdinand Blumenthal (*Zeits. f. klin. Med.*, xxx., No. 5-6, pp. 538-549) reports two cases of tetanus in which he had an opportunity to make a few researches as to the action, localization, and chemical nature of the tetanus toxin formed within the human organism. He concludes that the tetanus toxin circulating in the human body is soluble in water containing common salt, and that it does not belong to the albumin substances. The tetanus toxin is rendered inactive by the injection of curative serum (Heilserum). The tetanus toxin is found in the spinal cord. In this location the antitoxin circulating in the organism does not render it inactive. The tetanus toxin produced in the human organism does not produce an increase of temperature in guinea-pigs, as it does in man, but, on the contrary, lowers it. There is no tetanus toxin in active concentration in the urine of tetanus patients. Urine of animals not affected with tetanus can produce tetanoid symptoms in mice and guinea-pigs.

EXPERIENCES WITH THE PHYSICAL AND SCHOTT TREATMENT OF CHRONIC HEART DISEASE.¹

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SEVEN years ago I had the pleasure of presenting to this society a paper² upon this subject. With the natural prejudice of my professional training, it was not strange that, while thinking well of the Schott treatment, the distinguished name of Oertel and his work should have impressed me somewhat more than that of Schott and his investigations. Careful studies continued since then, both at Bad Nauheim, where I had the opportunity of seeing many hundreds of cases, and at Berlin and Paris, where I put to the scientific test the physiological problems connected with this subject, have convinced me that the balneological and the Schott treatments, applied in accordance with my experience and under conditions which I will indicate, offer us far greater promise of relief in heart disease than any other method. Then, too, the scientific basis of the Oertel treatment has been much impugned, and the practical application of the same narrowed down to small limits.

Balneological Treatment.—Twenty-five years ago Beneke, professor at Marburg, determined scientifically that the saline waters of Bad Nauheim had a potent influence in relieving diseased cardiac conditions, and that it could be accepted without question that in cases of rheumatism with valvular disease, inflammatory deposits on the valves were to a large extent absorbed and the heart condition materially improved.

Despite his statements, the baths of Bad Nauheim received little recognition in this direction, and for many years the majority of patients visiting Bad Nauheim were sufferers, as a rule, from chronic rheumatism, who only sought relief from their rheumatic diathesis.

It was at this time that Dr. August Schott brought forward his "treatment by resistance exercises." He carefully went over the entire ground of the physiology of the baths, and by dint of unswerving scientific devotion and original methods of thinking so modified the manner of application of the baths as to avoid injurious effects, and by combining with these the resistance exercises, gave birth to a system, the so-called "Schott system of treatment for chronic cardiac disease."

The early death of Dr. August Schott threw upon Dr. Theodore Schott the labor of its elaboration and of its introduction to the profession.

For several years it has been a labor of love with me to stand at the side of Dr. Theo. Schott and devote my best efforts to the laying of a scientific basis for the work, and to act as an assistant in the propaganda of the system.

If my personal views differ from those expressed by any other authority upon the subject, they are those for which I alone am ready to assume complete responsibility.

Bad Nauheim, a well-drained and healthy village (distant forty minutes by railroad from Frankfort on the Main and a pleasant night's journey from Hamburg, Bremen, or Paris), contains (in addition to its several springs of drinking-water) two springs known as No. 7 and No. 12, which are used for bath purposes. The analysis of these two springs is given below, including the analysis of the mother lye (Mutterlauge), to be referred to hereafter:

ANALYSIS OF BAD NAUHEIM SPRINGS.

(Gram contents in 1,000 grams of each.)

	No. 12.	No. 7.	Mutterlauge (mother lye).
Sodium chloride.....	30.00	20.00	20.00
Ammonium chloride.....	1.00	0.50	

Calcium chloride.....	2.50	1.75	380.00
Potassium, caesium, and rubidium chloride.....	1.00	....	60.00
Calcium bicarbonate.....	2.50	2.50	5.50
Iron, magnesium, and zinc bicarbonates	1.00	1.00	
Lithium chloride.....	0.05	0.05	15.00
Magnesium chloride.....	0.50	0.50	75.00
Strontium chloride and sulphide (with baryta).....	0.05	0.05	10.00
Calcium sulphide.....	0.04	0.04	0.40
Magnesium bromide, iodide, and bi- carbonate.....	0.01	0.01	1.50

A Nauheim thermal saline bath in 500 litres of spring No. 12 (at 86° F.) contains 18.17 kgm. salts and 254 gm. = 127 lit. carbonic acid. A Nauheim thermal saline bath in 500 litres of spring No. 7 (at 86° F.) contains 13.43 kgm. salts and 571 gm. = 324 lit. carbonic acid. The Nauheim sprudel (effervescent) bath contains from three to four times the amount of carbonic acid.

It will be seen that these waters are iron waters, contain large quantities of the chlorides of sodium, lithium, calcium, and magnesium, of bicarbonate of calcium, considerable of the chlorides of caesium, rubidium, and potassium, bromide of magnesium, besides other rarer elements in appreciable quantity. The third and most important characteristic is the large quantity of carbonic acid (free and in combination) present in these waters. The Nauheim waters constitute the strongest thermal carbonated saline (ferruginous) waters of Europe. No other ferruginous bath contains more iron and carbonic acid, no known thermal saline bath contains so much carbonic acid. The fact of their being naturally warm (85° F. and 95° F.) avoids the necessity of heating them, as is done with the non-thermal saline waters, and by which the latter lose some of their elements and become changed in composition. The waters are made use of in several ways. Either they are drawn from reservoirs (in which they are stored and have lost some of their carbonic acid and have become somewhat cooler), or they are permitted to flow directly from the source in the earth through iron tubes into the bathtub itself.

The latter are called sprudel or natural effervescent baths (Sprudelbad). They are further modified by allowing the water to flow into and out of the tub by openings near the upper level of the bath; thus the tub remains full, but it is constantly replaced by a fresh supply. These are named flowing effervescent baths (Sprudelstrombad), and resemble a surf bath in some of their effects.

According as the waters are drawn from the reservoirs or directly from the earth, the temperature and amount of carbonic acid are varied similarly by mixture of the two springs, and by other usual means every desirable grade of temperature and degree of effervescence and strength of saline contents can be obtained.

The so-called mother lye (Mutterlauge) contains a nearly similar proportion of sodium chloride, but three hundred times the amount of lithium, two hundred times the amount of calcium, one hundred times the amount of magnesium, sixty times the amount of caesium, rubidium, and potassium, and two hundred times the amount of bromide of magnesium of the natural springs. It is used in quantities gradually increased of from one to three litres added to the natural spring bath, and very materially strengthens the saline contents. The mother lye is not a lye, but is the liquid residue of the waters Nos. 7-12 which is left over after the crystallizable salts are removed; it is a brown and somewhat oily liquid.

Mode of Application.—The baths are given at a temperature varying from 83° to 93° F., ordinarily. We begin at the highest temperature and recede slowly and gradually, being guided by the condition and habits of the patient, to the cooler temperature. The patient's sensations are an important guide in this direction, until we have had a large experience.

¹ Address delivered before the Academy of Medicine, New York, November 5, 1896.

² See New York MEDICAL RECORD, 1890.

The length of time of the immersion should never exceed twenty minutes, beginning with six or eight minutes, and increasing gradually. At first it is wise to interrupt or give pause on the alternate days; later two baths may be given in succession with pause on the third day. For myself, I prefer not to give three successive baths, save in exceptional cases. It is of great importance that the patient should be assisted during the bath, and even professionally watched. After the bath the patient is to be wrapped and served with warm bath towels, and the circulation of the extremities well looked to. An hour's rest (without sleep) is urgently to be recommended after each bath.

The period of time required for the entire treatment is ordinarily from four to six weeks. In cases in which the treatment must for one cause or another be interrupted, the duration may be extended over six or eight weeks. After a course of completed treatment, or after treatment for the latter length of time (even if incomplete) the patient should rest for from two to four weeks at some mountain resort, or in some quiet place. Then, in the incomplete cases, the treatment may again be taken up and completed, to be again followed by a rest after completion.

Physiological Action.—Time does not permit me as a preliminary to my work to consider the curative effect and its physiology in cases of rheumatism and gout for the relief of which conditions these waters have long held an unquestioned position.

It is not unusual, however, that sufferers from these affections, who, however, seek relief from their cardiac trouble, are obliged after a few baths to contend with what seems an acute attack or exacerbation of gout or rheumatism. In gouty cases the deposits very soon become softened and while circulating in the blood in their exit from the body, give rise to various symptoms of the disease. All these attacks are very soon recovered from, at times by the aid of a little medication.

If a patient with relaxed muscular fibre and consequent flabby heart, or a patient with diseased heart with loss of compensation, takes a saline bath at Bad Nauheim, the effects upon the patient are as follows: At first, after a few moments of immersion, there is a feeling of oppression or weight over the sternum or epigastrium. This soon disappears and the patient breathes more freely. The pulse almost invariably becomes fuller and generally slower. The arterial pressure taken of the radial or temporal arteries usually indicates slight increase, to be followed later by diminution of the same.

The capillary pulse, a subject of very recent investigation, for knowledge of which I am indebted to Dr. Max Herz, of Vienna, varies in a similar manner. An examination of the heart made before and after the bath will reveal in at least one-fourth of the cases, and particularly if it be the first bath or the first effervescent bath after a series of ordinary saline baths, an appreciable and frequently well-marked diminution in size and change of shape. In all cases, with few exceptions, this change in the heart's size and shape could be determined and appreciated after a number of baths, when it could not be noted after the single saline bath. Lest this phenomenon be wrongly ascribed to diagnostic error, or natural change of shape and size, the result of intervening time, I add that every precaution against error and self-deception was used. In the first place, I made a series of investigations to determine the changes in size and shape of the heart as the result of diurnal work, mental and physical, and as the result of changed position. No such changes in size and shape occur naturally within the period of time usually required in this examination. It is true that sometimes twenty minutes intervene between the first and second examinations, but in cases in

which the demonstration is to be made to others, eight minutes only are allowed to elapse; that is, the examination is made the instant prior to the patient's entering the bath, and again the moment the bath is ended and the patient has been only gently dried, sufficient to secure him against cold during the examination. Then, too, this change of shape and size has been shown in the presence of the most distinguished and critical of European physicians—Botkin, Rauschenbach, Pawlinski, and Von Dehn, of Russia; Broadbent, Bowles, Alexander Morison, Bezly Thorne, Gifford Ransford, and Saundby, of England; Grainger Stewart and Robertson, of Scotland; Sir Francis Cruise and Sir Philip Smyly, of Dublin, and others.

In all of my own investigations, differences of half a centimetre or under were left out of consideration, because such slight differences, if they constituted the most important ones to be relied upon, were considered within the limits of personal error.

The physical examination included the relative and absolute limits of dulness of the heart, the lower border of the lungs, the determination of the level of the diaphragm, the upper and lower limits of the liver, of the spleen when possible, and the diameter of the chest, both antero-posteriorly and laterally, besides its circumference above and below the mammary line. Occasionally the abdominal circumference was likewise taken. In the measurements which were made both before and after the bath, the pulse pressure was taken by the V. Basch sphygmomanometer, the calibre of the arteries was determined by the arteriometer, the pulse trace was taken by the Dudgeon sphygmograph, the capillary pulse by the Herz instrument—the position of the patient and the artery examined always being the same, before and after the bath.

As to the local action upon the skin, the effects in the case of the effervescent bath are much more marked, the skin as a rule being reddened and the patient having a distinct sense of warmth beyond that of the temperature of the bath. The same applies with greater force to the flowing effervescent bath. Naturally, also, after the latter (the effervescent and the flowing effervescent), the effect upon the heart and circulation is more decided.

The statement made by a Russian chemist, that the bubbles of free carbonic acid could not produce the effect, because such bubbles are surrounded by a layer of atmospheric air, is easily demonstrated to be untrue. For, if the bubbles of carbonic acid are brushed away from any portion of the body during the time of the bath, the skin of that portion remains pale, in sharp contrast to that of the rest of the body.

The question, Are the effects of the baths the result of absorption in its ordinary sense by the human integument? must be answered in the negative. Through the outer layer of the skin, a slight degree of imbibition takes place. It is surmised that the saline fluid penetrates the outer layer, at least as far as the nerve endings. Viewed from whichever side, it is beyond question that the heart is enabled to work with less muscular force and stimulated to more regular action by the effect produced upon the enormous capillary network of the integument. The relief of the internal organs while the blood is circulating in the previously congested cutaneous capillary vessels, the more equable distribution of the circulatory fluid, or the sending of a larger volume of blood to the heart in cases in which the amount flowing to the heart was at times either deficient or irregular—these and similar effects are too important not to lead us to accept the claim that the change in the capillary circulation of the skin must be a potent factor, even if it be disputed what rank is to be assigned to it.

When we next consider the great network formed by the nerve endings in the integument, it should not be

surprising to us that the nervous influence reflected from these should produce an effect upon the circulation and heart. For the present, the theory of reflex action, to which no serious scientific objection can be raised, seems the more acceptable, although the rôle of the capillaries is a not unimportant one.

It would be a source of great comfort to us and make the explanation simpler, if we could accept the idea of absorption by the blood-vessels of the integument. For recently Ringer has proven that the calcium salts have a strong stimulating effect upon the heart, and the Nauheim springs, and the mother lye in particular, contain these salts in large proportion.

It is of great importance that I draw attention to the difference in the effect produced upon the animal economy by fresh-water and saline baths. Zuntz and Roehrig have determined that saline baths give rise to greater tissue metamorphosis than fresh-water baths. Other authorities (Dapper and others) have since claimed a still greater difference. The fact that we are dealing with saline baths of a definite percentage constitution and of a certain temperature must always be borne in mind by the practitioner. To expect similar results from any bath and at any haphazard temperature is to foster disappointment and invite injury to the patient.

Artificial Bath.—While the baths of Bad Nauheim give us effects that cannot be entirely obtained from the artificial bath, yet the latter, as Schott¹ pointed out years ago, are capable of producing precisely similar if not equally great results. The manner of their preparation is not difficult, save in the case of the effervescent bath, which requires some caution because of the use of hydrochloric acid. I am in hopes that within a short period of time processes for carbonating waters will enable us to produce effervescent baths, and even the flowing effervescent bath be made without difficulty.

Ordinarily we commence by preparing a bath of a one or two per cent. solution of chloride of sodium, to which we add a half per cent. of chloride of calcium. Later we increase the strength of the bath by the use of the Nauheim Mutterlauge, or else in the equivalent mixture of its components salts. In making the effervescent bath we commence with a solution of bicarbonate of sodium, to which we add after the tub is properly filled, a little less than an equal (to the bicarbonate of sodium) quantity of hydrochloric acid. After the stopper of the bottle (turned upside down) has been removed beneath the surface of the water, the acid is poured out slowly, the bottle being moved about at different layers of the bath water. After three minutes the effervescence begins, and, having taken the precaution to see that the acid is everywhere well mixed with the water, we fan away the carbonic acid that at first accumulates above the level of the bath, and all is in readiness.

Exercises.—The Swedish gymnastics have long been known to a limited number of the profession. Under the name of the Zander movements they have been extensively employed in the larger cities of the world for the relief of different conditions. In certain kinds of nervous cases, in conditions of malnutrition, and as an antifat remedy, I have made use of and well know the results of this system. Stokes long ago noted the effects of mountain climbing in cases of heart disease, but he never adopted it or promulgated it as a system. It was the genius of the late Dr. August Schott who recognized the effects of certain movements upon the circulation and heart, and by careful study formulated a system of movements which enabled him to produce direct effects upon the heart muscle. The movements which he made use of were carried out by the patient in the following man-

ner: The patient was ordered to make a certain movement in a given direction, while the doctor or attendant would make resistance with the hands, so that the patient in completing the given movement had to overcome the hindrance or resistance thus made. To this system, the Schott system, the name of movements with resistance (*Widerstands-Gymnastik*)¹ has been given. Among the rules as originally laid down by August Schott are the following: All movements must be made slowly, without exertion, evenly, and without jerking. Each successive movement should bring a different group of muscles into exercise. After each movement there should be a momentary pause.

In addition to the above the attendant should carefully watch the movements of the *alæ nasi* for signs of dyspnoea, even when the patient does not complain of it. The pulse must be watched for any sign of intermission.

I desire to emphasize this latter, for any movement followed by this result should be omitted. It is more apt to occur in connection with the greater excursions involving the entire extremity. Experience has likewise forced me to abandon carrying any movement of both upper extremities above the level of the shoulder, and especially above the head. Likewise empirically it will be found that some persons with cardiac disease are hypersensitive to movements made with the left upper extremity, be it riding, exercising, or even holding anything in the left hand.

In every case the physician should at first either give the first movements himself or have them given in his presence, so that he can watch the pulse and the general effect upon the patient. It is wise to begin with the shorter simpler movements, and then, as the patient's improved muscular sense makes it manifest that he can bear the greater excursions and resistance, we can increase them, though the increase should be less than the patient can support with greatest ease. A brief explanation to the patient of the principle underlying the movements aids in securing his more exact co-operation. And it must be equally impressed upon the minds of both doctor and patient that these movements are not a course of athletics. It is the fact that the patient in executing any given movement must overcome resistance which lies at the bottom of the effect. Hence every movement, however simple or slight, produces an effect. Even the movements of the fingers resisted as though playing piano upon the fingers of the attendant give results similar in kind and differing only in degree from the larger movements.

When baths are employed, exercises should be given once a day. When, however, exercises are used without baths, the exercises, though given once a day at first, may later be employed twice daily. Under all circumstances begin slowly, giving from five to ten minutes of exercise at the outset, and increase gradually until you have reached thirty minutes. When exercises are given twice daily the second exercises should not exceed fifteen or twenty minutes. The time indicated includes the pauses as well, so that in thirty minutes about eighteen minutes are taken up by the exercises themselves.

Physiology of Exercises.—Both August and Theodore Schott have contended that the effect of these exercises is to produce change in the size of the heart and, as a rule, displacement of the apex beat upward and toward the median line. The difficulties resulting from percussion, the inability always accurately to determine the apex beat, have during the past years of active discussion of the method often caused doubt in the minds of many examiners as to the correctness

¹A modification called *Selbsthemmungs-Gymnastik* will be referred to in future articles.

of this assertion. It is four years ago that I became satisfied of the truth of the claim, and numerous investigators have since added their testimony and the results of their personal inquiry to it. B. Thorne led the crusade in England, and, although his technical and physiological claims were somewhat exaggerated, yet his practical results compelled attention and investigation. In the month of July I was privileged to be present while naval surgeons Berendsen and Schumburg and Prof. N. Zuntz, the eminent physiologist, applied the Roentgen rays to the hearts of a number of persons. The results obtained by them made me extremely desirous of securing testimony bearing upon the subject of "resistance exercise and its beneficial effects upon the heart." Zuntz had proven "that overexertion, however moderate, tended to dilatation of the heart."

After investigating with the barium-platino-cyanide fluoroscope I found that while my results showed the heart smaller than before the resistance exercises, yet the shadow thrown by the bifurcating pulmonary bronchi, the movement of the diaphragm, and the unsteady light left something to be desired. I therefore resorted to photography by the Roentgen rays. Having arranged my light and table so that the light and the patient would always be at the same distance from each other and in the same line, I took the photograph of the heart (developing the plate and reproducing it on paper in the usual manner) before and after the resistance exercises, and thus proved that the heart undergoes change in shape and diminution in size, the greatest difference in cardiac diameter before and after exercises being equivalent in one case to more than two centimetres.

In speaking of this subject, whether as the result of baths or exercises, it must not be presumed that the diminution in size or change in shape of the heart is a continuous one. Nor is the change in shape uniform in all directions. In different cases various portions of the heart, one or both auricles, one or both ventricles, in varying combination and extent, change their form. As to size, what has just been said of the change in shape will indicate the expected diminution in size in different directions. To presume, however, that each day's gain is permanent, would be to expect the impossible. The recovery of the heart during a certain day is lost in a measure by the following day, and in this manner of successive daily diminution, with partial loss of the ground gained, we gradually succeed in attaining to that diminished size which in the given case represents the heart in the condition of most perfect muscular compensation.

Upon applying the sphygmomanometer, sphygmograph, etc., and taking measurements before and after exercises, just as in the case of baths, allowing of course a sufficient interval of time to permit the immediate effects of the exercise to pass off, the pulse trace, arterial pressure, and capillary pulse showed changes similar to those following the bath, before referred to.

(It will be found in certain instances in which marked dilatation complicates the case that during the period of dilatation the effect upon the arterial pulse as recognized by the sphygmomanometer and arteriometer is just the reverse.)

It has been a subject of physiological investigation for many years to measure the increase in tissue metamorphosis following every variety of motion with the aid of the Mosso arm holder, and by its adjustment for measuring the work done by the individual fingers of the hand, with or without added weights to be lifted, aided by the Zuntz-Gippert analyzing apparatus for the expired air, by which latter the increase of oxygen absorbed and of carbonic acid exhaled is accurately measured, the increase of tissue change is gauged. Recently investigation made by Leber and Stuewe upon

the subject of tissue metabolism produced by massage (carried up to twenty-eight minutes' duration) proved that the increase of tissue change after massage did not equal that of the simple movements of the unweighted fingers repeated for a few times only.

The importance of this investigation is readily seen in its bearings upon the effects produced by the movements referred to, and particularly upon the point that I cannot repeat too often, to wit: that we should not hurry to get to the greater movements, since the smaller ones give us results.

In seeking for a physiological explanation of the effects of exercise we are again met by difficulties. It cannot be denied that the local circulation in the different parts of the body brought into movement, is influenced materially, and that the relief of local congestion, whether cutaneous or visceral, and the resulting equalization of the volume of blood in its direct and indirect effects upon the heart and viscera are of importance. But the nervous system plays a most important rôle in controlling the function of the heart and blood-vessels. The condition described by Jacob, of Cudowa, under the name of angiospastic cardiac dilatation, is a forcible reminder of the vast extent of reflex influence between the nervous and circulatory systems. But it is a well-established fact that the reflexes play an important rôle between one portion of the body and another. Considering that the heart is supplied with depressor as well as accelerator nerve fibres, and that its functional activity is thus controlled and kept within its bearable muscular limits, and the relations of the vasomotor system to the blood-vessels at large, we must be prepared to accept that the physiological action of exercises is the result of reflex action to some extent, be this small or large.

Combined Treatment.—While at Bad Nauheim the majority of patients received no medicinal treatment aside from the baths and exercises, in general practice it is strongly to be recommended to omit no ordinary means of medication, or any therapeutic measure by which the patients may be benefited. To every physician who adopts this method of treatment opportunities will come by which he can put the baths or exercises to the test by themselves. It can never be expected, however, that artificial baths will equal those of Bad Nauheim. Such, however, are the good results obtained by physicians in city practice that the profession need not hesitate in undertaking them. Previous study and preparation are, however, essential to the successful carrying out of the treatment and in order to prevent experimentation upon the patient.

Dietetics.—The theories of Oertel have not maintained themselves as to his antifat treatment. It is well of course to limit the amount of liquids taken at meals, and even an excessive amount between meals. All spirituous liquids should be avoided, save when the habit of life permits of a small quantity of diluted light wine (light Moselle or claret). Aerated waters should be used with care and no cold fluids of any kinds taken. As to solid food, the avoidance of excess of starches, sugars, and fat is urgent, but to recommend the suppression of carbohydrates is to leave the system in a materially weakened condition and without its main source of muscular energy.

Indications and Contraindications.—Indications: Generally speaking all circulatory disturbances, all diseases of the heart with or without valvular disease, and particularly with loss of compensation, angina pectoris (bath should always be first employed), Graves' disease, hamophilia, and Barlow's disease. The so-called disease of puberty or adolescence with or without cardiac murmur, congenital cardiac disease. Ordinary complications, such as œdema, anasarca, hydrothorax, hydropericardium, and moderate chronic renal congestion, do not contraindicate the above treatment.

Contraindications: Heart disease with serious complications, such as pulmonary infarctions and with excessive debility, particularly if the circumstances of the patient do not guarantee that the treatment can be carefully carried out; arterio-sclerosis in its advanced stages; aneurism of the aorta of the second and third degree; acute and chronic Bright's disease (more particularly the atrophic form).

The best results are obtained in that large group of cases of weakened heart, of overstrained heart, or irritable heart dependent upon or consequent upon nervous or physical strain or infectious disease, irrespective of the presence of degenerative change in the arteries of the heart muscle, or in the muscle itself.

Second to this we have a group of cases with relative insufficiency, in which the murmur of insufficiency (most often aortic) disappears as the result of treatment. These cases are often complicated with other cardiac lesions. In the third series, we find the large group of cardiac valvular cases with loss of compensation. Of these there is an untold number, in which, after all medicinal help at the hands of the most skilled physicians in the world had failed, the above treatment has restored the patient to such a degree of health as to enable him to continue in his vocation for a long number of years.

The improvement and relief in conditions of angina pectoris, and in the other conditions referred to, place this treatment, especially when in the hands of a prudent doctor to whom all the resources of his art are familiar, among the very first of remedies.

In noting the effects upon the patient, it is important to bear in mind that the addition of this physical means to our armamentaria for the treatment of cardiac disease means much for our patients, their comfort, and their longevity. In the first place, a considerable number of patients are enabled to go through the winter without treatment of any kind, and they return the following summer only because they wish to prolong the good effects. Secondly, in many cases in which digitalis and other cardiac stimulants have lost their effect, after a few baths or exercises, the heart muscle seems to be brought within the limits of action of these drugs and they then have a better effect than ever. Similarly, by being able to avoid digitalis and the like drugs for a time, we have these remedies as reserves for times of greatest need.

Relapses occur during the treatment at Nauheim as well as they are likely to occur under other conditions. At such times baths or exercises, or both, are stopped for one or more days, as may be necessary, and, if need be, drugs are administered. Usually, however, the patient soon rallies and ultimately secures the desired result. To expect marked improvement in every case would be, however, too optimistic by far.

It is nine years since first I visited Bad Nauheim, repeating this visit every year since, and I have seen an almost innumerable number of patients who, prior to their attempting this treatment, had been given up as hopeless. During these years, thanks to the courtesy of Dr. Theodore Schott, I have closely investigated 120 cases, following the patients almost daily at the bath and exercises, and examining them in the manner above referred to. Of these 120 cases 24 had come for the first time, 45 for the second time, 18 for the third time, 9 for the fourth time, 7 for the fifth time, 5 for the sixth time, 6 for the seventh time, 5 for the eighth time, and 1 for the eleventh time. Thus 96 of the 120 had been there two and more times, 51 three and more times, 33 four and more times, 24 five and more, 17 six and more, 11 seven and more, 6 eight times and more, and 1 each year for eleven years.

Such an experience as this, and that of an increasing number of European physicians, particularly of Great Britain (the recent reports of Sir Grainger Stew-

art, Broadbent, Bowles, Lauder Brunton, Sir Francis Cruise, of Dublin, supported by *The Lancet* commission report, made by Dr. Alexander Morison, of London, and personally expressed views of such men as Baldwin, of Florence, and a host of others), settled the question, which has often arisen before, as to the permanency of the effects of the treatment, in the decided affirmative.

Prior to asking your attention to a few histories of cases, I must reaffirm that careful study and preparation is necessary before a physician can hope to use so potent a remedy successfully. Nor is a prudent equipoise to be omitted in order to avoid the overdoing. For even in the hands of the expert, I have seen overbathing with its consequent bad effects, and overexercising which no number of wonder-exciting diagrams of the heart's diminution (?) in size could free from unhappy or fruitless result. Finally, it must not be supposed that every variety of so-called medical gymnastics, now so popular in orthopaedy, is in any way suited for the treatment of cardiac cases.

Cases.—CASES I. and II.—As an illustration of cases of relative aortic insufficiency, which was complicated with aortic stenosis in one case and in both with myocarditis, I quote the cases of two locomotive stokers, who had been obliged to give up work on account of dyspnœa, vertigo, and the usual symptoms of loss of compensation. In both, aortic regurgitant murmurs were clearly recognizable at the outset. These murmurs grew feebler as the heart grew stronger and more rhythmical in action, and finally disappeared. Both men were restored to a fair degree of robust health.

I note here that the restoration of compensation in a laborer does not mean that he can return to his former laborious work, such as blacksmithing, stoking, etc. Such men must seek work less fatiguing, and, if this can be secured for them, the compensation may be maintained so long as their hygienic surroundings and food continue proper.

CASE III.—Judge F. S.—, native of Wiesbaden, sixty years old, who first came to Bad Nauheim in 1886. He had suffered with dyspnœa, vertigo, inability to work, œdema, ascites, and had tried the Oertel cure, with bad results. He was so despondent of recovery that he was about to resign his judgeship. In a few weeks his improvement encouraged him to hope; he continued in his recovery, and retained his position for eight years, resigning on account of age. His heart was so dilated in 1886 that no murmur could be heard; later, aortic murmurs were recognizable, and persist to this day. The patient made his eleventh visit to Bad Nauheim this summer, is now nearly seventy-one years old, and has passed all these years without medication in the winter (save for a trifling cold at times), and enjoys excellent health.

CASE IV.—General X—, fifty years old, native of Russia, who came to Bad Nauheim in the summer of 1895. He had lost his health in consequence of influenza. Finally, dyspnœa and general weakness, combined with attacks of angina, compelled him to give up military work. He was examined by the medical experts of Europe, who all recognized well-marked cardiac dilatation and, later, aortic regurgitation. In six weeks' time the patient walked four miles and over a steep hill without dyspnœa, cardiac palpitation, or any detectable murmur being distinguishable by the closest investigation. Patient did well till the spring of 1896, and in the summer of 1896 returned for second treatment, and made a nice recovery. The patient's habits of smoking and self-indulgence, which he will not give up, have something to do with the result not being even better.

CASE V.—Attorney X—, forty years old, a German, who, in consequence of repeated rheumatic at-

tacks, was left with aortic stenosis and regurgitation and mitral regurgitation, came to Nauheim in 1886. All his disabilities, including œdema, disappeared. Barring an attack of rheumatism in 1888, he has required no medical treatment since, except his annual monthly pilgrimage to Nauheim and taking bath and exercise treatment. During the past four years he has worked long and hard throughout the winter, without discomfort or complaint. His heart is perfectly compensated; the murmurs are still present.

CASE VI.—Merchant X—, a Russian, fifty years old, came to Nauheim anasarous, with hydrothorax and hydropericardium, dyspnœa, vertigo, angina, etc. The patient, on arrival, was seen by Sir Grainger Stewart, McGregor, Robertson, Holman, and others; and the diagnosis of myocarditis with extreme dilatation and, after urinary examination, chronic congestion of the kidneys was made. Such was the recovery of this patient (despite two relapses), that after six weeks he was examined by Dr. R. L. Bowles, of London, with me, who found his heart in excellent compensation. In the summer of 1896 the patient returned, having had a good winter, and an examination by Dr. Alexander Morison, of London, showed the size of the heart exactly the same as it had been found by Bowles and myself in September, 1895.

CASE VII.—Lady, forty years old, English, with old history of atheromatous arteries and myocarditis. Patient had been told by a most conservative and able physician that she would be confined to her room and chair for the rest of her days. The heart was dilated, arrhythmical, and intermittent. After a course of treatment, which was carried out a second time in the same season (summer, 1896), the patient walked ten miles daily without fatigue.

CASE VIII.—Angina pectoris. An Englishman, forty-eight years of age, who had suffered from numerous daily attacks, brought on by any exertion, and lasting years, was so completely relieved that he was able to return to his home in India and continue at work two years without renewing treatment. The diagnosis in this case was moderate arterio-sclerosis and myocarditis.

CASE IX.—Physician, forty-three years old, with aortic stenosis and moderate arterio-sclerosis, had suffered with frequent daily attacks of angina; was relieved after the second week of treatment, and reported himself well six months later.

CASE X.—Englishman, forty-three years old, had literally lived upon nitroglycerin for years; was never free from attacks of angina or precordial pain. Diagnosis, aortic stenosis and insufficiency, mild arterio-sclerosis. This patient had several attacks during the first week of treatment, when they ceased; and during the succeeding winter he reported himself still well.

All of these three cases of angina were treated with baths and exercises.

CASES XI. and XII. refer to two girls, one ten and the other eight years of age, both with congenital cardiac disease. Having watched both children for four or five years, it is wonderful to note the improvement in both cases. In comparing these children with others suffering from patent foramen ovale, it cannot be denied that the treatment has markedly ameliorated the condition and materially aided the development of both children.

Cases of exophthalmic goitre and numerous other cases coming under the category referred to as amenable to this form of treatment will be mentioned in subsequent publications upon the individual disorders.

A Good Local Anæsthetic for spraying abscesses before lancing is made with half a drachm of chloroform in an ounce of ether.—*The Medical Summary.*

ANÆMIA IN CARDIAC DISEASE.

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WHEN we consider that the three most striking phenomena of organic cardiac disease, dyspnœa on exertion, œdema of the extremities, and the presence of a heart-murmur, are also prominent features of pronounced anæmia, it is evident that when the two conditions occur together there is room for nice discrimination in assigning to each its share in the result. Unless we are on our guard, the tendency is to overlook the functional trouble and to attribute an undue importance to the organic lesion. No one in first approaching a supposed heart case fails to consider whether the affection is not purely functional, but, when once the diagnosis of organic disease is fixed, we are prone thereafter to attribute whatever we observe to this cause, and not fully to take into account the influence of blood changes, which are certain sooner or later to contribute more or less to the clinical aspect of the case.

This is, however, a grave error, for it may lead, on the one hand, to neglect of measures by which the condition of the blood and therefore of the patient might be improved, and, on the other, to a false estimate of the degree in which compensation is insufficient, thus urging to ill-timed efforts to correct the supposed defect. If there is any one point especially important in the management of cardiac disease, it is to appreciate accurately the result of nature's effort to meet the increased tax upon the heart muscle by adequate hypertrophy. So long as this compensation is maintained it is unnecessary and unwise to resort to medication designed to get more work out of the disabled organ. We should reserve such measures for the time, only too sure to arrive, when there will be evidence that the ventricle is no longer equal to the task imposed upon it. Chief among these signs will be dyspnœa and œdema of the extremities. But if the dyspnœa and œdema are in part the result of an impoverished condition of the blood, and we do not appreciate this fact, we shall be pushing digitalis and its congeners when we ought to be giving our principal attention to the production of better blood.

The occasions on which this discrimination is called for are numerous, from the fact that organic cardiac disease almost inevitably sooner or later leads to digestive disturbances that in their turn become causes of anæmia. The circulation in the chylipoietic viscera being deranged by the impaired action of the heart, the functions of digestion and absorption are not properly performed, and we have insufficient nutrition and consecutive anæmia as the result. It follows that in a large proportion of cases, as soon as compensation becomes defective, anæmic are associated with the organic phenomena.

In view also of the origin of so large a proportion of cases of cardiac valvular disease, it is to be remembered that the poison of rheumatism tends in a remarkable degree to impoverish the blood, and that the use of salicylic acid or its compounds contributes also to this result. Therefore, unless special care has been taken to obviate this tendency, we are likely, in a case of heart disease with a rheumatic basis, to have a condition of anæmia from the very first, as a legacy from the rheumatic attack.

Anæmia may also be the direct result of organic disease. Incompetency of the aortic valve induces this condition by lessening the supply of blood to the arterial system. To a patient suffering from organic cardiac disease the addition of anæmia is a complication of serious import. As already stated, so far as the anæmia is consequent upon the previously existing

condition of the heart, it is not likely to be developed until compensation begins to fail. Coming at this juncture, it adds much to the gravity of the case. The tissues, already beginning to feel the lack of a sufficient quantity of blood, suffer now in addition from deterioration in the quality of the fluid supplied. This extends to the heart muscle itself, and, at a time when more is required of it, it is less able to meet the demand. The organ, that already was overworked, is now underfed. This in turn lessens still further the vigor of the circulation, and a vicious circle is established. Unless the resources of art are sufficient to restore compensation on the one hand, and to bring about a better condition of the blood on the other, the downward progress is necessarily rapid.

If this be the case when the anæmia is secondary, it is more emphatically true when cardiac disease attacks a subject who is already anæmic. Compensation in these cases is maintained with difficulty and the response to treatment is imperfect. The tendency is to rapid development of digestive troubles, general anasarca, pulmonary œdema, and all the evils attendant upon cardiac insufficiency. In fact we have the condition to begin with, which in secondary cases belongs to the later stages of the cardiac disease.

The most obvious symptom of anæmia is pallor, but this may be obscured or masked by the dusky hue which often accompanies organic cardiac disease. When there is no tendency to cyanosis, the pallor has the same value as a sign of impoverished blood that it would have in the absence of a cardiac lesion. Stephen Mackenzie suggests that an idea as to the degree of anæmia can be formed by observing the nail beds. "So long as any pink color can be seen, it may be assumed that there is a proportion of at least fifty per cent. of red corpuscles. When the pink color entirely disappears from the nail bed the corpuscles will be found below fifty per cent" (Sansom).

In estimating to what extent thinness of blood is a factor in these mixed cases, we have to consider that the hæmic murmurs may be obscured or entirely concealed by the organic. Thus, when a blood murmur would be heard at the apex in the absence of an anatomical change in the mitral valve, it would be wholly obscured if there was incompetency of the valve due to organic lesion.

As hæmic murmurs are always systolic, the question would not arise in the case of a diastolic bruit. The problem, then, is practically confined to cases in which a systolic murmur is found in a locality in which a previous organic lesion has not been demonstrated. In such a case we shall be required to determine whether we have to do with a functional or an organic condition.

So far as the mere auscultatory signs go, they may be very inconclusive. While the inorganic murmurs are as a rule softer, less harsh, less grating than those of organic origin, it is not safe always to depend upon this quality. A blood murmur may have enough of harshness to be identical in this respect with a rather soft organic sound, and a sound that is unquestionably organic may be so soft as to pass for a strong bruit of hæmic origin.

Fortunately we are aided materially by the location of the sound. Organic disease of the pulmonary orifice is extremely rare, while this is the most frequent seat of anæmic murmurs. Sansom found that fifty-seven per cent. of all his cases presented the maximum intensity in the pulmonary area. If, then, a soft systolic murmur appears in this locality, we can be almost certain that it is functional. This conviction will be strengthened if we find that on changing the position of the patient from the standing or sitting posture to the recumbent the intensity of the murmur is decidedly increased, since in organic murmurs in

this situation the horizontal position adds comparatively little to the strength of the bruit, while in anæmic murmurs the increase is very marked. In the aortic area the vast preponderance of the murmurs are organic. A functional bruit, according to Sansom, occurs here only once for four and one-half times that it is heard in the corresponding area at the left of the sternum.

Hæmic murmurs occur very rarely in the mitral region. They are soft in character, but, contrary to the general opinion, they conform to the organic murmurs in a large proportion of cases, in this, that they are propagated toward the left and are heard at the back. Indeed, it seems probable that these murmurs are caused by a veritable though transient incompetency of the valve, resulting from defective muscular action. Certain it is that murmurs occur that resemble in everything except harshness the sounds accompanying organic mitral insufficiency, and yet at the autopsy the valve is found to be normal. But in these cases we do not have the displaced apex beat, nor the forcible impulse that usually goes with organic insufficiency of the mitral valve.

Anæmic murmurs are extremely rare in the tricuspid area. Sometimes, however, they extend downward from the pulmonary area so as almost to include the region in question. But in these cases the intensity will be found to be greater as the stethoscope is moved upward, thus indicating their true origin. Accentuation of the pulmonary second sound, if not referable to obstruction in the lesser circulation, is an indication of anæmia. Apparently the thinner the blood, the more readily and forcibly it is thrown back against the valve cusps. This, however, is to be carefully distinguished from the accentuation of the aortic-valve sound, so often present in reno-cardiac conditions, and which may be heard with considerable distinctness over a wide area, including the location of the pulmonary valve.

Leaving the cardiac region, we find evidence of the existence of anæmia afforded by murmurs in the great vessels of the neck. These are of two kinds, the interrupted arterial bruit synchronous with the cardiac systole, and the continuous hum produced in the veins. In pronounced anæmia, if we place the stethoscope above the clavicle and just outside the sterno-mastoid muscle, we shall generally, though not always, perceive a murmur with each ventricular systole. This sound, though not rough or grating, is more decided than the blood murmur heard in the pulmonary-valve region. It has more of a whizzing character. It may be heard for some distance in the course of the subclavian arteries and along the carotids. This murmur may be present when there is no bruit in the pulmonary area, and on the other hand it may be absent when the pulmonary murmur is pronounced.

The other sound heard in the neck is the venous hum, the *bruit de diable*. This is a continuous sound produced in the great veins, as is proved by the fact that pressure on the vein above the stethoscope causes it to cease. It may or may not coexist with the arterial murmur. It is intensified by turning the head toward the opposite side, thus putting the vessel and the overlying tissues on the stretch. It is also made louder by anything that quickens the current of blood through the veins, such as exercise, mental excitement, etc. It is more distinct in the upright than in the recumbent posture, and during inspiration than during expiration.

This venous hum, however, is not in every case an evidence of anæmia. It is found in a considerable proportion of perfectly healthy persons, especially females. Still it is more common in subjects whose blood is thin, and in such cases it disappears as the quality of the blood improves. Its value, therefore,

as corroborative evidence of anæmia is considerable, and in a doubtful case its presence inclines to the conclusion that a cardiac murmur is functional rather than organic.

Pulsation in the veins of the neck, if tricuspid regurgitation can be excluded, may be taken to indicate poverty of the blood.

The dyspnœa of anæmia may be very marked, but it scarcely reaches the degree which is often observed in organic valvular disease. Orthopnœa is rare. The shortness of breath is scarcely felt when the patient is at rest, but it is easily excited by any exertion. In these combined cases, there is, of course, no way of distinguishing the dyspnœa of organic origin from that of functional derangement. We can only judge, perhaps, that the degree is greater than the valvular lesion present would seem to warrant, and thus infer that thinness of blood is adding to the effect of anatomical changes.

Edema of purely cardiac origin is apt first to show itself in the feet and legs; that of anæmia is more generally diffused. If, therefore, we have an œdema confined for a while to the lower extremities and subsequently without any notable change in the cardiac signs there is superadded a more general puffiness, we may believe that poverty of the blood is becoming a factor in the production of the effusion, especially if other indications point in the same direction.

If, as is so often the case, there is nephritis as a complication, this also will have to be taken into account in our estimate of the resulting aggregate of œdema.

There remains to be considered the most conclusive and most precise evidence of the hæmic condition, viz., that afforded by direct examination of the blood itself. This should never be omitted if we wish to manage the case with a full appreciation of all that can be ascertained in regard to it. By means familiar to all, it is easy to determine with approximate accuracy the number of blood cells to the cubic millimetre and also the relative percentage of hæmoglobin which the blood contains. This puts us at once into a position to judge of the need of treatment designed to improve the quality of the blood, and subsequently affords a measure of the success of our efforts in this direction. These examinations should be repeated at short intervals, so that if one remedy does not give satisfactory result, another may be employed.

The treatment of anæmia associated with cardiac disease is not essentially different from that of the condition when occurring alone. If it has preceded the cardiac affection, its cause must be searched for and if possible removed. Chalybeates, etc., will then be in order, and just in proportion as they are successful in improving the quality of the blood they will oppose the tendency to early failure of compensation. In any case, when this failure begins to be manifest, cardiac tonics and stimulants will be required, and, if successful, they in turn will act as blood-making agents, by promoting a better circulation in the tissues concerned in that process.

The necessity for relief of the blood condition is often so urgent that the most prompt and efficient means must be selected. Nothing else has in my experience met this indication so satisfactorily as enemata of defibrinated blood. This substance seems to be taken up by the rectum almost unchanged, the absorption often being so perfect that the defecation on the following morning will show scarcely a trace of blood. From its use I have seen remarkable, indeed marvellous benefit, and I should employ it in any case in which prompt results were especially demanded.

From one to two ounces of blood diluted with an equal bulk of warm water may be injected twice a day, or more frequently. The rectum should be

cleansed with a simple enema every alternate day while the treatment is continued.

Of course this method does not exclude the simultaneous use of remedies by the stomach, and the preference of each practitioner will suggest the drugs to be employed.

In conclusion, what I wish especially to insist upon is that, not only in advanced cases, but even in the earliest stages of heart disease, the evidences of anæmia should be sought for, and as soon as they are recognized, appropriate treatment should be instituted and persisted in, so long as the condition remains. I am satisfied that by pursuing this course, very many patients may be carried along for an almost indefinite time, who would otherwise offer but comparatively little resistance to the combined effects of anæmia and cardiac insufficiency.

Progress of Medical Science.

Cocaine Poisoning.—Dr. Weinrich discusses cocaine poisoning originating from the urinary passages. The symptoms are very variable, but they are mostly referable to the nervous system. Cocaine must, therefore, be used with caution in neurotic individuals. The symptoms may consist of stupor, vertigo, headache, and these may end in collapse with severe precordial anxiety. Clonic and tonic spasms are noted, which may produce sleeplessness and restlessness in some people and unconsciousness in others. Mental excitement and a mild degree of mental aberration may be observed. Paralysis, tremor, slight loss of co-ordination may also be among the motor symptoms. If respiratory difficulty, cyanosis, loss of consciousness supervene, the prognosis becomes very serious. The unfavorable action of cocaine on the heart rarely becomes threatening, the respiratory symptoms being the most significant. A feeling of suffocation with irregular stertorous breathing may arise, and eventually Cheyne-Stokes breathing. Death may result from respiratory paralysis. Idiosyncrasy to cocaine is sometimes very marked, so that the size of the dose may be almost without perceptible influence on the intoxication symptoms produced. The author records two cases of cocaine poisoning, the first he had seen among several thousand of bladder cases which had been cocainized. In comparing experiments on animals with observations on man, it is proved that cocaine can be absorbed from the bladder, but the absorption is so slight as to be practically without significance. With increased dexterity in the use of the cystoscope, perhaps weaker solutions of cocaine can be employed or no local anæsthetic used at all. Cardiac and vascular diseases, pernicious anæmia, are contraindications to its use. The horizontal position should be adopted when it is used. Chloroform may be given when spasms arise, but the chief remedy against cocaine poisoning is artificial respiration. The proposal of Gauchier to add nitroglycerin (coc. mur., Merck, 0.2; aq. dest., 10; sol. nitroglyc., 1 per cent., gtt. x.) is worth bearing in mind.—*Berliner klinische Wochenschrift*.

The Secretion of the Skunk.—An article on this subject has been published in the *Journal of Experimental Medicine*, by Dr. Thomas B. Aldrich. He finds that the offensive secretion is discharged from two oval pouches, about one inch long, situated on the sides of the rectum close to the anus, by two ducts which terminate at the top of little papillæ just inside the sphincter ani. The wall of the pouches consists of a fibrous investment, a muscular coat of striped fibres, a submucous coat, and a mucous membrane;

the masses of glands are situated in the submucous layer. The glands are tubular and lined by cubical epithelium. They present strong analogies to the sudoriparous glands. The disgusting odor of the secretion is so intense that one of Dr. Aldrich's predecessors having collected a little for examination, the whole college of the Johns Hopkins University rose in revolt, and he had to get rid of his material. Dr. Aldrich was more fortunate and was permitted to pursue his examination without interruption. The fluid secretion is clear, limpid, and golden yellow or amber colored, having a characteristic penetrating and most powerful odor; its specific gravity is 0.939; it remains fluid at -13°C .; and its reaction is neutral. The vapor is highly inflammable and burns with a luminous flame, giving off sulphur dioxide. It is readily soluble in alcohol, ether, and chloroform. A fifty-per-cent. solution of sodium or potassium hydroxide dissolves the fluid partially, the odor almost disappearing, but returning on the addition of sulphuric acid. Its reactions justify the assumption that one or more mercaptans or thio-alcohols are present. It contains about thirty per cent. of sulphur. Experiment showed that when so far diluted that the air inhaled contained only one-sixty-nine-billionth in each cubic centimetre, it was still perceptible to the smell. It is a powerful anæsthetic. When inhaled without the admixture of a large amount of air, the victim loses consciousness, the temperature falls, the pulse slackens, and if the inhalation were prolonged fatal results would probably ensue. Introduced into the conjunctival sac, it produces intense pain and sets up acute inflammation. The fumes of this liquid are overpoweringly pungent and extremely irritating to the glottis.

The Forms of Diabetes.—Dr. George Harley gives the following classification in *The Lancet*: 1. Hepatic diabetes—including the gouty variety. 2. Cerebral diabetes—including all cases of saccharine urine arising from nerve derangements. 3. Pancreatic diabetes—the most deadly form of the disease. 4. Hereditary diabetes—a form by no means uncommon, and one, too, in which both brothers and sisters may labor under the disease without either their maternal or paternal parent having been affected by diabetes, though more distant members of the family may have suffered from it. 5. Food diabetes—including all forms of saccharine urine arising from the ingestion of unwholesome substances. Dr. Harley recommends, in addition to diet and opium or codeine, croton chloral, strychnine, phosphoric acid for thirst, and an absolute prohibition of alcohol.

Movable Kidney.—According to Dr. Franks, the symptoms presented by movable kidney come so frequently under the notice of the physician that he must be able to recognize it. This is the author's definition of the condition: "Suppose we get a patient lying in the dorsal position. Standing on the right side, I pass the four fingers of my left hand underneath the hollow of the loin just beneath the twelfth rib. The thumb in front encircles the abdomen just below the costal arch, but without exercising any pressure. I then direct the patient to draw a full breath. Immediately before expiration begins I press my thumb upward below the costal arch, and let it sink as deeply as possible, following the liver as it recedes during expiration, while the fingers behind press the loin forward: if now with my right hand I can feel the kidney lying entirely below the grasp of my left hand, I call that a right kidney pathologically movable. If the right hand presses on the tumor so felt, while the left hand relaxes its grasp gradually, the tumor can be felt to slip between the fingers of the left hand and to disappear from our ken—upward into the position normally occupied by the kidney. This sensation is,

I believe, pathognomonic of a movable kidney. A kidney which can be felt to descend so that its lower half can be felt, but which moves back on expiration, is a kidney physiologically movable." The kidney is normally wedged in its place and kept there by the pressure of the viscera acting upon it from above and below, but when the balance between these forces is lost the position of the kidney may be altered. This is especially liable to occur after parturition. Descent of the right kidney is liable to cause gastric crises. The best treatment is nephrorrhaphy or stitching the kidney in the loin. Mr. Bland Sutton has seen jaundice result from dragging down of the viscera by a movable right kidney.—*The Birmingham Medical Review*.

Resection of Nearly Eleven Feet of Small Intestine in a Boy Eight Years Old.—Dr. Ruggi has reported the case of a boy who was struck on the abdomen by the car of a large swing, and thrown into the water about forty feet distant. For two weeks he had some tenderness in the abdomen, but no other symptoms. He then showed signs of obstruction. The abdomen was opened, and a loop of intestine was found constricted by a band of omentum. He improved for a time, but signs of obstruction returned in more pronounced form, and the wound was reopened. The intestine was found stenosed at the point where the constricting band had been divided. This was freed, and for a time the boy again had relief, but complained, as he had before the first operation, most bitterly of hunger, crying night and day in spite of the fact that large quantities of food were given, in addition to rectal feeding. Obstruction again returning, it was decided to again open the abdomen. A large mass of intestine was found adherent to the abdominal wall. On attempting to free this, it was discovered that a large extent of bowel had been stripped of its mesentery. Dr. Ruggi determined to resect these portions, and removed successively ten feet nine inches. The lowest incision was six inches from the ileo-cæcal valve. The ends were brought together by silk sutures. In a few days the boy was again crying for food. Gradually, however, the hunger lessened, and in five weeks he was discharged cured. At the time of report, fifteen months later, he was in perfect health.—*The Canadian Practitioner*.

Symptoms of Incipient Exophthalmic Goitre.—It is important to be able to distinguish this disease from the first, instead of waiting for the exophthalmos and goitre to appear. Principal among the early signs by which it may be recognized is a series of ocular troubles, a lack of synergic action in the lid and brow when the globe is turned abruptly upward, incomplete closure of the palpebral fissure, pulsation in the lids, muscular paralyses, and sometimes diplopia or photophobia. There are also disturbances in the nervous system, besides a general irritability; there are often cramps, neuralgias, hyperæsthesias, insomnia, choreic movements, and sensations of excessive heat. The tremor, which is rarely absent from the first, has a specific character in its rapid vibrations. If there are no accompanying symptoms of hysteria, this tremor is of great diagnostic value. The general symptoms that may occur are numerous and various, from dyspepsia, bulimia, gastric and diarrhæic crises, to genital troubles and œdema resembling myxœdema. Other disturbances indicate the participation of the medulla oblongata, suffering from lack of the normal secretions of the thyroid gland, polyuria, albuminuria, and dyspnea. Pregnancy is one of the most important predisposing causes of this disease, and it may also appear as a complication of neurasthenia, chorea, epilepsy, paralysis agitans, syringomyelia, general paralysis, and various psychoses, especially tabes and hysteria.—*Revue de Médecine et de Chirurgie*.

Appendicitis and Perityphlitis.—In a paper upon this subject, in the *Albany Medical Annals* for November, Dr. Seth M. Mereness draws the following conclusions: From the statistics of the last decade, and particularly of Fitz and Porter, it may be concluded that an operation is necessary in at least one-half of all cases, and that the mortality, even when an early operation is performed, will be from twelve to fifteen per cent. There is probably no other disease on the border line between medicine and surgery that requires such thorough individualization, and for this reason no definite rules can be adhered to; but, in general, it may be said that an operation should be advised: 1. In all cases in which a purulent collection is known to have been formed in the pericæcal tissues. 2. When a purulent collection cannot be demonstrated, but when signs of perforation of the appendix exist. 3. In all cases in which there is a reasonable doubt as to perforation of the appendix or pericæcal suppuration, but in which symptoms of general peritonitis are present. 4. When after a reasonable time the patient does not improve under medical treatment, or in consequence of relapses life is rendered unbearable and the patient's vocation cannot be followed. On the other hand, operation is rarely necessary and should not be undertaken: 1. In all cases of simple, acute, or chronic catarrhal appendicitis. 2. While the symptoms indicate a purulent inflammation of the appendicular mucous membrane, but when perforation has not occurred and the presence of a marked resistance over the cæcal region shows the peritonitis to be localized. 3. In all cases in which perforation has occurred and has caused a diffuse septic peritonitis. This latter generalization is contrary to the famous maxim of Lawson Tait, never to let a patient die from peritonitis without an operation. The fact is, however, that practically all cases of well-marked septic peritonitis are fatal under any plan of treatment, be it medical or surgical, as Sonnenberg admits when he says: "Absolut schlecht bleibt die Prognose bei ausgesprochener, allgemeiner, septischer Peritonitis. Auch die letzten sechs Fälle sind alle tödlich verlaufen."

Vaginal Hysterectomy.—Dr. M. J. Boeckel, in a discussion in the recent congress of French surgeons, advanced the following propositions: 1. Before the menopause vaginal hysterectomy should not be practised in genital prolapse, excepting (*a*) when plastic operations previously tried have failed; (*b*) when the duration of the prolapse and its volume lead to prediction of certain failure by the employment of autoplasmic methods alone; (*c*) when the reduction cannot be maintained by reason of uterine hypertrophy; (*d*) when the prolapse, as it were strangulated, cannot be reduced. 2. Vaginal hysterectomy should always be followed by immediate colpoperineorrhaphy. This should be performed with a free hand. Success is assured only on this condition. 3. These operations combined give excellent results, and better than those of simple autoplasty. 4. The mortality is low, even *nil*, for the author's personal cases, he having operated eight times with eight successes. 5. After the menopause, vaginal hysterectomy, other things being equal, presents no contraindications. Advanced age of the patient even will not deter us at the present day. In the cases related women were operated on who were sixty years of age and over, and in one instance the limit was advanced to the age of eighty.—*Gaz. Hebdom.*

Indications for Suspensio Uteri.—Dr. Augustin H. Golet (*North Carolina Medical Journal*, November 5, 1896) writes that the recent controversy over the different operations for rectification of retroflexions of the uterus has been productive of some good, as it has brought out the contraindications for some and the absolute futility of others. Vaginal fixation deserves

only condemnation. Alexander's operation for shortening the round ligaments is appropriate when the retroflexed organ is freely movable and the adnexa are not diseased. In this condition another more simple procedure will accomplish as much in a much shorter time and with less inconvenience to the patient. This procedure aims at a cure of the metritis and endometritis, the maintaining cause of the displacement in a majority of cases in which the organ is movable. This places shortening of the round ligaments in the category of unnecessary operations, though there may be certain cases in which it is appropriate and even necessary. Ventral suspension should be reserved for those cases in which the organ is bound down by adhesions, the adnexa are irreparably diseased and require removal, and the retroflexed organ, though movable, is prolapsed, and for prolapsus without retroflexion.

Typho-Malarial Fever.—Dr. Gordon (*Virginia Medical Semi-Monthly*) discusses what typho-malarial fever is and concludes that: 1. Without extended bacteriological investigation it cannot be absolutely denied that there is a typho-malarial fever, answering to the usual descriptions and resulting from the co-operation or antagonism of two distinct germs. 2. On the other hand, it is thoroughly illogical to conclude that there is such a disease until the necessary conditions for its existence have been demonstrated. 3. Atypical typhoid fever is a very common disease, whose symptomatology, in numerous instances, cannot be differentiated from that of typho-malarial. It follows, therefore, that the two diseases, indistinguishable from each other throughout, have different causes. This is opposed to reason and the lessons drawn from clinical observation. 4. If the cause of only one case of disease on either side of the argument can be established, and if this cause be a typhoid infection, are we not justified in attributing the vast majority of all cases to the typhoid poison? 5. The appropriate use of quinine cures malarial poisoning with promptness and certainty, as a rule, and leaves us to determine the nature of diseases which it does not control. 6. Neglected cases of true malarial infection may, in rare instances, fail to yield at once to quinine, and lead to the suspicion of a typhoid element; but such cases are not and cannot be called typho-malarial fever, and a failure to resort to microscopic examination of the blood does not sanction a misnomer.

Woman's Inferior Sensitiveness to Pain.—Dr. Ottolenghi (*Centralbl. f. Nerv. u. Psych.*, No. 7) reports the tests made with Edelmann's faradimeter of the sensitiveness to pain and the endurance of pain in six hundred and eighty-two women. He finds that women are less sensitive to pain than men, and that this sensitiveness is less in early life, increases to the twenty-fourth year, and decreases after that. The higher classes are most sensitive and the degenerate least. He found the latter class very obtuse to the sensation of pain. Endurance of pain varies between much broader limits in women than in men, reaching a maximum far beyond the masculine limit, possibly due to the "greater suggestibility" of the female sex. General sensibility reaches the highest point in the nineteenth year. He concludes that sensitiveness to pain stands in close relation to the "psyche," while "general sensibility" depends upon the peripheral nerves. He considers woman's comparative insensibility to pain as a sign of her inferiority to man, as the uncivilized and degenerates are least sensitive. He attempts to prove a connection between this characteristic and her longevity.

MEDICAL RECORD:

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THE NEEDS OF THE MEDICAL SERVICE OF THE NAVY.

THE annual report of Surgeon-General Tryon of the navy is of more than usual interest to the members of the medical profession, not only as physicians, surgeons, and sanitarians, but also as citizens. Those of us who have noted the increasing influence of our country and the growth of our force afloat have doubtless often considered that the efficiency of the new navy depends upon more than ships, guns, and men with the technical knowledge necessary for handling engines of war, however essential all these things may be. No one can fail to recall how useless the American squadron would have been at Rio, a year or two ago, had yellow fever, then prevailing on shore and invading the ships of all other countries, been able to evade the measures of safety so skilfully adopted for our own vessels. The medical department of every military or naval organization has an importance the world over that is rapidly increasing with the advance in knowledge. That this department in our navy should be deficient in any essential is a reproach to our sagacity as a nation and an obstacle to the advance of the humanitarian element of our civilization.

The report of the surgeon-general shows a knowledge of the needs of his department that has been derived from careful study stimulated by a desire for efficiency in caring for the sick and wounded of the navy under any emergency in peace or war. He states with much earnestness that the navy is without a hospital corps, and that unless such an organization be authorized by Congress no definite results can be obtained in the attempt to solve the most important problems relating to methods of handling the wounded in battle on board modern ships of war or of properly meeting many emergencies arising in times of peace. It appears that the subordinates of medical officers in the navy, with the exception of apothecaries, are without previous training, even the nurses on our ships being simply detailed from time to time for that service, but enlisted for other purposes. Such a state of affairs should not be allowed to continue. The efficiency of our costly machines of war as well as considerations of humanity demand a change, and Congress should act promptly in a matter of such moment. That such corps exist in the medical departments of

the navies of all important powers is a standing reproach to our American civilization.

The outline of a bill for a well-equipped and thoroughly organized hospital corps appears in this report. We hope it will receive immediate attention, and that the navy will not long appear at a great disadvantage in this respect when compared not only with our army but with the militia of the different States. Surely at the present day no naval hospital should be without a corps of well-trained nurses, and no naval ship should be allowed to go into commission without a requisite number of trained nurses on board.

The subject of a hospital corps is considered by the surgeon-general in relation also to that of ambulance ships. He makes a strong plea for such ships, believing that after battle some asylum for the immediate reception of the wounded should be at hand, and that only ambulance or hospital ships of special construction can answer this purpose. The whole question of rendering proper assistance to the wounded or drowning in naval warfare, irrespective of nationalities, is of such interest and importance that it well deserves the most serious attention and careful consideration.

Another weakness in the medical department of the navy appears to be the number of vacancies in the medical corps. It seems that during each year there is a large number of applicants for information in regard to appointment as assistant surgeon, but that few avail themselves of the opportunities to appear for examination. At the date of this report there were ten vacancies in this small corps in the grade of assistant surgeon, and it is stated that the department is embarrassed by not having a sufficient number of medical officers to fill important stations ashore and afloat. We believe that the medical corps of the navy has not had its complement since the war, and that this state of affairs will continue until there is some favorable legislation for junior medical officers. The corresponding corps in the army has no difficulty in this respect, and it is remarkable that the same corps in the navy should have its efficiency seriously impaired because it is not allowed by Congress to offer at least equal advantages. This subject is one of national importance as it relates to the efficiency of our national defences, and no influence within or without the navy should be allowed to delay suitable congressional action.

Dr. Tryon's administration of his department as surgeon-general of the navy has shown a most praiseworthy progressiveness, that will leave its mark on the naval service for very many years. This is apparent in his report in various directions, among which may be cited the establishing of a course of instruction for junior medical officers, preliminary to their entering upon active service, the introduction of electric lights in naval hospitals, their equipment with aseptic operating-rooms and furniture and with bacteriological and chemical laboratories, and the adoption of disinfecting plants of modern make. Improved outfits of microscopes and accessories have been added to the supplies of hospitals, ships, and navy yards, thus completing a supply table which we believe has been

made in the last year or two superior to that of any naval medical department in the world, especially in surgical instruments and appliances. An improved swinging cot of unique design has been adopted for sick-bays, and a method of transporting wounded on ships of suitable construction has been introduced which is extremely simple and, it is stated, very effective. By this method an injured man is moved along the deck of any ship of favorable design, lashed in a hammock, including the mattress, and is lowered through hatches by the use of a stretcher bar of special construction.

The improved method of gathering statistics recently adopted, the results appearing in this report for the first time, is very noticeable. The new nomenclature of diseases is adapted to the requirements of the naval service, but in view of the difficulties experienced in all directions in securing a suitable classification it is worthy of general attention. Much valuable information is conveyed by tables well arranged and apparently selected with great care. It appears that the death rate was 6.82 per thousand of strength, and that during the year there were no cases of yellow fever and but one of small-pox and two of cholera.

Appended to the report are a number of interesting articles by members of the medical corps and a good index follows, completing a volume of about two hundred and fifty pages.

We congratulate Surgeon-General Tryon upon his administration of affairs and his comprehensive grasp of the needs of his department in relation to the general efficiency of the naval service.

CONTAGION IN SCHOOLS.

THE health department of this city, being very properly convinced that the greatest source of transmission of infectious and contagious disease among children is through contact with each other in school, proposes to take radical measures for the mitigation if not suppression of this obvious danger. Appropriations are asked for paying a corps of physicians, at a low rate of course, whose duty it shall be to inspect the schools regularly and inform themselves directly and indirectly on all points connected with possible disease dissemination. How competent men can be obtained at \$30 per month can best be determined by officials who are notoriously indifferent to the real value of such services. Such, it strikes us, is a way of proving how not to do a good thing. This, however, is merely a remark in passing and especially in connection with a reasonably fat salary offered to a chief inspector, whose duties could be performed by the sanitary inspector or his ambitious and not overworked assistant.

Still, the proposed school inspection is a most excellent thing and it is to be sincerely hoped that it can be properly carried out. Not only should the public schools be under such a jurisdiction of the health board, but every parochial and private institution as well. We would extend the functions of such inspection to include that of infectious disease of every sort, even

those not classified by the health authorities as such; for instance, the numerous skin affections so prevalent in the schools, and other maladies propagated indirectly through water-closet seats, drinking-cups, books, slates, and the like.

THE PHYSICIAN OF THE NEAR FUTURE.

UNWILLING to combine in any manner with his fellow-workers for his own protection, giving the best of his early energy to work in institutions which take the very bread from his mouth by treating and caring for those who are not poor, his work competed with on every hand by an ever-increasing host of special fads and frauds, what will be the doctor's source of income in the near future unless a change is worked?

A crusade, organized to reclaim the holy shrines in Palestine, incidentally booms the sale of Jerusalem drops and other remedies supposed to originate with the Franciscan friars. The Kneipp curists do not walk long in dewy grass before the discovery is made that Kneipp remedies for all known ills should be placed on sale in every city of the world.

Park commissioners are asked to extend the courtesies of the grass to the early morning sockless perambulator with the sole object of advertising the Kneipp company's wares.

Faith, hope, and charity healers, mind, brain, and thought curers, hypnotic, hydropathic, magnetic, electric, eclectic, spiritualistic, human, and divine workers of miraculous cures increase and flourish. The reputable physician walks to his dispensary class and treats many who should be going to his own or to his brother's office, and who will to-morrow run off to "a divine healer" and leave a bank bill on his table in return for the benefit they hope will come from the laying on of hands. There are many things the self-respecting physician cannot fight against, but how some men can put up with the indignities placed upon them by hospital authorities and continue to respect themselves is more than we can explain.

MUSIC AND NOISY NUISANCE.

EVERY one who lives in the close quarters of a noisy city is interested in settling the difference between music and noisy nuisance. He may feel it, but it is not polite to say it. If he does both, there is danger that he may be open to the charge of want of culture and taste. This is the strong side of the music nuisance, and generally some professional artist has to sit in judgment on disputed proprieties. A sewer inspector in this city has material differences on this point with a neighboring music teacher. In times gone by they were very neighborly, but subsequently their partitions were not sufficiently impervious or strong to keep them at the required distance from each other. There was no question about the noise in the business of pupil's straining for high notes, but it was not music to the over particular and unappreciative neighbor. Not caring to endure the infliction, he trusted to a well-known and oft-tried remedy of counter-irritation. At given signals of distress well-paid organ grinders

and hurdy-gurdy performers were posted on the sidewalk as an improvised chorus. The rebuke was pronounced, emphatic, and overwhelming. In the mean while the suffering inspector kept the best time he could with an accompanying hammer tattoo on the partition. Then it became a question as to which of the contestants should have the privilege of creating the most noise, and an attempt was made to right the matter in a criminal court. The point was such a delicate one that the responsibility of its settlement was referred to civil authorities.

In the testimony it was asserted by the inspector that "every time the pupils sang, the putty in his window sashes cracked." This is probably an exaggeration of metaphorical license in his effort to differentiate between a subjective sensation and an objective fact. The comparison with "the howls of suffering dogs" perhaps comes nearer the mark. The organ grinder understands this when a stray dog is within earshot. When the Italian band was told to "move on," the members smilingly ground their teeth and their organs simultaneously. Thus there was no common ground upon which a general shut up could be adjudicated. As the fight is still on, the situation is an amusingly serious one, for the exasperated neighbors are willing to admit that so far the sewer inspector has the most emphatic side of the argument. If we could collect all the amateur horn blowers, the practising squealers, the exasperating piano thumpers, and harbor them in an isolated district, they might fight out the noise nuisance very effectually without harming innocent and forced listeners.

News of the Week.

Vaccine Virus in Liquid Form.—Formerly the vaccine virus employed by the health department of New York was the serum which issued from the base of a vaccine pock, dried on quills or ivory points. To determine the most valuable part of a vaccine vesicle, the following experiment was made: A typical vesicle was chosen, and the crust, the underlying pulp and base, and the serum exuding after the former were removed, were collected separately. Each was mixed with glycerin in the proportion of sixty per cent. vaccine matter and forty per cent. glycerin, then thoroughly comminuted in a mortar, and the products were used in the multiple vaccination of children. The pulp showed by far the best, the crust the next, and the serum the poorest results, as determined by the percentage of successful vaccinations. Other similar experiments confirmed these results, and it was concluded that the largest proportion of the active virus is contained in the pulp. Therefore the virus now issued is in the form of a glycerinated vaccine pulp. Before using the virus derived from an animal, first, the animal from which it was obtained is sent to autopsy and the organs are examined for any evidences of disease; second, two samples of the virus are given, one to the bacteriologist and the other to the medical tester of virus, and no virus is issued unless the reports of the pathologist, bacteriologist, and clinical

tester are all satisfactory. The clinical test consists in the inoculation of the virus after scarification in three places on each of five children who have never been previously vaccinated. There is thus a case test of five and an insertion test of fifteen points. The results from the new method with this rigid system of tests are shown in the records of the last three months. Since July 1, 1896, there have been vaccinated in the routine way thirty calves from which virus has been collected and tested as above described. All this virus gave one hundred per cent. case and one hundred per cent. insertion success at the original test, and the same percentages of success at the last re-test made about October 1, 1896. There can therefore be no doubt that the durability of the virus is assured for at least three months from the date of collection. In all the primary vaccinations made during September and October by the department vaccinators in which the results are known, more than seven hundred in number, there was not a single failure. The virus is a syrupy, opaque, brown emulsion of uniform consistency. It is put up in capillary tubes containing each enough for a single vaccination, and in vials of two sizes, one containing one-fifth of a cubic centimetre for ten vaccinations, and the other containing one cubic centimetre for fifty vaccinations. In using the new virus the skin is scarified in the usual way, and a drop of the liquid virus (discharged from a capillary tube by blowing out the contents with a rubber tube furnished for the purpose) is then thoroughly rubbed into the scarified area with a slip of wood, which accompanies each tube. The new virus, like the other products of the health department laboratories, is furnished free to all public institutions in the city on application. It is also supplied to physicians at a moderate price.

The Late Dr. Samuel Sexton.—At the meeting of the Practitioners' Society of New York, held December 5, 1896, the following preamble and resolutions were adopted:

"Whereas, It becomes our painful duty to announce the death of Dr. Samuel Sexton, one of the founders of this society, therefore be it

"Resolved, That the Practitioners' Society desires to place on record its due appreciation of his long and valuable services in his chosen line of work, his praiseworthy contributions to the literature of his specialty, his persistent and untiring advocacy of new methods of treatment, and of his laudable endeavors to broaden the domain of aural surgery by the patient test of varied operative procedures and the careful study of pathological conditions.

"Resolved, That the society has suffered a serious loss in being deprived of his wise counsels, his matured judgment, and of his high example of professional rectitude.

"Resolved, That his successful career will stimulate his professional associates to endeavor to follow his example in courtesy, loyalty, and unselfish work.

"GEORGE F. SHRADY,

"CHARLES L. DANA,

"FRANCIS P. KINNICUTT."

Hotel Accommodations in Los Angeles.—A correspondent writes that the disadvantage under which Los Angeles, Cal., has labored, of having no hotel in which a semi-invalid could be housed with comfort, is soon to be removed. There is now in course of erection a large hotel having many sunny rooms and provided with all the conveniences which the modern tourist or health seeker demands.

"Acromegaly."—The author of this paper, published in the issue of November 28th, is Dr. H. H. Vinke, not Dinke as printed.

Philadelphia Hospital.—The Association of Ex-resident and Resident Physicians of the Philadelphia Hospital held its annual dinner at the Hotel Bellevue, on the evening of December 1st. Some sixty members were present, and toasts were responded to by Drs. Horatio C. Wood, Francis M. Perkins, James C. Bloomfield, David Riesman, and Daniel McCarthy.

"Medico-Surgical Bulletin."—Dr. Egbert H. Grandin has retired from the associate editorship of the *American Medico-Surgical Bulletin*.

Dr. Lightner Witmer, professor of experimental psychology in the University of Pennsylvania, has been appointed psychologist to the Pennsylvania Institute for Feeble-Minded Children at Elwyn.

Vital Statistics of Philadelphia.—For the week ending November 28th, there occurred in the city of Philadelphia, 389 deaths, 15 more than during the preceding week, and 28 less than during the corresponding week of the previous year. Of this number, 118 were in children under the age of five years. The individual causes of the largest number of deaths were: Pulmonary tuberculosis, 52; pneumonia, 46; diphtheria, 24; heart disease, 21. There were reported to the board of health during the week, 133 cases of diphtheria, 77 cases of typhoid fever, and 31 cases of scarlet fever.

Obituary Notes.—DR. JOHN ELLIS died at his home in this city on December 3d from pneumonia. He was born in Ashfield, Mass., in 1815, and was graduated in medicine from the Pittsfield Medical College in 1842. He practised for a while in Michigan, later became a convert to homœopathy, and finally abandoned medicine to engage in the refining of petroleum.—DR. WILLIAM H. WOODRUFF died on December 1st, at the age of sixty-five years. He was a graduate of the Albany Medical College in 1854, and had practised since that time in Pine Bush, Orange County, N. Y., where he died. He left a widow and four children.—DR. HENRY G. DAVIS died recently at his home in Everett, Mass. He was born in Maine in 1807, and was graduated from the Yale Medical School in 1839. After practising in Massachusetts for a number of years he came to New York, where he was the pioneer in orthopædic surgery. He devised a number of ingenious forms of apparatus for the correction of deformity, among others the hip splint. He also wrote several monographs on orthopædics.—DR. GUIDO FURMAN died on December 2d at his home in this city. He was born in Nassau, Germany,

in 1831, and was graduated from the medical department of the New York University in 1856. All his professional life was passed in this city. He was a member of the Medical Association of the County of New York, of the Academy of Medicine, and of the New York Pathological Society.—DR. EMIL WOLFF, professor of chemistry, died at Stuttgart, Germany, on December 7th. He studied medicine and natural science, but early turned his attention to agricultural chemistry, of which he became perhaps the greatest exponent of his time.—DR. PINCKNEY WEBSTER ELLSWORTH, of Hartford, Conn., died in that city on November 29th, of cerebral hemorrhage. He was born in Hartford in 1814, and was educated at Yale College. He was graduated in medicine from the College of Physicians and Surgeons in this city in 1839. At the beginning of the civil war he was appointed surgeon of the Connecticut brigade of volunteers, and he participated in the first battle of Bull Run. He was one of the organizers of the Hartford Medical Society, a member of the Connecticut Medical Society, and an honorary member of the New York State Medical Society. Dr. Ellsworth's mother was the eldest daughter of Noah Webster, the lexicographer, and he was a grandson of Chief-Justice Oliver Ellsworth of the United States Supreme Court.—DR. C. S. FLOYD, of Austin, Pa., was killed on November 26th by falling down the stairs of a hotel at Coudersport.

Insane Prisoners.—It was developed in a recent court proceeding in Philadelphia that many inmates of the Eastern penitentiary in that city are insane, and are without the attention which should be given to insane people, despite the fact that Pennsylvania has a law providing for the removal of insane convicts from the prisons to the asylums. It is asserted that the enforced idleness of the prisoners has much to do with this increase of mental disorder among them.

Cremation in Canada.—It is proposed to establish a crematory in connection with the Mount Royal Cemetery in Montreal, but the measure has not yet been decided upon by the directors, and vigorous opposition to it is expected from the conservative members of the board.

Koch on the Rinderpest.—Dr. Koch and Dr. Kohlstock are on their way to South Africa to investigate, at the request of the Cape government, the outbreak of rinderpest. They will establish their laboratory at Cape Town.

The Trinidad Leper Asylum.—The report of the Trinidad Leper Asylum issued by the medical officer, Mr. R. H. E. Knaggs, for the year 1895, shows that there were two hundred and nine persons in the asylum at the end of the year and that there had been forty-seven deaths during the year, and fifteen patients discharged; two of these latter were sent to prison, one to the lunatic asylum, and one left for India.

The Anglo-American Continental Medical Society held its annual meeting in Paris on November 11th. Seventeen new members were elected.

A Congress of French Alienists and Neurologists will be held at Toulouse in 1897, under the presidency of Dr. Ritti, editor of the *Annales Médico-Psychologiques*.

Pathological Society of Philadelphia.—At a stated meeting of the Pathological Society of Philadelphia on November 12th Dr. Joseph McFarland exhibited a portion of small intestine displaying an ulcer of uncertain origin resulting in perforation and peritonitis. Dr. Joseph Sailer exhibited a heart whose aortic valve was formed of two cups only, and two other hearts whose pulmonary valves were each constituted of four leaflets; he also showed a renal tumor, probably sarcomatous, and an abnormally lobulated spleen from a colored person. Dr. D. Riesman exhibited two specimens of carcinoma of the œsophagus, a tuberculous tumor of the larynx, and lungs presenting miliary tuberculosis in conjunction with a caseous mesenteric gland. Dr. H. W. Cattell and J. D. Steele exhibited a specimen of aneurism of the sinus of Valsalva. Dr. W. S. Newcomet presented tuberculous ulcers of the intestine, with a vermiform appendix only three-eighths of an inch long. Dr. S. M. Hamill exhibited a dilated stomach due to pyloric obstruction, resulting, it was supposed, from an ulcer in the duodenum. The following card specimens were exhibited: Dr. A. W. Booth, a renal cyst; Dr. A. Stengel, probable sarcoma of the retroperitoneal glands with metastasis, especially in the spleen; Dr. D. Riesman, anomalous distribution of the coronary arteries and apparently supernumerary spleen.

A Worthy Celebration.—*The British Medical Journal* announces that the lord mayor elect, Alderman Faudel Phillips, proposes to signalize his mayoralty and commemorate the sixtieth anniversary of the Queen's reign by raising a national subscription to free the public hospitals from debt. It is estimated that the amount required will be from £800,000 to £1,000,000.

Leprosy Congress.—An invitation has been extended by Drs. Ehlers, of Copenhagen; Hausen, of Bergen; Koch and Lassar, of Berlin, to convene in the last-named city during the month of October, 1897.

Atlanta's Health Inspector has declared war against the city well. There has been of late much fever in the city, and its prevalence is accounted for by the drinking of unwholesome well water. The hydrant supply is said to be abundant and pure.

The Woman's Health Protective Association has started in upon a praiseworthy attempt to improve the hygiene of the bakery. Many of the underground shops in this city are foul. Of the fifty-two hundred and seven bakers investigated thirteen hundred and seventy-five were on the sick list. Most of them suffered with inflammation or congestion of the lungs, and there were quite a number of tuberculosis cases and also some cases of diseases arising from personal uncleanness or immorality.—*The Sanitarian*.

Tight Lacing was given as the cause of death in an inquest held within the past fortnight in London.

Abundant testimony pointed to the custom as having been the undoubted cause of death.

New York Otological Society for 1896-97.—The following officers were elected at the annual meeting held November 24, 1896: *President*, Dr. Gorham Bacon; *Vice-President*, C. J. Kipp; *Secretary and Treasurer*, H. A. Alderton.

Bacteriologists to the Pennsylvania State Board of Health.—Dr. W. M. L. Coplin, of Philadelphia, has been appointed bacteriologist to the Pennsylvania State board of health, and Dr. Richard Slee, of Swiftwater, Dr. Nelson F. Davis, of Bucknell University, and Dr. Robert L. Pitfield, of Germantown, assistant bacteriologists.

Philadelphia Neurological Society.—At a meeting of the Philadelphia Neurological Society on November 23d, Dr. C. W. Burr reported a case of mind blindness and touch amnesia.

Philadelphia County Medical Society.—At a meeting of the Philadelphia County Medical Society on November 25th a paper entitled "Eight Primary Movements in the Treatment of Curvature of the Spine," read at the preceding meeting by Dr. J. T. Rugh, was discussed by Drs. De Forest Willard, H. Augustus Wilson, James K. Young, J. Packard Mann, Bertha Lewis, Walin, and Benjamin Lee. By invitation of the directors Dr. A. O. J. Kelly read a paper entitled "The Neuron, with Exhibition of Specimens and Diagrammatic Representation of its Morphological Characteristics," which was discussed by Drs. Charles K. Mills, F. X. Dercum, and J. K. Mitchell.

Royal University of Ireland.—Dr. More Madden has had conferred upon him the degree of M.A.O. (master of obstetric art) *honoris causa*. Dr. Madden has long been known as a writer and teacher and this new honor only adds to the many which have preceded.

Pharmacists are not held in high esteem by Dr. Schweninger, Bismarck's physician. He says the physician who places himself at their service and aids them to lay up a fortune at the expense of humanity dishonors his calling.

The American Laryngological, Rhinological, and Otological Society.—The western section of the American Laryngological, Rhinological, and Otological Society will hold its meeting in Kansas City, February 2 and 3, 1897.

An Inefficient Army.—Venereal diseases keep over three thousand soldiers from performing duty in the English army in India, according to the recent report of the sanitary commissioner to that government. In 1894 sixty-two thousand admissions for venereal disease occurred, or 5,342 total admissions for each one thousand of strength of the whole English army. Thus a small army in itself is constantly incapacitated by diseases which for the most part are preventable.

Philadelphia Semi-Centennial Meeting of the American Medical Association, to be held June 1, 2, 3, and 4, 1897. In view of the fact that the next meeting will be the semi-centennial gathering, and

that it will occur in a great medical centre and near the other great cities of the Eastern coast, the committee of arrangements for this meeting has already made provision for the accommodation and entertainment of the delegates, by the engagement of the Academy of Music, Horticultural Hall, the South Broad Street Theatre, and the large meeting-rooms in the Hotel Walton and Hotel Stenton. As these large buildings are all within a short distance of the great railroad depots in the centre of the city and are all situated within one block on both sides of Broad Street, every department of the meeting will be conveniently arranged. At the last meeting of the association it was voted to devote the first evening of the meeting, Tuesday, June 1st, to dinners of the various sections. The officers of the sections desiring to give such a dinner will please communicate with Dr. G. E. de Schweinitz, chairman of the subcommittee on accommodation, 1,401 Locust Street, as early as possible, in order that dining-rooms may be engaged or other entertainment provided. As it is expected that fully three thousand physicians will be present, the committee suggests that application for accommodations be made as early as possible. It is hoped that every member of the association will make a special effort to attend. Further circulars of information will be issued by the committee from time to time. Individuals and firms desiring space for exhibition in the exhibition hall, which will be in the same block as the various meeting halls, will please apply promptly to the chairman of the subcommittee on exhibits, Dr. Edward Jackson, 1,633 Locust Street, Philadelphia.

H. A. HARE, M.D.,

CHAIRMAN OF THE COMMITTEE OF ARRANGEMENTS.

Typhoid Antitoxin.—It is announced that an efficacious and reliable antitoxin for typhoid fever has been elaborated in Germany by Pfeiffer. An account of the mode of preparation and the report of a series of experiments will soon be published.

Health Inspectors for Schools.—The board of health of this city proposes, if it can secure the necessary appropriation, to appoint medical examiners for all the schools—public, private, and parochial—in New York, with a view to prevent the spread of contagious diseases, especially diphtheria and scarlet fever, among children. It is the opinion of the medical officers of the board that the greatest source of transmission of infectious and contagious diseases among children in this city is through their contact with one another in schools. It is also believed that a material reduction in the number of cases of sickness and death from contagious diseases can be secured by a daily inspection of the pupils of each school by a medical inspector, and by ascertaining whether children absent from school are sick with contagious or infectious disease. It is proposed to appoint one hundred and fifty medical inspectors, to serve for ten months each year, at a salary of \$30 per month, and one chief inspector at a salary of \$2,500 per annum.

The Relationship of the Testicles and Prostate Gland.—The following is an instructive case in this

regard, which was published by Dr. John R. Gibson, in *The Lancet*: A man, aged between fifty and sixty years, afflicted with enlarged prostate gland and requiring the use of the catheter before any urine could be drawn off, recently became afflicted with acute orchitis of one testicle, the orchitis being probably caused by the irritation of the catheter, as great difficulty was experienced in passing it. Almost immediately after the onset of the orchitis, he could pass urine more or less freely, an act he had not performed for over a year, and all the bladder symptoms underwent great improvement.

Dr. Jameson, who was sentenced to Holloway Jail for unethical conduct in South Africa, has been released on account of serious illness, and is now in a private hospital in one of the suburbs of London.

St. Luke's Hospital.—The annual report of this hospital has just been issued. It states that the greater part of the ground formerly occupied by the hospital, on Fifth Avenue, has been sold, and that the corporation is now free from debt. The number of patients treated during the year was 1,439, of whom 663 were in the medical and 776 in the surgical wards. The expenses for the year were \$109,744.47. An appeal is made for funds to endow a pathological laboratory and to erect a pavilion for consumptives.

The Louisiana State Board of Health announces that it will supply antitoxin gratis to the poor who are suffering from diphtheria.

Wholesale Poisoning.—At a silver wedding anniversary banquet in Hollidaysburg, Pa., recently, sixty of the guests were made seriously ill by some poisonous material in the food.

Surgeons Wanted.—A dispatch from Madrid states that General Weyler has telegraphed that one hundred army surgeons are urgently needed in Cuba. The work of getting surgeons for the Cuban service is more difficult than that of raising raw recruits. The government has been forced to extend the maximum of age for admission into the army sanitary corps, the applicants above the age established by law to be assigned for service in Cuba.

Bogus Wines in Germany.—Commenting upon the enormous exports from Germany to the United States of artificially prepared wines and inferior spirits and beers, the *Berlin Neueste Nachrichten* says that, since the passage of the wine act by the Reichstag, in April, 1892, in regard to the adulteration of wines and alcoholic beverages, immense quantities of liquors have been brought into the market under the name of wines, at such low prices as to prove it impossible that they could have been prepared in accordance with the law.

Cholera in Southern Russia.—The Russian authorities have apparently come to the conclusion that cholera is now endemic in South Russia, for permanent cholera barracks are being erected at Odessa, Sebastopol, Novo Rossiisk, Batum, Kertch, Poti, Berdiansk, and many other places, which will be ready for occupation by next spring.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 3, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Resignations.—THE SECRETARY read some correspondence from Dr. George L. Peabody, stating that he was to remain abroad for some time, on account of ill health, and therefore tendered his resignation as trustee. It was accepted with regrets.

Dr. A. Jacobi's resignation as chairman of the board of trustees was read. THE PRESIDENT spoke of Dr. Jacobi's long and valuable services to the academy, and said no explanation had been received for his resignation. Replying to DR. J. P. TUTTLE'S inquiry whether a motion was in order, authorizing the president to appoint a committee of one to wait on Dr. Jacobi and learn whether his resignation was unalterable, he said it certainly was; and, on adoption of the motion, appointed Dr. Tuttle on the committee.

Ernst Krackowitzer Library Fund.—A communication in the form of an affidavit was received from Dr. Jacobi, stating that, inasmuch as the Ernst Krackowitzer prize fund had not been competed for, but had been accumulating since it was founded, he would request, as the only surviving member for its administration, that it be converted into an Ernst Krackowitzer library fund. The matter was referred to the trustees of the academy, with power.

Nominations.—Dr. Bryant was renominated for *President*, but declined, saying that he thought, unless a special contingency arose, the honor of one term of two years was enough. Dr. E. G. Janeway was then nominated, and on motion the nomination for *President* was declared closed. For *Vice-President*, Drs. Arpad G. Gerster and Everett Herrick; for *Trustee*, long term, Dr. Bryant; short term, Dr. F. R. Sturgis; for *Committee on Library*, Drs. C. H. Knight and Achilles Rose; for *Committee on Admission*, Drs. Dessau, Ewing, Satterthwaite, Brill.

The Management of Pneumonia Patients.—DR. SIMON BARUCH, in presenting this paper, said his reason for doing so was the continued high mortality from pneumonia and the desire to give a *résumé* of his experience in country and city practice for a third of a century, together with what he thought was the management most likely to save life at the present time. The teaching of the schools and the practice in the army at the commencement of the civil war was clearly antiphlogistic, including bloodletting and purging. Seeing a vigorous young soldier practically recover from an attack of pneumonia and also from a relapse, then to die of exhaustion attributable to such heroic treatment (directed by another physician), he was himself deterred thereafter from imitating the example. Afterward, it became almost the universal practice to combat heart failure by such drugs as digitalis and strophanthus; and, finally, the temperature received chief attention, leading to the employment of the coal-tar series of antipyretics. The view was that pneumonia was a local disease, and it was only recently coming to be regarded as a constitutional affection with a local expression in the lung, just as in typhoid fever there was local manifestation in the intestine. At this point Dr. Baruch pointed out analogous conditions relating to typhoid and pneumonia, and their bearing upon treatment, particularly hydrotherapy. Both diseases were due to germ infection, the micro-organisms entering the mouth, and going in one instance to the intestine, in the other to the lungs: but in both running a definite life course, during which

they produced constitutional symptoms, which ceased with the death of the micro-organisms, although local lesions might still remain. In pneumonia, however, the diplococci had a life history of only about a third duration of the Eberth bacilli, and they were more likely to reach the meninges and other structures, as well as the lungs, adding further symptoms to those depending upon toxin circulating in the blood. But the chief blow in both diseases was upon the nervous system. It was not until he had learned the true principle of the Brand method in typhoid fever that he had come to feel a sense of security in treating this disease, and he suggested that in hydrotherapy would be found a like positive treatment for pneumonia.

The following was, in brief, Dr. Baruch's management of pneumonia patients: Complete rest of body and mind. Thorough ventilation of the sick-room. Diet restricted to milk and farinaceous broth, four to six ounces every two hours. Plenty of water. Since pneumonia was a disease of short duration, he did not believe in "stuffing" the patients. Alcohol was not necessary, as a rule. He used few medicinal agents, but gave a good dose of calomel at the outset, not repeating it. Its effect was twofold: Placed dry upon the tongue, it destroyed the diplococci in the mouth; it removed the ptomains which might have lodged in the gastro-intestinal canal. Further, it probably was of benefit in indirectly relieving the engorged lung by acting upon the portal circulation. The patient was directed to rinse the mouth frequently with chlorate of potassium. Strychnine was used hypodermically for the heart.

The author then spoke of hydrotherapy, dwelling upon its importance and explaining its mode of action. With children, the tub bath could be readily applied; but for adults he preferred the wet compress, because it was much less disturbing. When tubbing was used for children, one could begin with a temperature of 95° F., and reduce it according to the case. It should be continued a shorter time than in typhoid fever, say ten minutes, and repeated in three or four hours. The cold compress used for adults covered the back and front of the chest, was wrung out of water at 60° F., and was repeated every half-hour or hour, according to the case. A higher temperature than 60° F. might be used if there was much jactitation and excitability. If there was delirium with depression, the compress could be preceded by dashing on of cold water. The author attributed much of the benefit to the tonic effect of the cold compresses upon the nervous centres, and to relieving the heart by dilating the surface capillaries. It also acted by reducing the temperature and increasing elimination, whereby the toxins were cast out of the circulation. The action was very different from that of warm poultices. Under special conditions, oiled silk was placed over the flannel coverings, which converted the compress into a poultice. Only about forty per cent. of the cases treated in this manner had terminated by crisis; the remainder by lysis, or gradual clearing up of the physical and subjective symptoms.

Dr. Baruch said he had not lost a case of uncomplicated croupous pneumonia in private practice since he had adopted the cold compress and general management outlined in his paper. It was more difficult to judge of the method by hospital practice, where one seldom saw the patient in the early stage of pneumonia. The method of applying the cold compresses must be as exact as that of drug administration. The general statement to use cold water might mean, in the summer, water at 75° F.; and in the winter, below 45° F.—certainly a great difference.

Cold Bath in Thirty-Six Cases of Pneumonia.—DR. CHARLES B. FOLSOM, of Boston, expressed the strong conviction that pneumonia should be treated by

boards of health and by the public as an infectious disease. He then related his experience with cold baths, and said it had been limited to thirty-six cases in the Boston City Hospital. It was given very nearly as in typhoid fever, only not quite so long and the temperature was not quite so low. Three classes of cases were excluded: 1, The moribund and those not likely to live more than a day or so after admittance to the hospital; 2, cases in which the temperature did not rise above 102.5° F.; 3, cases of simple, mild, uncomplicated pneumonia, involving perhaps one lobe, in young people who were likely to get well without much interference on the part of the physician. Of the 36 patients, 28 recovered, 8 died—a mortality rate of 22.2 per cent. During the last year, 355 cases of croupous pneumonia had been treated without baths, with 124 deaths—mortality of 34.9 per cent., which was about their average mortality for all years. Of his eight patients who died under the bath treatment, one had typhoid fever and one kidney disease, and if these two were excluded, it would leave a mortality rate of less than 18 per cent. Judging by this experience, Dr. Folsom thought the bath treatment in pneumonia, as in typhoid fever, gave a better chance of recovery, even in seemingly desperate cases. It was clear to him that it had done no harm, and he was well pleased with the results. The patients themselves felt comfortable under the treatment, whereas in typhoid fever about one-third of them disliked the baths. They were given plenty of fresh air and other treatment as indicated. In Boston they gave little medicine for pneumonia, except when directly indicated, and this occurred less frequently under the bath treatment. The baths acted beneficially by moderating the fever, mitigating the pain, lessening the cough, quieting restlessness and delirium, relieving distress in breathing, and inducing sleep.

Adapts the Treatment to the Case, Not the Case to the Treatment.—DR. E. G. JANEWAY opened his remarks with the statment that pneumonia was a broad subject. There was not only a toxic agent, not only inflammation of the lung, but the individual reaction to these two things. In old people pneumonia might attack one or both lungs, prove fatal, and yet not be attended by fever. There one could not employ the cold bath nor the compress. Yet he dreaded the afebrile pneumonia of old people more than he dreaded the highly febrile pneumonia of young people. In the former all treatment had for its object to keep up the strength of the patient.

In young people we saw pneumonia result in recovery under almost any plan of treatment. One week he saw four subjects, all of whom recovered on the third day; in each case the attending doctor had pursued a different course of treatment, and with equally good results. If he had seen but one of the cases, the good result might have been attributed to the treatment.

There was trilobar pneumonia, in which a *sine qua non* to recovery was oxygen. There was cyanosis throughout. We could not look upon pneumonia simply as a toxic disease. The lung was inflamed, the breathing capacity was diminished, and to meet this indication he regarded oxygen as the best agent. Then we had to consider maintaining the heart's strength. Different doctors had different ways for doing this, some preferring digitalis, some strophanthus, others sparteine, camphor, strychnine, nitroglycerin. A good deal might be said about the size of the dose. Nothing varied more than the dose of digitalis and other heart tonics. He remembered a case of Dr. Duncan's, in which the pulse was very bad at the outset of the pneumonia. Dr. Duncan gave a dose of a teaspoonful of tincture of digitalis and repeated it once; the pulse improved, the patient recovered, no more digitalis was required. The case showed that we had

to meet contingencies. He had seen some patients treated with the cold compress as recommended by Dr. Baruch, some treated with a wet flannel, some with oiled silk over the chest. Of the different plans, he thought the compress laid across the chest had acted as well as any. For himself, he did not feel like adhering to any iron rules, either as to external applications or internal medication. More important than any plan was the individual under treatment.

Dr. Janeway was not one of those who decried the coal-tar series of drugs. He had given patients a great deal of comfort at times by their use. In one case, in which the temperature rose to 106° F., cold compresses did not reduce it and the attendant restlessness, while phenacetin did. This experience was repeated twice in that case. The phenacetin reduced the temperature and also induced sleep, as morphine might; but it did not, like morphine, cause constipation, tympanites, and derangement of the liver. Discouragement of the coal-tar series, on account of depressing effects, came from Germany, where they gave very large doses of everything. It was Dr. Janeway's custom to give the smallest dose which would accomplish the purpose, and not to give the largest dose which the patient could stand.

Abortion of Pneumonia.—Dr. Janeway thought it was possible to abort pneumonia, but the opportunity seldom presented itself when the physician was called soon enough, and it was very difficult to prove that without the physician's interference the patient would have had pneumonia. The method which he thought had aborted an attack in a few cases which he had seen consisted in applying a hot footbath for half an hour, hot drinks, sweet spirits of nitre, liquor ammoniac acetatis, aconite, followed by large doses of quinine.

DR. W. P. NORTHRUP expressed interest in Dr. Janeway's remarks on the varieties of pneumonia, and said that he had at one time seen a good many cases of afebrile pneumonia in old people, and was willing to try something new in the way of treatment, since under the plan adopted all died. Regarding the abortion of pneumonia, he thought he had accomplished that in one case, that of a young man, by very hot water to the feet, heat to the side, and hot drinks. In all cases of pneumonia he gave free ventilation and paid special attention to the digestive tract. Flatulency, with pressure against the diaphragm, was very oppressive to a pneumonia patient. He gave oxygen, but it was through the open window. He related several cases illustrating the rapid improvement in the condition of patients suffering with pneumonia when they were given plenty of air by opening the window, and when cold was applied by ice bag, or, better, by bath. What we found especially good in the bath were improvement in the mental condition, quieting of the nervous centres, improvement of the pulse, depth of respiration, sleep. He felt under great obligations to Dr. Baruch for what he had done for New York in the way of hydrotherapy.

DR. ALFRED MEYER said he had had no experience with the bath treatment, but had employed such remedial agents as seemed appropriate to individual cases. He had not a long list of cases, but his assistant at Mt. Sinai had tabulated twelve treated on the plan named, with only two deaths, a mortality rate of about sixteen per cent.

DR. BARUCH said, in some closing remarks, that he had not met with afebrile pneumonia in the aged, but he had seen high temperature pneumonia in the aged which had been treated with cold compresses. He could not accept the view, prevalent among the profession, that oxygen was of use in the dyspnoea of pneumonia, as it had been shown to be against the law of the diffusion of gases. He believed in Dr. Northrup's way of giving oxygen, namely, by way of the

window. Regarding digitalis, he did not doubt that it was a splendid heart tonic in the early stage of pneumonia, but in the later stages it caused the weakened organ to struggle tremendously against contracted peripheral vessels. Indeed, it did harm in the later stages by contracting the peripheral vessels. Regarding cold compresses, he repeated that everything depended upon how they were applied.

SECTION ON GENERAL MEDICINE.

Stated Meeting, November 17, 1896.

REYNOLD W. WILCOX, M.D., CHAIRMAN.

Anæmia in Relation to Cardiac Disease.—DR. ANDREW H. SMITH read the paper (see p. 852).

DR. BEVERLEY ROBINSON opened the discussion. He thought all must have at times met with difficulty in determining to what extent a patient was suffering from simple anæmia, or anæmia depending upon heart disease, or whether certain physical signs were dependent upon the latter or were anæmic in origin. These difficulties applied more particularly to women and children. For instance, a patient appeared in whom we appreciated a blowing murmur at the apex of the heart; there were pallor and oppression of breathing. It was difficult to say at the moment whether such a patient had cardiac disease. Examination of the blood was probably the chief test, and if it were found to show only from fifty to seventy per cent. of hæmoglobin, relative increase of the white cells, and some change in the red cells, of course we would feel that anæmia was a very important factor. But those were not the cases in which there was most difficulty. It was rather those in which there was but slight change in the blood and there were certain signs of cardiac disease. Modern authors had dwelt less upon the relation of cardiac trouble to anæmia than some who had written a number of years ago, and he might mention Stokes, in particular, as one who recognized the difficulty of diagnosis and the importance of making it. The best advice which he could give was to be judicious in doubtful cases. It might be that the cardiac murmur and symptoms of anæmia would disappear under tonic and hygienic measures. As to iron, while we all had some preparation which we were more likely to give than others, he did not think the organic salts possessed any special advantage over the inorganic salts of iron. There were manganese, digitalis, strophanthus, nitroglycerin, etc. He knew clinically that in a good many cases iron acted better when oxygen was also administered artificially. One of the best tonics, when properly used, was sulphur baths, either artificially prepared or at springs. He believed a good deal of the benefit obtained at Bad Nauheim and the Schott treatment, on which Dr. Heineman had recently read a paper before the academy, was due to relief of anæmia and not to the effect upon what he believed to be irreparable cardiac lesions. But it was not necessary to go abroad for the treatment or to get the information.

Functional Cardiac Murmurs.—DR. WILLIAM H. THOMSON said he had been rather disappointed to hear anæmic cardiac murmurs referred to almost to the exclusion of functional murmurs. The latter were extremely interesting to him, and he was sure that in many cases they were the most important ones which came before the hospital physician and the insurance examiner. Functional murmurs included much more than anæmic murmurs. He had known of more than one man being rejected for insurance because of a murmur taken to be a cardiac regurgitant, but which Dr. Thomson believed was only functional; yet there was no anæmia. He was sure there were some strange

murmurs which were affected by the respiration and which were certainly functional. All functional murmurs were systolic. A diastolic murmur could not be functional, neither could a presystolic murmur. A systolic hæmic murmur, as in chlorosis, was heard loudest at the second interspace to the left of the sternum, and while it was frequently transmitted down to the apex, where one heard mitral organic murmurs, yet it was never so loud there, nor was it transmitted to the left, but rather to the right. He did not doubt that Dr. Smith had, as he had stated, occasionally heard a hæmic murmur in the axilla to the left; but Dr. Thomson personally had never had such experience. When in doubt whether a murmur was functional or organic, the examiner should have the patient lie down, and if it were functional it would be diminished. Further, if it were functional, it would totally disappear while the patient took a long breath and held it. If the murmur were due to a lesion of the mitral valve, it would not diminish on lying down, nor disappear on holding the breath. Then there was a difference in the character of the sound. It was not whizzing, buzzing, or booming, as in functional murmurs. The functional murmur diminished also on quieting the patient, who, when he came in for examination, was likely to be much excited, anxious, and to have a rapid pulse. He believed such functional murmurs to be due largely to the muscular element of a rapidly acting, irritated heart in nervous persons.

There was another kind of functional murmur which was very puzzling indeed. It was heard during certain acts of respiration, but was particularly apt to be heard during inspiration and then to disappear. It occurred at the mitral area and was not transmitted at all. This was one of the most peculiar of murmurs, for he had heard it nearly as far to the right as the nipple, and again on the left side, away from the area of the heart, very nearly at the posterior axillary line. He did not know how it was produced, but evidently it was through the lung. A murmur which was heard at a distance from any of the areas of the heart could be put down as functional.

The question of anæmia was a large one, and he would say but a few words on it. He fully agreed with Dr. Smith, that anæmia in relation to the heart was very important. He believed, also, that it bore a causative relation in many instances to organic trouble in the heart; that there were cases of heart disease which were produced by anæmia in the first instance. Throughout the whole animal kingdom muscular power was in direct proportion to respiration. Muscular weakness tended to produce anæmia. The muscle cell had to breathe more than any other cell, more even than the nerve cell, for it had two functions to perform—to produce muscular contraction and to make heat. The most marked cases of fatty heart found at the autopsy table were in pernicious anæmia. There was a softened heart in chlorosis, and in anæmia connected with muscular debility we found a weak heart. Many cases of cardiac disease had dated from a muscle disease, like rheumatic fever.

Dr. Thomson would take issue with any one who would give iron simply because there was anæmia. In all febrile anæmias it did mischief. Doctors were very apt to give it in the anæmia of acute articular rheumatism, and the result was much harm, for it increased temperature. It was so in phthisis. It would be far better to give cod-liver oil.

Anæmic Murmurs Not Always Systolic.—DR. FRANK W. JACKSON said the point in the paper which struck him as most important was the fact that anæmia might be primary, although associated with heart disease. We were too apt to think it must necessarily be secondary to the heart disease. It would be much

better in the cases named to direct treatment to the anæmia and let the heart alone. The opinion generally prevailed that all anæmic murmurs were systolic, and the same opinion had been expressed to-night, but in reality one who examined many and all kinds of hearts found now and then an exception to that rule. Last year a German author had published three cases of accidental murmurs, and, death having taken place from some other cause, the heart was examined and found to be absolutely normal. Dr. Jackson had himself found a presystolic murmur in several anæmic persons, which disappeared when they regained their normal health. Regarding the influence of the recumbent posture on anæmic murmurs, he had seen some cases in which it made no difference. He used the hæmoglobinometer, and if the percentage of hæmoglobin fell below seventy-five there was good reason to suppose that the murmur was anæmic, if there was no definite evidence of organic disease. As Dr. Thomson had said, a large number of murmurs were functional, some were intermittent; at times the diagnosis of their nature was easy, at others very difficult.

DR. LEONARD WEBER had observed, in a small number of cases of progressive disease of the coronary arteries, more or less rapidly developing anæmia, in conjunction with general disturbance of nutrition connected with disturbance of nutrition of the cardiac muscle. The anæmia was one of the signs and consequences of cardiac degeneration, from blocking up of the coronary arteries in the course of the cirrhotic change in their walls. A second point was the development of anæmia from aortic regurgitation. He had seen several such cases in which the anæmia, depending upon mechanical causes, preceded other constitutional symptoms. A third point was that he had seen several cases of diffuse disease of the cardiac muscle and disturbed heart action, without there being any valvular disease—a condition which might occur in gout or old syphilis, causing disturbance of the general health, with more or less profound anæmia. Lastly, while anæmia might give rise to fatty degeneration of the heart, yet there were cases in which fatty degeneration began in a previously dilated heart and caused secondary anæmia.

DR. HEINEMAN thought it was about time the profession abandoned the method which was prevalent when he was a student, of basing a diagnosis of cardiac disease on a few data. The murmur was always the least important thing; the pulse next; then the size of the heart in a moderate number of cases. But, on the whole, the diagnosis was made in a perfunctory way, and when we came to difficult cases we found our methods failed us. If the anæmia, the sphygmographic tracings, and all known facts were taken into consideration, he thought there would be much less doubt than existed in many instances to-day. It was especially important to bear in mind that the intensity of the murmur bore no relation to the extent of the lesion. Regarding baths, he did not agree with Dr. Robinson that we could well judge of a health resort without going there. For instance, he had had no idea of the Hot Springs until he visited them. As to cardiac disease and anæmia in cases treated at Bad Nauheim, the anæmia was the smallest factor. The anæmia had improved, but it was the smallest part of the benefit.

DR. A. H. SMITH closed the discussion. He had heard the murmur to which Dr. Thomson alluded, on the right side, perhaps about the fourth interspace, not connected with anæmia, but rather with muscular prostration. It disappeared with the disappearance of the muscular disturbance or restoration of the capillary circulation in the muscles. He had occasionally heard the harsh sounds at a distance from the heart, present during inspiration, absent during expiration.

He was also unable to explain them. He agreed with Dr. Thomson regarding iron in fever, that it ought not then to be administered. Regarding Dr. Jackson's remarks on having occasionally heard diastolic or presystolic anæmic murmurs, Dr. Smith did not believe much in such murmurs. They were systolic, or he might say that the explanation of presystolic murmurs was that in nine-tenths of the cases the valves did not close on the instant.

Original Contribution to the Anatomy of the Blood Supply of the Heart: Its Bearing upon Angina Pectoris Treated by Physical Methods.—DR. H. NEWTON HEINEMAN read a paper with this title. It was based upon some pathological and histological investigations, begun in Paris, in 1895, and finished in June, 1896, and also upon some clinical facts. As was well known, it had been disputed for many years whether the coronary arteries on the two sides finally anastomosed. There had been a good deal of accepted anatomy in this connection, but very little proven anatomy. His experiments had been on the hearts of various animals, as turtles, rabbits, etc.; and on the human heart, obtained as soon as possible after death. Injections were made with gelatin and Prussian blue. Carmine stain was not suitable, because it injected the surrounding tissue. The facts brought out were that the blood supply of the heart was principally capillary, but what was rather unusual was that in the heart the capillaries came off directly from the large branches, so that one saw a trunk and suddenly on all sides numerous capillary vessels, and very soon venous capillaries and large veins. Further, here and there the capillaries were seen to form what appeared like little reservoirs, the object of which was, no doubt, to receive the blood in systole when contraction of the heart drove it from the vessels. The muscle shortened, and these reservoirs were between the muscular fibres. The two coronaries did anastomose, but it was not through large branches, but through the capillaries. Regarding angina pectoris, he preferred the term stenocardia, and would include under this head all degrees of cardiac pain. Even microscopically we could not always recognize changes in the heart at post-mortem. Consideration of the blood supply of the heart made it evident that even moderate changes in the large branches must make a great difference in the capillary circulation. The prognosis would depend upon the question of cardiac lesion, the condition of the blood supply of the heart, and the severity of the attacks. Cases which showed themselves amenable to treatment offered a better prognosis. The author mentioned the various symptoms sometimes connected with those referable to the heart, and the numerous exciting causes, many of which seemed to act reflexly.

The Treatment of Stenocardia.—The point which the author wished to make with reference to treatment was—after having determined as far as possible the condition of the heart, of the arteries, and of the spleen and liver—to relieve the heart by lessening the circulatory resistance in the organ, and then to strengthen the cardiac muscle. The potent factors were to unload the congestion of the liver and spleen by calomel and salines, and strengthen the heart by saline baths and resistance exercises—a course of treatment which he had described before the academy in his paper on the baths at Bad Nauheim combined with the Schott physical treatment. But one could not make much headway if he resorted to the baths and exercise alone, and failed to relieve the engorged viscera. In addition to these measures, one found aid in such remedies as strychnine, nitrites, etc. Attention must also be given the diet.

DR. F. W. JACKSON expressed his agreement with the author, that we ought not to make the minute divi-

sion of cases of angina pectoris which it had been the custom to do. He also agreed with the choice of name, preferring that of stenocardia. He did not, however, think we could exclude the possibility of some cases being only pseudo-angina. In other words, he thought there might be a cardiac pain which was not true angina.

Treats the Circulation Rather than the Heart.

—DR. CHARLES E. QUIMBY expected anæmia to occur sooner or later in all cardiac cases. It preceded dilatation. This malnutrition might be slight at first, but should be combated, which he did by giving tonics, especially iron; and if the patient was unable to assimilate this, he made it possible by differential breathing. The important thing was to increase the capillary circulation, instead of giving drugs intended alone to increase the heart beat.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual and Stated Meetings, November 23, 1896.

E. D. FISHER, M.D., AFTERWARD L. C. GRAY, M.D.,
IN THE CHAIR.

The Medical Directory.—DR. DANIEL LEWIS, editor of the medical directory published under the auspices of the society, presented his report. The first edition, nine years ago, was very small compared with the present volume, and, of course, contained much less information. At present the addresses were given of nearly eleven thousand physicians, including those in the States of New York, New Jersey, and Connecticut, and in the volume of five hundred pages was much information useful to the profession. The next volume would contain one hundred additional pages. The expenditures for the last volume had been \$3,721; the income, \$3,980.

Advertisements in the Directory.—DR. A. Y. REID wished to be informed as to what could be done regarding such advertisements in the medical directory which members would not be willing to endorse individually as physicians, but which apparently had the endorsement of the county society because printed in this book.

After some discussion, which took place in executive session, Dr. Reid offered a resolution which received the approval of Dr. Lewis and the society, providing for the statement in the preface that the society did not hold itself responsible for anything contained in the advertisements.

Address of the Retiring President.—DR. E. D. FISHER, in retiring from the presidency, cast a brief retrospect over the work of the year. It had not been characterized by any departure from the usual course of scientific advancement. The question of the organization of hospital boards had arisen, and could safely be left to the sober common sense of the profession. The various standing committees had done efficient work. The committee on hygiene in particular had had under consideration some important questions relating to the public health and well-being. Among these was the proper care of the poor, the founding of public baths and of convenient lavatories. Dr. Fisher had himself given some study to the system of lavatories in London and other European cities, and hoped to see something done in New York for the sake of the public health and to do away with the necessity for entering saloons or hotels.

Address of the President-Elect.—DR. LONDON CARTER GRAY, in his address, said: "When I look over the long list of presidents of this society, and perceive

such names as Hosack, Cock, the two Rogers, Delafield, Bulkley, Taylor, Fennell, Hubbard, Peasley, the two Elliots, Jacobi, Sands, Peters, Bumstead, Purdy, Sturgis, Webster, Vander Poel, Lewis, Grandin, and Fisher, I cannot but feel that I have received a great honor in being chosen as a successor to these gentlemen.

"In the great changes that have taken place in this city between 1806, when this body first came into existence and the population was about 90,000, and the present year, during which it is estimated that the dwellers within our corporate limits number 1,851,060, medical societies have multiplied, not only for scientific but also for social, topographical, and collegiate reasons, and the County Society no longer occupies the same relative position that it did for years after its foundation; and this has too often caused those not familiar with its work to overlook the fact that it is possessed of great powers, which would make medical men instinctively turn to it in time of war or epidemic. It has at the present time a membership of fourteen hundred and eighty-four. It is the official, or authorized, or representative society of the medical profession in the county of New York; while through its delegates, who can become members of the State Society by the simple process of attending for two successive years, it has an intimate affiliation with the larger organization, and, by this intermediary, with every medical society in the State. It has three standing committees of great importance. By means of the one upon ethics it regulates the professional conduct of its members with an authority that very few men would care to dispute. By its committee on hygiene it keeps a watch upon the public health; and the committee upon prize essays gives an opportunity for generous recognition to many a struggling man of talent. It has a large and active comitia minora acting as councillors to the president. It has a salaried counsel of the law, standing ready to protect the interests of the profession against imposture and injudicious legislation. It is in the metropolis, and its incentives, its opportunities, and its dignity are those of the greatest city of the country, so that what it does (provided it be worthy of notice) is known of all men throughout the broad American nation of physicians. I do not need to remind you of how effectively these powers have been used in the past, and are being employed in the present, for the historian of the battles that have here been fought and won for a higher standard in medicine would need more than an evening to chronicle these achievements.

"It would seem, from what information is at my disposal, that the members of this society are not aware of the fact that section 41 of the consolidation act, chapter 410, laws of 1892, disqualifies a physician from being the president of the municipal board of health in these words:

"The head of the health department shall be called the board of health. Said board shall consist of the president of the board of police, the health officer of the port, and two officers, one of whom shall have been a practising physician for not less than five years preceding his appointment. The commissioner of health, who is not a physician, shall be the president of the board, and shall be so designated in his appointment. The commissioners of health shall, unless sooner removed, respectively hold their offices for six years and until their successors shall be respectively appointed and have qualified."

"I am told that this clause was copied from the charter of 1873, but I am at a loss to understand the reason for disqualification of physicians for an office which one would think peculiarly required medical skill and experience.

"But I would like to ask your especial attention to

the abuses of medical charity—a subject which has been so often discussed and rediscussed that our souls have become weary, and I should hesitate to allude to it but for the seeming opportunity now offered to us in the power recently given to the State board of charities to revoke the charter of any institution proven to dispense medical charity improperly. This clause was introduced into the new constitution by Mr. Tunis G. Bergen, president of the State board of charities, to whom the profession should be under a lasting debt of gratitude; and I never fully appreciated what this gentleman has attempted to do for us until I obtained accurate figures upon the subject, through the kindness of our distinguished colleague, Dr. Stephen Smith, who is a most energetic member of the same board. From these statistics it would seem that the county of New York has, at the present time, 26 hospitals and 114 dispensaries. In the former, during the year 1895, 75,368 patients have been treated free, and in the latter 661,803, making a total of 737,171. Just stop for a moment to think of it, gentlemen, that 737,171 patients have been treated gratuitously in the last year in this city, of which the population is only 1,851,060. In other words, the proportion of such free patients to the whole community is 39 per cent. There have been 92,529 free visits of patients to hospitals in 1895, and 1,387,170 free visits of patients to dispensaries. Out of 1,104,381 prescriptions that have been dispensed, there is no means of knowing exactly how many have been without charge, because 52 of the dispensaries have made no report to the State board of charities, while of the 62 that have reported, 16 make no charge for their medicines, and 46 make nominal charges of from five to fifty cents, or nothing when the patients are unable to pay. Of these 114 dispensaries, 60 take certain precautions to weed out the unworthy, such as making inquiries, questioning the patients, judging by their appearance, and by the statements of physicians sending them, while the remaining 54 either make no inquiries or have made no report. In attendance upon these 114 dispensaries are 949 medical men, which is 27 per cent. of all the physicians in the city, who number 3,430. Efforts were made to ascertain how many of these patients were non-residents, but the answers were usually very indefinite; one institution stating 'very few, if any,' others 'from one to ten per cent.,' while 10 had treated 2,124. The foregoing summary does not include institutions under the charge of the local commissioners of charity, one of whom, Mr. John P. Faure, has kindly informed me that there are 8 city hospitals, containing 7,089 patients, and that the out-patient branch has treated 49,620 patients during the year ending June 30th, 1895. Although it is probable that these cases are really worthy of charity, yet, in strict logic, the figures should be added to those given above, which would swell the total of patients treated in this city in one year to 793,880.

"These statistics confirm the rumors that have been rife among us for many years, such as that the president of one of the largest municipal railroad corporations was discovered to be a regular attendant at one of the dispensaries; that patients come occasionally to the clinics in carriages; that practices can almost always be obtained from certain clinics in a large dispensary, such as those of general medicine or gynecology; that the neighborhood of large dispensaries is bare of physicians' residences; that patients come to town from distant cities with a physician, occasionally with a relative, put up at a hotel, seek a clinic for medical advice, and, when told in one dispensary that they are not fit objects of charity, speed away in hot indignation to another: that patients are frequently sent to a clinic with a letter from the attending phy-

sician containing a modest request for diagnosis, prognosis, and treatment, inquiry eliciting that their intention is to go back to this gentleman's office and pay him for treatment; that patients in the country towns for miles around New York are quite appreciative of the excellencies of our city dispensaries for different diseases; and that patients constantly go to dispensaries in order to ascertain the best physician for their particular disease. The reasons for this enormous increase in our charity work is plain to any one who has witnessed the development of our hospitals and dispensaries of late years. The public must be appealed to for money; the larger the number of patients, the more need shown for money; and no effective general regulations being strongly enforced, the growth of the abuse has been so stupendous that all methods of restriction have proved utterly ineffectual. The intentions have been altruistic in the extreme, on the part of both lay and medical members of hospital boards; indeed it is questionable whether any one has known the full extent of the evil.

"It will not be denied for one moment that a certain, nay, a liberal amount of charity work is a necessity to the medical profession, distinguishing it in this respect from all others. The lawyer, for instance, the engineer, the minister, the architect, the *litterateur*, the journalist, can each perfect himself in the art of his calling without proffering his services gratuitously, but the physician must study types of disease only to be adequately observed in such large numbers of human beings as are incidental either to a large practice or to hospitals and dispensaries—indeed, it may be doubted whether the fullest practice, in the harvest time of a successful physician's life, will offer him such opportunities for familiarizing himself with maladies as do our hospitals and dispensaries. It must be remembered, too, that relatively few men obtain great practices, and that they can hold them only by means of the knowledge of ailments acquired in the previous years of attendance upon hospitals and dispensaries, so that these institutions are the training-schools of our profession, inestimable to the men whom they bring into contact with each other in their varyingly eager and mutually stimulating pursuit of the same ideal, aided by the assistants, the instruments, the nurses, the housing, and the organization of such corporations. Then the thousands of students who come to this city must be taught, and this cannot be done without the clinical material of hospitals and dispensaries. Any unwise restraint would therefore imperil the existence of New York as the medical centre of the country, and no man in his senses would dream of such restriction. But such manifestly indiscriminate charity does not seem necessary to these purposes. It is trite to say that no suffering person should fail to receive the medical aid that may be needed in the emergencies of life, but in this city there really does not seem to be much likelihood of such a grievance when 949 physicians, out of a total of 3,430, treated 737,171 patients in one year, made 1,479,699 free visits, and wrote 1,104,381 prescriptions, besides paying due attention to the other duties incidental to attendance upon 26 hospitals and 114 dispensaries.

"In our medical profession there are gentlemen who have been so favored by fortune that it has not been their lot to come in contact with the seamy side of practice; there are others to whom fame has brought its attendant success; and there are still others whose special branches obviate the necessity of practice. To these medical men this statement of facts may seem exaggerated, but the great body of practitioners and those who are broad-minded enough to realize this grave violation of the first principles of a wholesome political economy will feel, as I do, that prompt and

just measures should be taken to regulate our medical charities. For my part, I have a most thorough appreciation of the needs of those upon whom we should bestow charity, but my sympathy is broad enough to embrace the medical as well as the lay poor. I should therefore recommend to this society that a special committee be appointed to obtain such facts about this subject as may be necessary to just conclusions, and that the results of this investigation be submitted to the entire society for such action as it may think proper. I would suggest that this committee consist of eleven members, namely, the chairman, five members to represent respectively the five medical schools, and the other five on behalf of the profession in general."

Committees.—THE PRESIDENT appointed the following committees: On ethics, A. M. Jacobus, chairman, James P. Tuttle, John Beach Knapp, Henry S. Stearns, William S. Dennett; on hygiene, W. H. Katzenbach, chairman, Egbert Le Fevre, Charles North Dowd, J. Harvie Dew, Robert C. Myles; on prize essays, William Stevens, D. Bryson Delavan, John E. Weeks; on auditing, V. P. Gibney, George Woolsey.

Notes on Appendicitis and Exhibition of Type Specimens.—DR. ROBERT T. MORRIS read the paper. The specimens, arranged in rows in bottles on a card-board, began with a normal appendix, which he explained was obtained post mortem. Next was an appendix in a state of acute exudative appendicitis, with desquamation of the mucosa and compression anæmia of the coats. The specimens then successively led up to the more chronic pathological changes. They showed how some cases might cure themselves, at least for that attack.

In order to estimate the number of cases of appendicitis occurring annually in the United States he had asked eight physicians who were in the habit of diagnosing the disease the number of cases they had encountered for the year ending July 1, 1896. The number would have to be much greater in order to form a reliable opinion, but the following estimates were thought to be quite within the bonds of truth: twenty-five per cent. of cases of appendicitis not treated surgically finally proved fatal of that disease, but not necessarily in the first attack; a liberal estimate of his own death rate from surgical treatment gave only two per cent.; the number of physicians in the United States was probably about one hundred and three thousand, each of whom saw probably two cases of appendicitis annually, giving a total number of cases for a year of two hundred and six thousand. If this number were treated not surgically, the total number of deaths would be over fifty thousand.

Regarding the origin of appendicitis, it was frequently due to trauma inflicted by the right psoas muscle. This occurred oftener in man than in woman, because, as pointed out by Dr. Robinson, of Chicago, the appendix in the latter more frequently hung in the pelvis out of the way of trauma by the psoas. But whatever the cause of the trauma, the appendix frequently contained a fecal concretion and infectious bacilli ready to attack the mucosa as soon as this was injured. The form of the tube was such that it did not allow the lymphoid tissue to swell equally: the inner layers of the tube suffered from compression anæmia and became a prey to bacteria.

The diagnosis was objective and subjective. Dr. Morris placed stress upon the value of palpation when the appendix was not in a state of acute inflammation, for by palpation the condition of the organ could be recognized, whether healthy or diseased. In acute inflammation there was a board-like condition of the belly, which was a valuable differential sign from salpingitis. No doubt catarrhal appendicitis might exist

with catarrh of the colon and cæcum, but in all cases in which the diagnosis of appendicitis was made the case had passed beyond the catarrhal stage.

Years ago he had laid down the rule to operate in all cases in which the diagnosis of appendicitis was well established, during or after the attack, for it was impossible to say what patients would not die under medicinal treatment, or how soon a fatal attack would occur if the patient recovered from the first. His statement on this point had led to his having been misrepresented, as he had been on other points, but surgeons, nevertheless, had come to adopt the propositions which a few years ago they had combated. He had been represented as even removing the normal appendix in case the abdomen were opened for some other purpose, while in fact he was opposed to such practice. He had also been misrepresented with regard to the inch-and-a-half incision. He did not recommend it to those in whose hands the patient's life would not be safe without an opening six inches long. Gauze should be avoided if possible, for it tended to the development of ileus. Iodoform gauze was not an infrequent cause of some seemingly unaccountable rise of temperature and wandering in mind.

The paper was discussed by DR. MCENROE, who spoke of medicinal treatment, including opium; by DR. B. S. TALMEY, who thought it was not twenty-five per cent. of all cases of appendicitis which resulted fatally, but rather of the operative cases; by DR. SAVIDGE, who thought those who spoke of medical treatment versus surgical had done so without discrimination; by DRS. COLE and COLLYER, both of whom approved of the position taken by the author. Dr. Cole would attach more importance to the pulse and also to the temperature than was done in the paper.

DR. MORRIS concluded his reply with the statement that those who were not willing to turn cases over to the surgeon, but preferred to turn them over to the bacteria, must allow the decision to be made upon the pathological condition. There were some surgeons more dangerous than some bacteria, and some bacteria more dangerous than some surgeons.

Committee on the Abuse of Medical Charity.—DR. BURTENSHAW, in accord with the suggestion contained in the president's inaugural address, moved that a committee of eleven members be appointed to report on the abuse of medical charity. The motion was adopted. The committee will be composed of the president as chairman, and of five members to represent the medical colleges and five to represent the general profession.

Committee on Legislation.—On motion of DR. FRANK VAN FLEET the president was authorized to appoint a committee on legislation, to act with the committee of the State Medical Society, and see that no bills pass the legislature detrimental to public health. It was because nobody was present to oppose it that the chiropodists had secured the passage of a bill permitting them to practise minor surgery on the feet. No doubt the opticians would try again this winter to have their bill passed.

A Humiliating Law.—DR. D. B. ST. JOHN ROOSA moved that the comitia minora be requested to draft a bill, and have it presented in the legislature, for the abolition of that clause in the present law which prohibited a physician from being president of the board of health. Adopted.

Tight Lacing. according to Einhorn, is accountable for the large proportion of ptosis of the stomach and intestines with movable kidney found in the female subject.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Ninth Annual Meeting, Held in Nashville, Tenn., November 10, 11, and 12, 1896.

E. S. LEWIS, M.D., OF NEW ORLEANS, LA.,
PRESIDENT.

First Day—Morning Session.

THE association met at the Nicholson House, and was called to order by the president at 10 A.M.

Address of Welcome.—This was delivered by the HON. JOHN BELL KEEBLE, of Nashville, and was responded to by PRESIDENT LEWIS.

Vaginal versus Abdominal Section for Pus in the Pelvis.—This paper was read by DR. W. D. HAGGARD, JR., of Nashville, in which the author recounted the transitional periods in the treatment of pus in the pelvis—vaginal puncture, superseded by abdominal section and removal of pyosalpinx, total uterine castration per vaginam by the French and through the abdomen by the American school. These operations had given way to modern vaginal section and evacuation and drainage of all pus pockets. The abdominal route affords visual inspection of the field. The attack on morbid masses could be made with safety to visceral integrity. If pus accumulations were multiple, rupture and peritoneal soiling were inevitable; that is the supreme disadvantage of abdominal incision. The author had often seen the pelvis deluged with pus with impunity. He had also seen patients die within twelve hours from fulminant sepsis from peritoneal contamination. The writer referred to a mortality of 18.5 per cent. in a series of collected cases of laparotomy for pus, done in five metropolitan hospitals in the last year, and asked, What must it be in the "unheard-from precincts," and in the hands of the great unwashed? The abdominal method offered the best approach in tuberculous inflammation of the ovaries and tubes and in small unilateral pus tubes. The author referred to the advantages of exploring the pelvis for retro-uterine tumors and disease of adnexa by vaginal section.

The geography of pus in the pelvis in most cases made vaginal incision extraperitoneal, a minor procedure giving major results—no shock, no risk, no disturbance in convalescence. In prolonged sepsis from large abscesses, posterior section and drainage were a life-saving procedure. The special indications were in (1) early cases of acute suppurating salpingitis; (2) incipient post-puerperal peritonitis; (3) large pyosalpinx and true pelvic abscess. The first group included early gonorrhœal and abortion cases. In puerperal cases, incipient peritonitis and puddles of pus in Douglas' space imperatively demanded incision. Should simple pus-letting in any of these cases not effect a cure, subsequent operation for removal of the relics of previous ravages can be done without the dangers incurred in the presence of pus. The field of vaginal section is to prevent suppuration in early cases, to anticipate it in puerperal cases, and to save life in desperate cases. Its application to the pelvic inflammatory processes and to pus in the pelvis was one of the greatest surgical triumphs of the age.

Discussion.—DR. JOSEPH TABER JOHNSON, of Washington, D. C., said that while the vaginal method had a great many points in its favor and was being resorted to more and more in cases of large pus collections in the pelvis, yet those who had been familiar for a considerable time with the abdominal route could operate more conveniently and dexterously by this method and with greater safety to the patient than by the vaginal method. He could not agree with the speaker that the vaginal operation may be done with-

out any risk to the patient. Sometimes in operating through the vagina for the purpose of removing the uterus and its adnexa, or for large pus collections high up in the pelvis, where it was necessary to manipulate the parts a good deal and to do a thorough enucleation, the surgeon was likely to tear the intestine, the bladder, the ureter, or rupture a large vessel which was out of sight. In such cases the abdominal was much safer than the vaginal route.

DR. CHARLES P. NOBLE, of Philadelphia, did not feel that either the abdominal or the vaginal method possessed all the advantages, but if restricted to one or the other he should prefer the abdominal rather than the vaginal route. An objection formerly urged against the abdominal route was the large percentage of hernias which followed this method. Only a week since he had tabulated the operations he had done in four years, which amounted to 397 abdominal cases, in which he had used the buried suture in closing the abdominal wound. In this number 7 of the wounds suppurred, while 390 healed by primary union. Of the 7 which suppurred, 1 had a hernia. Of the 390 cases, 1 had a large umbilical hernia. Aside from these two cases, he had not had any hernias in his operative work for the last four years when the buried suture was used. If the patient was in a condition to permit the surgeon to do ideal work, he thought the question of hernia was such an insignificant one that it might be left out of consideration.

DR. HOWARD A. KELLY, of Baltimore, said that, whenever possible, pus in the pelvis should be treated by vaginal puncture or section posterior to the cervix, without sacrificing any of the uterine appendages. A large percentage of the cases thus treated would have no future discomforts. Illustrative cases were cited. One of the principal arguments advanced by advocates of the vaginal route in removing the uterus, tubes, and ovaries was the excellent drainage that could be secured by this method. In Dr. Kelly's opinion it was unnecessary to take out the uterus to get drainage.

DR. L. S. McMURTRY, of Louisville, said a deep impression had been made upon the profession in the last two years by the vaginal method of operating for pus in the pelvis. This procedure, however, was by no means a new one. Battey, in his original operations upon the ovaries, attacked the pelvic organs through the vault of the vagina. The method of attacking accumulations of pus in the pelvis by vaginal puncture and drainage was the universal practice of abdominal surgeons for a long time. The sacrifice of the uterus in the majority of cases of suppurative pelvic inflammation was unnecessary. Surgery should be confined within the limits of removing only such diseased tissue or organs as were necessary for the complete cure and restoration of the patient.

DR. J. WESLEY BOVÉE, of Washington, D. C., objected to anterior colpotomy in dealing with pus cases unless the accumulation of pus was on top and in front of the bladder. He thought these cases could not be drained through the anterior vaginal route, and the pus could not be reached in many cases. He believed it was not necessary to remove the uterus at the same time pus tubes were taken out. He did not want to be understood as being opposed to the vaginal route in very urgent cases.

DR. R. B. MAURY, of Memphis, had, during the last two years, made it his duty thoroughly to study the subject of vaginal hysterectomy, as he had done quite a number of these operations without any mortality, without any accident, and without unpleasant result. But he would not undertake to say that we ought to substitute it for laparotomy. Both abdominal and vaginal hysterectomy were operative measures that surgeons must avail themselves of according to the circumstances of the case. Dr. Maury then cited the

histories of two cases that he had treated within the last thirty days, which beautifully illustrated the advantages of the two methods.

DR. W. E. B. DAVIS, of Birmingham, Ala., said the practise of incising pelvic abscesses was so old that it hardly required discussion, but the method of attacking pus tubes by vaginal section was comparatively recent. Unquestionably vaginal incision for pus confined to the tubes and ovaries would save these important organs in a good proportion of cases. In all cases of large pus collections in the pelvis, nothing more should be done than to incise the abscess and drain, and then later on the surgeon should be prepared to do an abdominal section, if necessary, but he thought the surgeon would rarely have occasion to do this. Total ablation of the uterus and its adnexa was unnecessary in the many instances in which it was practised by some surgeons.

Cholelithiasis.—A paper on this subject was contributed by DR. A. M. CARTLEDGE, of Louisville, in which the author reported several interesting cases. He dwelt upon cholecystostomy and cholecystenterostomy, pointing out the indications for each operation. He considered cholecystostomy as the only operation that was applicable to the cases cited. In his opinion there were no cases that primarily demanded cholecystenterostomy.

DR. JAMES MCFADDEN GASTON, of Atlanta, agreed with the essayist that in ordinary cases of gall stones in the gall bladder with obstruction of the cystic duct, the simplest procedure was to lay open the abdominal wall, attach the gall bladder to the incision, and remove the gall stones. But in a large proportion of cases of complete obstruction he doubted whether there would be restoration of bile through the cystic duct into the gall bladder. With reference to the comparative value of cholecystostomy and cholecystenterostomy, the two operations were applicable to entirely different conditions. No one would operate and expect benefit from a cholecystostomy except to establish drainage for the bile in a case of permanent occlusion of the common duct, and this was the only condition in which the advocates of cholecystenterostomy had ever claimed anything for it.

DR. JOHN D. S. DAVIS, of Birmingham, emphasized the point that patients frequently had gall stones without the manifestation of symptoms, particularly the symptom jaundice. He did not believe that it was ever wise to resort to cholecystenterostomy as a primary procedure. The surgeon should first resort to drainage, and then, if relaxation did not take place and the flow of bile was not effected, a cholecystenterostomy should be done.

DR. GEORGE BEN JOHNSTON, of Richmond, Va., spoke of the diagnosis of gall stones. He was convinced that if examinations of suspected cases of gall stones were as careful and minute as they should be, surgeons would frequently find them. It had been his experience that enlargement of the gall bladder did not always occur when a gall stone existed, but that a condition which simulated enlargement of the gall bladder frequently did exist, this condition being due to the presence of numerous dense adhesions found in the neighborhood of the gall bladder, gluing it to every tissue with which it came in contact. One thing which struck him as very singular in connection with the presence of gall stones was that the size of the stone or stones seemed to make no difference in the production of symptoms. In regard to hemorrhage, it was generally admitted that in cases in which cholæmia was profound, they were the ones in which we were to expect hemorrhage, and by no known method could this hemorrhage be successfully controlled. The cholæmic condition seemed to invite a fatal hemorrhage. The experience of operators in

this field of surgery was that when cholæmia was profound, hemorrhage of a fatal character was to be expected. He considered cholecystostomy a proper procedure in all cases, except in those in which the obstruction was in the common duct and could not be relieved.

DR. W. E. B. DAVIS said surgery of the gall bladder for the removal of gall stones had given brilliant results, but there were still questions in regard to operative procedures on the ducts that were not as yet definitely settled. He did not believe the essayist referred to cholecystostomy as being the choice of operation in cases in which the obstruction of the duct could not be removed; that he must have had in mind the procedure advocated by Murphy of resorting to this operation in a case of gall stone in the gall bladder when there was no obstruction in the duct. Murphy resorted to cholecystenterostomy instead of cholecystostomy, and he thought the essayist did not intend to convey the idea that he would not do a cholecystenterostomy when the obstruction in the duct could not be removed. Cholæmic cases were bad to operate upon. Perhaps in not more than five or six per cent. of the cases was the obstruction found in the common duct. Some years ago the author made experiments which conclusively showed that the surgeon could incise the duct and drain with gauze without peritonitis following. A paper on this subject was read by him before the American Medical Association in 1892, since which time he had done further experimental work in which sutures were not used after the stone was removed from the duct, and while several of the subjects were at the time very nearly dead from profound cholæmia and eventually did die, yet in the cases in which this method was resorted to the abdominal cavity was walled off and peritonitis did not result.

DR. GEORGE A. BAXTER, of Chattanooga, directed attention to the frequency of gall stones unattended with the ordinary symptom of colic, and cited an illustrative case in which there were found post-mortem three large stones in the gall bladder.

DR. F. W. MCRAE, of Atlanta, reported a case in which there were repeated attacks of colic with profound cholæmia. An operation was undertaken with the idea that the obstruction was in the common duct, and that there were stones in the gall bladder. On opening the abdomen in the presence of several physicians, the liver was found much enlarged and reaching almost to the umbilicus. Instead of finding the gall bladder enlarged, he found a fibrous cord not larger than his index finger. The common duct from disuse was reduced to a mere cord. A calculus was found in the hepatic duct extending up into the transverse fissure of the liver. He did not know what to do for a case like this, and after consultation with his colleagues closed the abdomen. The patient died five days later from exhaustion. If anything could be done for such patients he would like to know it.

First Day—Afternoon Session.

Mental Complications Following Surgical Operations.—DR. JOHN T. WILSON, of Sherman, Tex., read this paper. He said the subject of mental disorders produced by or following surgical operations had not been discussed to any great extent, and until within the past two years only a passing notice had been given to it. It was a strange fact that while surgical operations would sometimes cause serious mental disturbances, on the other hand those same operations would sometimes cure them. Especially was this the case with some melancholiacs. Many females laboring under attacks of melancholia caused by some disease of the genital apparatus had been cured when relieved of the physical defects by operation; others

had been much improved, and yet some had received no benefit. The question might very properly be asked why a surgical operation should produce an attack of insanity. This could no more be answered in every case satisfactorily than could the question why some persons became insane from the many other causes to which insanity was attributed, for in most cases the mental complications were a surprise and no good reason could be given why they should follow. In others, however, a logical explanation might be had. If the patient was a high-strung, nervous individual, easily excited, unable to bear pain, the great and increasing dread of the anæsthetic, the operation, or both, would so affect him that he would lose control of the will power and the explosion would come after the operation and reaction from the anæsthetic. In many of these cases, probably a majority, there was a hereditary taint or a strong neurotic tendency.

The author quoted Mairret, who thinks (1) that it is in those individuals who are predisposed by heredity or other grave causes—alcoholism, infectious diseases, etc., that surgical operations give rise to insanity; (2) in the constituent elements of an operation that may act on the brain the two most important ones are the anæsthetic and the degree of surgical traumatism, with its after-effects, of which disturbed nutrition plays a very important part; (3) when predisposition also is considerable, the anæsthetic alone may produce insanity, or it may result even after minor operations. It is, of course, necessary to take into consideration the mental state of the patient prior to the operation, especially in those graver ones in which frequently questions of life or death are involved.

Discussion.—DR. E. S. LEWIS, of New Orleans, related the case of a woman, forty years of age, very hysterical, upon whom he had operated for laceration of the perineum. She had manifested no evidences of insanity prior to operative interference, but during convalescence the hysterical manifestations increased and were associated with delusions. Her condition became so serious that on different occasions she threatened to commit suicide. She was transferred to an insane asylum, and after a thorough examination by the physician in charge an unfavorable prognosis was given. Investigation of the family history showed traces of insanity.

In another case, that of a woman sixty years of age, he removed a very large adherent ovarian tumor, the operation being attended with considerable shock. For a few days subsequently the patient did well, but she later became perfectly insane. These were the only two cases he vividly remembered, although he had seen after operations cases of temporary insanity which had passed off in the course of a few months.

DR. W. E. PARKER, of New Orleans, had seen in men two or three cases of insanity following surgical operations, but had never been able to trace any history of the disease in the family. The insanity occurred in alcoholics. Two of the men were either cocaine or morphine habitués. In the management of such cases the particular drug to which the patient was addicted should still be continued in very small doses, being cut off gradually, for the reason that great prostration often followed the sudden interdiction of a habit that had been continued for many years.

DR. R. B. RHETT, of Charleston, S. C., had met with three cases of postoperative mental aberration, two of which occurred in old women after removal of the breast for cancer. A third case occurred in a young woman who had had puerperal insanity prior to operation. In two cases the insanity lasted for three days, in the other for three weeks.

DR. A. M. CARTLEDGE, of Louisville, said the question of postoperative insanity led us to discriminate as to the probable etiology in many of the cases. He

thought the author of the paper had in mind to deal with those cases of postoperative insanity that were functional in character, rather than those in which patients suffered from the mental impression produced by the operation in general. He was quite sure most of the cases, except those characterized by hereditary tendencies and traits, could be traced to some organic lesions. The history of the case should always be thoroughly investigated. He had encountered what he considered pure postoperative insanity in only two cases.

DR. JOHN D. S. DAVIS considered the subject of interest from a medico-legal standpoint. No surgeon was absolutely free from such mental complications occurring in his operative work. He had encountered four cases. In the case of a certain young man there was no history of insanity, but an analysis of the urine before operation showed a great many casts and a slight trace of albumin. Operative interference was followed by acute mania, which lasted seven days, then disappeared, and the patient recovered. He would like the essayist, in closing, to touch upon the responsibility of the surgeon in this class of cases.

DR. JOSEPH TABER JOHNSON said that in talking with Drs. Kelly and Noble, he learned that the latter had met with eight cases of insanity following perineal operations. He asked the essayist to state whether operations upon the perineum were more frequently followed by insanity than others.

DR. WILSON in summing up said he had seen a number of cases of various forms of insanity following surgical operations, but did not think the disease occurred more frequently after perineal operations and operations upon the genitalia than upon any other part of the body. In reply to Dr. Davis' question, he did not think the physician was any more responsible for the death of a patient from insanity following an operation than he was for death following any other operation. He had never heard of a suit for malpractice being brought against the practitioner for a case of mental derangement following a surgical operation.

Splitting the Capsule for the Relief of Nephralgia.—DR. GEORGE BEN JOHNSTON, of Richmond, Va., read a paper with this heading, in which he drew the following conclusions: (1) Nephralgia is not always associated with a demonstrable lesion. (2) When other evidences of kidney disease are wanting, the pain is due to a too tight capsule. (3) Nephralgia may and frequently does simulate symptoms of gross tissue changes or mechanical irritation. (4) When severe and persistent pain in the kidney exists without other evidences of renal disease, exploratory operation is indicated. (5) When inspection, palpation, and needle puncture fail to disclose a condition sufficient to account for the pain, the capsule should be freely opened.

Uretero-Ureteral Anastomosis.—DR. J. WESLEY BOVÉE, of Washington, D. C., read a paper on this subject and reported an interesting case. The author dwelt at length upon the literature of the subject, quoting from the contributions to the surgery of the ureters by Van Hook, Fenger, Kelly, and Cabot in this country, and the classical works of Glantzenay, Liaudet, Tuffier, and others in Europe. He drew the following conclusions: (1) Uretero-ureteral anastomosis is a perfectly feasible procedure. (2) Uretero-ureteral anastomosis, whenever possible, is far preferable to any other form of ureteral grafting, to nephrectomy, and to ligation of the ureter. (3) It should be done preferably by lateral implantation or by oblique end-to-end anastomosis, though the transverse end-to-end, or the end-in-end methods may be safely employed. (4) Constrictions of the calibre of the ureter do not usually follow attempts at suturing in closure of complete transverse section of the duct.

(5) Nephrectomy for transverse injuries of the ureter, *per se*, is an unjustifiable operation. (6) Simple ligation of the ureter to produce extinction of the function of the kidney is too uncertain to justify its practice. (7) Drainage is not necessary if the wound be perfectly closed and the tissues are aseptic.

DR. HOWARD A. KELLY was very much interested in this subject and said every abdominal surgeon should be familiar with uretero-cystotomy or uretero-ureteral anastomosis, because in doing abdominal operations the surgeon was liable at any time to injure the ureter, when he would be confronted with the necessity of doing something to repair it. Dr. Kelly then pointed out the various ways in which the ureter might be cut during operations and described the method he pursued in repairing such injuries.

DR. CHARLES P. NOBLE cited a case of neglected extra-uterine pregnancy complicated with an intra-ligamentous ovarian tumor. In operating, the intestines were apparently adherent over a mass of blood and a large fleshy adhesion ran upon it. To save time this was clamped, cut through, and the pelvis cleaned out. It was necessary to do a hysterectomy in order to get anything to tie, as the anatomical landmarks were obliterated on both sides of the pelvis. Furthermore, the broad ligaments did not come down in the usual way. When the operation was completed the patient was in collapse, and it was found that what was supposed to be a fleshy adhesion was really the ureter and thickened peritoneum. The ureter was cut off almost up to the kidney itself. The lower part of the ureter was taken out with the mass of blood, there being only the upper three or four inches of the ureter left. Dr. Noble thought that if any attempt had been made to prolong the operation with the patient in collapse death would have resulted. Although the remainder of the ureter was short, it was dragged up into the upper end of the abdominal incision. It was impossible to do a uretero-ureteral anastomosis, likewise to switch the ureter into the bladder, because it did not reach anywhere near the brim of the pelvis, much less the bladder, and there was nothing else to do but to remove the kidney, which Dr. Noble did, and the patient recovered.

The Treatment of Pregnancy and Labor Complicated by Fibroid Tumors of the Uterus.—DR. HENRY D. FRY, of Washington, D. C., read this paper. He advanced two propositions: First, that the production of abortion is unjustifiable. Second, that labors presenting serious difficulty to delivery are best treated by abdominal section and removal of the child and tumor. By maintaining this position the interests of the mother are not relegated to second place. While saving the life of many infants, the maternal mortality will also be diminished. After making a few brief remarks on the natural history of fibroid tumors complicating the pregnant state and reporting a few cases that had come under his care, he considered the treatment.

DR. A. J. COLEY, of Alexander City, Ala., reported a case of cyst on the right side with a left uterine tumor, low down, involving the body of the uterus, which was firmly fixed in the pelvis and complicated pregnancy. The woman, forty years of age, suffered so much pain that it was thought advisable to resort to hysterectomy, but it was not insisted on. The woman had been married a little over a year. She was closely watched, and, as pregnancy and labor advanced, the tumor was pushed above the brim of the pelvis. The woman was subsequently delivered naturally of a child, and is now attending to her household affairs. Dr. Coley counseled against operative interference in many of these cases.

DR. R. R. KIME, of Atlanta, had encountered a case some two years ago of a debilitated patient with evi-

dences of infection before labor. In introducing the hand a tumor was felt in the posterior uterine segment, crowding the cervix apparently above the symphysis pubis, and it looked as if the patient could not be delivered. However, by waiting and placing the patient in the exaggerated Sims position and elevating the growth, delivery of the child was effected.

DR. HOWARD A. KELLY agreed with the conclusions of the essayist. There was a tendency on the part of the profession to interfere too much in cases of pregnancy complicated by fibroid tumors of the uterus. He had been called in consultation to see a number of such cases, but the indications were not such in some of them as to warrant the induction of premature labor. In many instances a consultation had been the means of postponing operative interference. When fibroid tumors complicating pregnancy were situated in the upper part of the uterine body, unless large and multiple, they were comparatively unimportant. If situated in the lower part of the uterus, and it was found as pregnancy advances that they could be pushed up, this should be done in order that labor might proceed naturally. On three occasions he had opened the abdomen and had done a myomectomy for tumors complicating pregnancy, the woman subsequently going to full term and being delivered normally.

DR. W. D. HAGGARD, SR., of Nashville, mentioned a case of uterine fibroid complicating pregnancy which came under his observation a few years ago. Hysterectomy was advised by the consultants but not resorted to. The woman was subsequently delivered of a child, and the tumor six months later had entirely disappeared. Dr. Haggard reported another similar case.

DR. JAMES A. GOGGANS, of Alexander City, Ala., had observed during the last twenty years a number of cases of pregnancy complicated by uterine tumors. He had seen the case referred to by Dr. Coley. He thought it was unwise in a great many cases to resort to hysterectomy, believing that the tumors could be pushed up and delivery effected without surgical interference.

DR. JAMES MCFADDEN GASTON cited a case of dermoid tumor which complicated pregnancy. The obstruction was so great that it was utterly impracticable to undertake to deliver the woman by forceps, and it was concluded to lessen the obstruction by aspirating the tumor. This was done, and a little more than one quart of grumous material was drawn off, after which the woman was delivered with forceps of a dead child. Dr. Gaston believed that the woman would have to be subjected to a radical operation for the removal of the dermoid before perfect relief was afforded.

DR. GEORGE A. BAXTER referred to the danger of post-partum hemorrhage in cases of fibroids complicating pregnancy and related an interesting case. The fibroid tumor interfered with the natural contraction of the uterine fibres, and on this account it was exceedingly difficult to arrest hemorrhage. This was a complication which endangered the life of the woman.

DR. E. S. LEWIS said it often fell to the lot of some physicians to meet with a series of anomalous cases, such as those that had been reported by the essayist, while other physicians with probably quite as large experience would pass through life without meeting some of the complications that had been mentioned. During an experience extending over thirty-four years he had never met with a fibroid tumor which justified interference before labor, that is, a fibroid occupying the lower segment of the uterus and impinging upon the pelvic cavity. Within the past year he had delivered two women having large fibroids.

In one case in which pregnancy supervened, after suspension of menstruation for two months he was unable

for several months to determine the existence of pregnancy. The uterus then reached above the umbilicus, but the woman was found pregnant and was delivered at full term with forceps, but with no extraordinary difficulty. The other woman had an abdominal tumor the size of a six months' fetus. Although she had been married a number of years, she was about forty when she became pregnant. The tumor occupied the upper portion of the body of the uterus, but she was delivered without the use of instruments. He could conceive that in a case of fibroid situated in the broad ligaments or occupying the lower segment of the uterus, seriously impinging upon the cavity of the uterus, hysterectomy would be inevitable, but it had been his fortune to escape such cases.

DR. FRY, in closing, was glad to note that the general trend of the discussion was favorable to conservative work in the treatment of pregnancy complicated by fibroid tumors of the uterus, and of permitting women to go to full term and trying to deliver them naturally. Some of the cases in the paper, which he did not read, exemplified the wonderful resources of nature in overcoming uterine obstructions. Post-partum hemorrhage was one of the serious complications of labor under these circumstances and was common. If the placenta was attached to the fibroid tumor hemorrhage was free. If it was found necessary to operate, Cæsarean section ought not to be resorted to, as the mortality following this procedure was fully as high as eighty-four per cent. The best thing to do was to resort to hysterectomy, either the complete or supravaginal method.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PERICARDITIS—FRACTURED RIBS IN OLD AGE—HERNIA—CLUBBING OF FINGERS—GASTRO-ENTEROSTOMY—CURIOUS DEFORMITY OF JAW—FRAGILITAS OSSIUM—TUMOR OF SACRUM—GENERAL MEDICAL COUNCIL—ANNUAL MEETING OF COLLEGE OF SURGEONS—DR. CULLINGWORTH'S DEFENCE.

LONDON, November 20, 1896.

SOME very interesting cases were related at the last meeting of the Clinical Society. Thus, Mr. H. Besham Robinson described a case of suppurative pericarditis treated by resection of the sixth rib and drainage, in a lad aged sixteen years. The lung was fixed by recent adhesions. All fibrinous coagula as far as possible were cleared out from the cavity by the finger, and over two quarts of pus were evacuated, but irrigation was decided against, owing to his feeble condition. A large drainage tube was introduced into the pericardium and was stitched to the margin of the wound. His recovery was uninterrupted but protracted, and the tube was removed on the sixty-first day after the operation, the wound soon healing, and the patient, although not taking very strong exercise, can walk ten miles. There are very slight enlargement of the superficial cardiac area upward and no retraction of the spaces with the systole. Very few such cases have been recorded during the larger part of a century, less than a dozen, but they show a large proportion of successes (five out of eight).

Mr. R. H. Mills-Roberts related a case of an old man, aged seventy-three, who was knocked down by a falling rock and crushed by two boulders, between which he was jammed by the rock which fell on him. On admission he was nearly moribund; he rallied, but on the sixth day he developed pneumonia.

He again got better and steadily improved for six weeks, when he had a fit and died suddenly, apparently of syncope. Post-mortem revealed, on the left side, comminuted fracture of the sternal end of the clavicle; fracture of all the ribs, including the first; the second, third, fourth, fifth, sixth, seventh, and eighth ribs were broken at angles, and the second, third, and eighth at the sternal end. The ninth, tenth, eleventh, and twelfth each had a single anterior fracture extending through the inner plate only. On the right side there was single fracture of the third rib at the sternal end; of the fourth, fifth, sixth, seventh, two fractures, sternal end and angles; of eighth and ninth, single fracture. The right kidney showed a blood calculus in the lower part. All other organs were normal. There appeared to be very little lung injury.

Mr. W. G. Spencer described two cases of a rare form of inguinal hernia, each presenting three peculiarities, viz.: absence of an internal ring, the deep epigastric artery lying across the front of the hernia, and close above the pubic spine an extraperitoneal protrusion of a bladder pouch, closely adherent to the sac.

Dr. Samuel West related two cases of "clubbing of the fingers" developing within a fortnight and four weeks," respectively: (1) In a gentleman, aged thirty-six years, with right-sided empyema between the base of lung and the diaphragm. The patient recovered of the empyema, and by the end of three months the clubbing had completely vanished. (2) In a healthy woman, aged fifty years, who came under treatment because she had taken ammonia by mistake and had a troublesome gastritis in consequence. Her fingers were extremely clubbed, and had become so four weeks before without apparent cause, while she was in perfectly good health. Her attention was first drawn to their condition by her gloves ceasing to fit her. This seems a unique case.

Mr. Richman Godlee remarked that however chronic the clubbing might be, it cleared up if the disease causing it were cured. He remarked that the nose often suffered as well as the fingers, etc., but this was apt to escape notice, as there was no orthodox type of human nose. He had a little child under his care in whom only one finger was clubbed, and there was nothing wrong with the bones. Well-marked clubbing might certainly occur without any disease to account for it, though perhaps it was more frequently met with in association with bronchiectasis than any other disease.

At the clinical evening of the Medical Society Mr. Lockwood showed a successful case of gastro-enterostomy performed on an elderly man for cancerous obstruction of the pylorus. He insisted on the importance of furnishing the artificial opening with a complete lining of mucous membrane, thus rendering it less liable to subsequent contraction. Mr. Battle had had a somewhat similar case of rapid onset in a young man, aged thirty, in whom, at the operation performed within six weeks of the onset of the symptoms, extensive secondary growths were found. He used Senn's bone plates reinforced by a Lembert suture, and the patient promptly recovered from the operation with relief of all his urgent symptoms. Mr. G. R. Turner showed a lad with a curious bilateral deformity of the lower jaw, which the mother believed to be congenital, but which the father stated had commenced after an attack of measles at two years of age. There was no ankylosis of the temporo-maxillary articulation, but the vertical ramus of the jaw projected lower than the horizontal so that there was considerable prominence at the angle. The lad could open his mouth only a little way and was unable to protrude his tongue. Mr. Bruce Clarke said he had never seen this deformity in the bilateral form, as in this instance, but had had a unilateral case, in which it was neces-

sary to perform tracheotomy to prevent asphyxia caused by the tongue falling back into the throat.

Dr. F. de Haviland Hall showed a young man who had developed progressive enlargement of the cervical and supraclavicular glands, followed by the development of a mass of enlarged glands over the upper part of the sternum. The enlargement decreased for a time under large doses of arsenic, but there was a marked pigmentation, probably due to the drug. There was now dulness all over the left lung behind, and he raised the question how much of this was due to enlarged glands and how much to pleuritic effusion. Dr. Outtersen Wood pointed out that arsenical pigmentation displayed a curious tendency to vary in intensity from day to day without obvious cause.

Mr. Clinton Dent showed a very remarkable and pronounced case of fragilitas ossium in a man, aged twenty-nine years, whose stature did not exceed thirty-six inches. He had in all sustained twenty-seven fractures, principally of the limbs, but his intelligence was unaffected. He had been brought up on his mother's milk exclusively until four years of age. Mr. Dent showed some very interesting skiagraphs of the bones. The first fracture (of the femur) occurred when the child was four months old.

Mr. Goodsall showed a large pelvic tumor which had grown from the sacrum. He removed the tumor, taking away at the same time the lower portion of the sacrum to which it was attached, and the result was most satisfactory.

The General Medical Council meets next week, when the fate of the Dublin Apothecaries' Hall will again be in the balance. Meantime the electioneering for seats in the council is being energetically carried on.

The annual meeting of fellows and members of the College of Surgeons took place yesterday; Mr. Macnamara, vice-president, presiding in place of Sir W. MacCormack (president), whose progress toward recovery is still slow. In the report submitted the finances are stated to be satisfactory. A resolution was passed after full discussion in favor of voting money toward the effort of Mr. Anderson to appeal to the House of Lords for the restitution of his rights as a fellow and member, of which he has been deprived by judge-made law. You will remember his gallant defence against the oppression he suffered at Tobago and that a British jury decided in his favor, but that decision was overruled by the court. The council opposed the resolution, as a grant of the kind would probably injure the cause they are supporting—to be exempt from certain taxes, on the ground that they are only a scientific body. Nevertheless, the resolution was carried by forty-seven to two.

Another resolution was carried, requesting the council of the college to instruct their representative on the General Medical Council to forward in every way feasible the principle that the representatives of the licensing bodies should effectively represent the holders of all their diplomas. Corporation reform is in the air and must come, in spite of the opposition of the few in possession.

Dr. Cullingworth, of St. Thomas', has successfully defended the action brought against him by a woman on whom he performed double ovariectomy. She alleged she consented to have only one ovary removed, but he said he could undertake to operate only on the understanding that it must be left to his judgment to do the best he could for her. He has vindicated his procedure, the jury adding to their verdict that the action ought never to have been brought. But no doubt he has been put to great expense and endured some four years of worry. It seems as if operators would be well advised to insist on consent in writing. Sir S. Wells and Dr. Bedford Fenwick were called for

the plaintiff, but their evidence, founded on notes of the case, did her no good, and it is a pity they should have appeared and so illustrated the prejudice as to doctors disagreeing. It is very hard on Dr. Cullingworth, after a successful gratuitous operation, to have to defend his conduct in court. He will certainly lose a considerable sum, as there are numerous items in costs which do not pass the tax master. Drs. Herman and Galabin, as well as Mr. Lawson Tait, agreed that it was necessary to remove the second ovary. Professional responsibilities are heavy enough without the terrible risks of lawsuits to decide whether a patient has consented to a procedure which may prove necessary in the course of an operation.

THE CURE OF SEASICKNESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Notwithstanding the large circulation of the MEDICAL RECORD in Europe, I did not until quite recently have an opportunity of reading Dr. Rockwell's article on seasickness published in the spring or early summer. The doctor was kind enough to mention my work on the subject, but was also frank enough to intimate that he did not believe in the results I obtained by my method of treatment of seasickness.

Since my chief desire is that the sea-going public may benefit by my former researches in that direction, I beg that you will here permit me to reaffirm the exactitude of my statements as to results in treatment. I also might venture to observe that a physician who has barely crossed the ocean and back, with all the upholstered comfort of a first-class passenger, is hardly in a position to pass judgment upon the work of another man who, as a regularly appointed ship's physician, has travelled his sixty thousand miles in all latitudes and has as conscientiously treated his seasick emigrants as he has the first-cabin passengers. In the eighty-seven written clinical records upon which I based my conclusions as to the efficacy of my mode of treatment, there were no flights of the imagination, but only carefully considered facts. Other physicians have tried my method with marked success, although the writer of the above-mentioned article in the MEDICAL RECORD may never have heard of them. The doctor is without doubt a first-rate authority on electro-therapeutics, and also able to fill four columns of the MEDICAL RECORD on the well-known properties of the bromides in seasickness, but that hardly qualifies him to characterize as "mistaken" a fellow-practitioner who has had a comparatively large experience in the matter. I am not disparaging the mode of treatment by bromidization as a means of prophylaxis, for I dwell upon it sufficiently in my own treatise on seasickness, but I simply claim that the results obtained by my method are fully as favorable as stated, and that that treatment will reach desperate cases which other means fail even to alleviate.

W. W. SKINNER, M.D.

LUZERNE, November 16, 1896.

THE JUDGING OF COMPARATIVE RESULTS IN THE SURGICAL ARENA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: With all the presumption of the ancient shepherd boy going out to meet the giant with pebble and sling, with not the remotest idea of criticising the surgery of any person or institution, with neither standing nor right to pose as champion of Roosevelt Hospital—the writer ventures comment on some recent surgical statistics given to the profession.

Dr. Gaillard Thomas, in an address at the Woman's

Hospital, drew comparisons between several city hospitals as follows:

Abdominal Sections done in 1894, at	Number of Cases.	Re-covered.	Died.	Percentage of Deaths.
Roosevelt Hospital	66	50	16	24.24
New York Hospital.....	67	52	15	22.37
New York Cancer Hospital....	104	86	18	17.3
Mount Sinai Hospital.....	55	46	9	16.36
Woman's Hospital.....	153	130	23	15.03

Dr. Morris, in a recent paper, cited a series of 100 cases of appendicitis in which he had operated, with a mortality of two per cent.

Péan, of Paris, recently reported 584 cases of vaginal section (non-suppurative), with a mortality of less than two per cent.; and 816 suppurative cases of vaginal section, with a mortality of less than five per cent.

Jacobs, of Brussels, reports 403 cases of vaginal section, with less than three per cent. mortality.

These statistics, without analysis or qualification, prove logically that surgery in the Woman's Hospital is almost doubly as successful as in Roosevelt Hospital. Those of Morris, when compared with surgeons who have a ten or a twenty per cent. mortality, prove logically that he is five or ten times more skilful than they, and is justified in deducing that it is all a matter of "individual art," and that "some surgeons are more dangerous than some bacteria." The figures of Péan and Jacobs prove logically that they have five or ten times more "individual art" than the principal surgeons at New York hospitals.

But does anybody who knows the whole ground believe these logical deductions? Such unqualified statistics are, to the unthinking, a standing criticism upon more conservative men in the profession.

Suppose that surgeons with fancy statistics meet a dozen desperate cases in their respective lines, each with one bare operative chance for life in a hundred. Would these gentlemen have regard for their statistics and refuse the patient the one poor chance by operation? Or would they rule out from their statistics these "practically moribund cases"? In either event, while the operators themselves may be soberness and truth itself, their figures are vainglorious cheats as a test of comparative skill.

As low mortalities cannot be had from desperate cases, we must seek another standard to test a surgeon's worth, namely, the character of his cases. The conservative man who operates only on grave cases, will necessarily have a shorter list and a larger mortality than another who operates on everything coming into his hands. Life-saving is a higher ambition than record-making. And low mortalities mean many easy cases to help the average up—cases that the conservative man would not subject to risk of operation.

EUGENE COLEMAN SAVIDGE, M.D.

66 WEST FIFTIETH STREET, NEW YORK.

An Exception.—In an examination of sanitary inspectors one candidate answered the question relating to the wilful exposure of a person suffering from an infectious disease: "He must not ride in any public conveyance, excepting a hearse, without first informing the driver."—*The Medical Times and Hospital Gazette*.

Eye Strain.—The long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea, and general failure of health. In many cases the eye trouble becomes suddenly mischievous, owing to some failure of the general health, or to increased sensitiveness of the brain from moral or mental causes.—*The Medical Times and Hospital Gazette*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 5, 1896:

	Cases.	Deaths.
Tuberculosis.....	136	85
Typhoid fever.....	45	14
Scarlet fever.....	98	5
Cerebro-spinal meningitis.....	3	3
Measles.....	86	3
Diphtheria.....	263	35
Small-pox.....	1	0

A New Use for Patent-Medicine Literature.—It is a favorite axiom of the optimists that everything has its uses, but it has remained for the New Mexico territorial board of health to find a use for the patent-medicine almanac. In a recently issued circular on the prevention of consumption, among other things, it is advised that "every person so affected should spit into some receptacle and should see that the sputum is soon destroyed by fire. About the house there is no better way than to spit between the leaves of patent-medicine almanacs—to be had freely at all drug stores—and after a half dozen or more spittings burn the book."—*Journal of the American Medical Association*.

Sixpence for medicine and attendance was the charge of a lady doctor in Fulham, England.

Oxytoxins.—The subject of the oxytoxins is one that will require long-continued experiment upon animals and cultures before we shall know its limitations. For the present, however, it would be unwise to expect miraculous cures of patients in the last stages of consumption.—HIRSCHFELDER.

Paté de Foie Gras.—Instances of illness following the free use of this delicious product of the fatted goose may have at times a *raison d'être* in the fact that some goose farmers have been found to possess a secret of securing enormous livers in their stuffed fowls by administering the acid oxalate of potassium, a powerful poison.

The Night Lunch Wagon.—Mr. John F. Hurley, president of the water board, of Salem, Mass., who has been indefatigable in promoting a good water supply, has now called attention to a matter which affects the public health in a different degree. Disclaiming any intention of needlessly interfering with any person's means of livelihood, he has protested against the licensing of night lunch wagons, on account of the liability of the spread of disease by this means. These wagons are familiar sights in the cities and larger towns. Either they are driven about the streets or they occupy a stand, night after night. Mr. Hurley has interested himself to inquire into their operation and finds that when ready for customers the water supply of a wagon consists of about two gallons of water in a bucket. During the night several hundred cups of coffee and mugs of milk are sold and emptied into mouths many of which are dirty and diseased, some foully so. The cleansing of the mug or cups consists of a rinsing in the bucket of water and a wipe with a towel that does duty for the entire night. We must agree with Mr. Hurley that probably no better method of spreading disease can be found than the practices he describes, and the subject is one which should receive the attention of the board of health in the cities where such a menace to public health exists.—*The Engineering Record*, October 24th.

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Original Articles.

OBSERVATIONS ON VESICAL STONE AND PROSTATIC DISORDERS, BEING THE BRADSHAW LECTURE DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON DECEMBER 9, 1896.

By REGINALD HARRISON, F.R.C.S.,

MEMBER OF COUNCIL; EX-VICE-PRESIDENT, AND FORMERLY HUNTERIAN PROFESSOR OF PATHOLOGY AND SURGERY, ROYAL COLLEGE OF SURGEONS; PRESIDENT OF THE MEDICAL SOCIETY OF LONDON.

WE are met by reason of the beneficence of the widow of the late Dr. William Woods Bradshaw, a physician who practised first at Andover and subsequently at Reading, and who was a fellow of this college, for the purpose of endeavoring to promote in one direction or another the scientific objects for which this college was originally founded. I shall best mark our respect to the memory of the founder of this lectureship, and my appreciation of the honor conferred upon me, by at once proceeding to attempt to discharge the duty I have thus undertaken.

If, for any purpose, we look at the surgery of to-day, as exemplified, for instance, by the work of many of those who either have been, or are, associated with this college, and compare it with what existed at the commencement of this century, or even later, it is impossible not to recognize the marvellous progress that has been made all along the line. Though in some directions it may be more apparent or practical than in others, yet it is at once obvious that it is the outcome of the development of principles which are applicable not merely to subdivisions artificially arranged for convenience of study or of practice, but to the whole field over which the science and art of surgery may be said to range.

It will be my endeavor in noticing certain advances that have taken place in work which circumstances have brought more immediately under my notice, to give prominence to some aspects of a large and an important subject which appear to deserve further consideration and expansion. In this way I venture to hope I shall best fulfil the objects entertained by the beneficent founder of this lectureship.

In bringing under your attention some points connected with the surgery of the urinary organs it is impossible to refrain from noticing the important changes that have taken place in the operative treatment of the affections of these parts within the recollection of most of us present on this occasion. Lateral lithotomy has practically disappeared from the scene; suprapubic and perineal cystotomy, more especially in their application to calculus, have undergone important modifications and have been revived; the older methods of removing stone from the bladder by crushing have been supplanted by Bigelow's process of litholapaxy, and the surgery of the kidney, with the various methods this includes, now occupies a permanent and prominent position in our text-books. Nor is it improbable that the range of renal surgery may not be still further extended with advantage. The outcome of these changes in and additions to our methods of

dealing with urine stones alone represents a saving of life and suffering which it would be difficult, if not impossible, to estimate by figures.

The almost entire disappearance of lateral cystotomy, using this term in its more extended application to various affections and injuries of the urinary apparatus, is a turn of affairs which I venture to think cannot be viewed entirely with satisfaction. Some of us may remember how marvellously this operation was utilized by the late Sir William Fergusson for the rapid and successful removal of certain forms of stone from the bladder. It was in this theatre and before a distinguished audience of the kind gathered here to-day that he referred to this process in terms of eulogy as "the master handiwork of surgery."

In thus dissenting from the tendency existing at the present day to relegate lateral cystotomy to the surgical shelf, the suggestion comes to me in a measure from reading some remarks in a review relative to certain observations of which I happened to be the author, in which I was rather severely taken to task for being so old-fashioned or so eccentric as to reproduce for the use of my readers, at the close of the nineteenth century, a somewhat carefully prepared description of this operation. It seemed to me that such a criticism was a little premature, for, though the use of this operation in stone cases was daily becoming more restricted by reason of the substitution of other methods, the fact that lateral cystotomy possessed essentials in treatment peculiar to itself must forever command for it a place in the records of operative surgery.

By what other means that have yet been devised, may I ask, can a surgeon, by an opening from the perineum in the male, secure the removal of a stone, the incontinent and dependent drainage of a diseased bladder, without the use of apparatus, together with the necessary infliction of a wound on the prostate which, there are reasons for thinking, has not unfrequently been the means of arresting its growth, if not of inducing its atrophy when enlarged? Nor can it be doubted for the reasons just assigned that in certain forms of injury involving the neck of the bladder, complicated as this sometimes is with fracture of the bones constituting the pelvic arch, as in instances of extraperitoneal rupture of the bladder, an incision as for lateral cystotomy has frequently been the means, by at once establishing free and untrammelled drainage for the urine, of alone bringing about a successful termination to the case. For reasons such as these, I should be sorry to think that the mode of performing lateral lithotomy has either ceased to be taught in our schools or to be tested by our examiners.

Lateral cystotomy has to a large extent been displaced by the revival of the suprapubic or high operation on somewhat altered lines, and with this substitution I am not disposed to find fault. By this method an easy access to the bladder for the purposes of exploration and drainage not requiring a dependent opening, for the removal of growths from the interior of this viscus as well as pendulous excrescences from the prostate, is provided. In the case of small stones, both in the adult and the child, its substitution for crushing, in uncomplicated cases, is often unnecessary, while in the instance of very large calculi, though

no other course may be open to the surgeon, the risk to life, it must be remembered, is considerable.

Time, however, will not permit me to traverse opinions and practices relative to an operation which has undoubtedly justified its revival and has proved of much service in connection with the general surgery of the bladder. Its selection relative to the treatment of stone will be found mainly to turn on individual experience, rather than upon those hard and fast lines which lecturers are sometimes disposed to lay down.

Turning to the crushing operation for stone, as now generally practised on the lines laid down by Bigelow in 1878, we shall find much connected with it of interest to discuss without encroaching upon historical and personal controversy. There can be no doubt whatever that the anticipation expressed by the author of the term "litholapaxy" as to the crushing and evacuation of stone from the bladder by an uninterrupted and completed process, with hardly any reference to its size or constitution, being followed by a largely diminished mortality has been more than realized.

In connection with Bigelow's method of operating I may perhaps be excused in saying what pleasure it afforded me in being present at the Massachusetts General Hospital and witnessing some of the cases which formed the earliest portion of the important series that Bigelow subsequently published¹ in illustration of his work. The instrument I am showing you is one of his original evacuators with the catheters, which I brought over with me from Boston in 1878 and subsequently used.

I do not, however, think it would be right in thus referring to the greatly diminished mortality that has followed successive improvements in the crushing operation for stone, or by whatever name we may call the proceeding, were I to omit to refer to the impetus given to this direction of work by Civiale and Guyon in France, and by Sir Henry Thompson in this country. By the latter the museum of this college has been greatly enriched by his gift of a collection of calculi which is unique in its extent and clinical history, while our library and our literature have largely profited by his pen.

I must, however, turn, as I have already indicated, to another aspect of my subject. In his Hunterian lectures delivered before this college in 1886, Mr. Cadge observed that, "although the immediate and direct mortality of lithotripsy is small, the recurrence of stone is lamentably frequent." In illustration of this statement he referred to figures which indicated this as then amounting to about one in seven. It must, however, be remembered that this calculation was based to a considerable extent upon cases operated upon by the processes of crushing, with very imperfect means of artificially evacuating the fragments from the bladder which preceded Bigelow's time.

A decade has now elapsed since this criticism was offered, and, without troubling you with figures which might be open to objection for this purpose if not drawn from sources in actual parallelism with those which formed the basis for the conclusion Mr. Cadge arrived at, there can be no doubt that within this period, and directly arising out of the further development and more general adoption of Bigelow's work, the liability to recurrence after these operations has greatly diminished.

Improvements in the construction of lithotrites or breaking machines, so far as relate both to trituration and speed, the more general substitution of fenestrated for smooth-bladed instruments, the use of evacuating cannulae permitting of the more ready withdrawal and escape of the broken-up fragments from the bladder, and the employment of aspirators or wash bottles more capable of sluicing the bladder and any irregular

pouches it might possess, are the means which have chiefly contributed toward this end.

It would be an interesting study, and not without some prospect of promoting further developments in this direction, to trace, if occasion permitted, the various advances that have been made from time to time in the construction of the mechanical appliances used in crushing and evacuating stone in the bladder. I am disposed to think, however, in the further application of chemistry and physics in this direction (I refer more particularly to the extension of such investigations as Rainey's, "On Molecular Coalescence Relative to the Formation of Calculi") to all forms and positions of urine stones that further improvements in practice will eventually come.

Reverting to stone recurrences, it must still be recognized that even with the best appliances and skill they not unfrequently occur, and it is to such instances, in relation more particularly to some recent investigations in collateral directions, I would desire now to direct your attention for a few moments.

If we analyze the causes of stone relapses after crushing operations, there can be no doubt that a failure to remove all the fragments from the bladder in the first instance is by far the most frequent one. It is in reference to this very important matter that lithotomy, however performed, irrespective of the question of mortality, shows to an advantage, and at the same time suggests an explanation why this distinction should exist. This is a point which I think requires further analysis and consideration.

The general experience of crushing operations as now, and for some years past, almost universally practised under the name of "litholapaxy," in this country at all events, seems to indicate sufficiently clearly that the liability to recurrence after this operation increases considerably as age advances. Recurrences before sixty years of age are rare and are usually traceable to some exceptional circumstance, such as urethral stricture, or obstruction attended with pouching or trabeculation of the bladder. Hence we may conclude that hypertrophy of the prostate and the structural complication arising out of this in conjunction with atony or imperfect powers of urine expulsion are frequent concomitants, in by far the larger proportion of stone relapses after lithotripsy. This is the view which I believe now finds general acceptance.

This explanation of course applies only to those instances of recurrence in which the calculus is mainly phosphatic and of vesical origin, in contradistinction to those in which a fresh descent from the kidney takes place, and accidental arrest and growth in the bladder secondarily ensue. Instances are occasionally met with in which the operation of crushing has been followed within a few days by an attack of renal colic. Here a diathetic stone is either spontaneously expelled in the course of normal micturition, or, being too large to get over the bar caused by an enlarged prostate, requires pulverizing with the lithotrite before its evacuation can be effected. In cases in which persons have been in the habit of passing renal calculi for years, it is frequently found when the prostatic age is reached that the ureters, no doubt much dilated by previous attacks, allow stones of considerable size to descend into the bladder, comparatively painlessly, which are subsequently trapped by the enlarged prostate. Otherwise they might, as previously, have been spontaneously voided. Recalling, however, the ordinary circumstances under which stone recurrences after lithotripsy most frequently occur, I am brought to consider, not the necessity for imposing other restrictions upon the employment of an operation by means of which so much has been achieved at so small a risk to life, but how far progressive surgery permits us to remove or mitigate complications in structural defects which

¹ "Litholapaxy," Wm. Wood & Co., New York, 1878.

tend to provide mechanical difficulties, sometimes insuperable, in the way of complete evacuation of the fragments, and subsequently furnish favorable conditions for repeating the process of stone making when once the nucleus is there.

We may therefore proceed to inquire: (1) What means have we, if any, of diminishing the enlarged prostate? (2) To what extent are they applicable to cases complicated with recurring vesical stone? (3) What alternative measures have we for litholapaxy under exceptional circumstances of this nature? If the question were put to a student under examination, What surgical measures have been followed by atrophy or shrinkage of the hypertrophied prostate? I think he would be justified in replying somewhat in this way:

It has followed cases of simple incision into the prostatic ring, as in the second stage of lateral lithotomy. It has supervened upon puncture of the bladder through the enlarged prostate with retention of the cannula for some weeks.¹

Shrinkage of the enlarged prostate has followed upon double and single castration and upon double and single vasectomy or division of the vas deferens. This answer would of course not be regarded as including cases of partial or complete removal of the prostate gland, now known under the name of prostatectomies.

The second question which necessarily arises out of the preceding statement, namely, How far are these several methods of inducing shrinkage applicable to cases of hypertrophied prostate complicated with recurring vesical stone? is not so easily or so briefly answered, and will, for the latter purpose, require some expansion.

Prostatic incision, or puncture as first referred to, apart from the limited nature of the observations of cases in which atrophy seems to have followed it, would hardly be applicable in cases otherwise suited for lithotripsy. I will, therefore, without further comment, pass on to notice the adoption of castration and vasectomy in respect to the question now under review.

Reference to these proceedings opens up a subject which, so far as it relates to the practice of surgery, is new, though from an anatomical and physiological aspect it has previously received some attention, which must not be entirely overlooked. John Hunter² appears to have experimented on animals in reference to this point, and more recently Griffiths³ has added importantly to these researches. Decimus Hodgson,⁴ of Glasgow, remarked in 1856, "in persons who have been castrated the prostate dwindles down almost to a rudimentary condition."

The inference, however, that what is true relative to the normal state of these parts also applies in varying degrees to the hypertrophied prostate does not appear to have been utilized systematically for practical purposes, until Dr. William White, of Philadelphia, drew attention to it in 1893.⁵ Since this paper appeared, the operation of castration and other proceedings arising out of the same train of thought relative to the enlarged prostate have been somewhat extensively employed, and to some of the results obtained and the considerations suggested I purpose now referring.

From the records of this operation, now covering several hundred cases, which from time to time have been drawn up by various surgeons, I do not think there can be any doubt in arriving at the conclusion that in a certain proportion of cases castration has undoubtedly been proved to have been speedily

followed by shrinkage of the prostate and abatement of the symptoms attending this condition.

Taking one of the most recent communications on the subject, of which Dr. Cabot,¹ of Boston, is the author, and which includes about one hundred well-authenticated cases in illustration, on reading it I was struck not so much with the somewhat high death rate as with the uncertainty as to the kind of result, physical as well as mental, the surgeon is likely to expect. Will the patient recover completely or imperfectly when the risk of the operation is passed, whatever this may be? is a question which naturally arises and is apparently at the present stage not very easy to answer. In the expression of opinion by Dr. Cabot that castration seems especially efficacious in cases of large tense prostates, when the obstruction is due to the pressure of the lateral lobes upon the urethra, and is of but little use in cases of myomatous and fibrous glands, he is warranted, I consider, by the records to which I have referred.

I have hitherto been addressing myself more particularly to the application of castration to prostatic hypertrophy generally. Scattered, however, through the cases which have been recorded are some few in which it has been utilized with advantage for recurrence of stone after crushing operations, when this complication was prominent. I cannot quote a case of my own in illustration, as I have not had occasion to resort to it under these circumstances, but I am acquainted with one in which it well served this purpose.

It was that of a male, seventy years of age, who after lithotripsy had stone recurrence on three occasions, at intervals of a year or so. The fourth time of relapse the urine and bladder were in so foul a state from cystitis and great enlargement of the prostate that a suprapubic cystotomy was performed, by means of which another phosphatic stone was removed and the bladder was drained for some time. The patient, however, was intolerant of all the methods that were tried with the object of keeping the wound open by various drainage appliances, and eventually it closed before the latter process was completed. This was followed by a speedy return of all the symptoms of cystitis and the commencing formation of more phosphates. To meet this condition the bladder was again cleared by means of the lithotrite and the aspirator, and double castration was performed. The relief was now complete and is, I believe, permanent, as the patient has been free of his stone and of his symptoms for nearly two years, and has no need of either his catheter or his irrigator.

It is under circumstances such as these that castration may occasionally find a place in the treatment of recurring stone complicated with enlargement of the prostate. In selecting it, however, apart from other considerations, the surgeon must be reasonably clear in his opinion that the case is not one either of encysted or pouched stone, otherwise, as castration affords no opportunity of making either a digital or ocular examination of the interior of the bladder, a suprapubic prostatectomy would, in the face of these presumed complications, be preferable.

After reading Dr. White's first paper, to which I have already referred, I took an early opportunity of raising the question as to whether somewhat similar results, so far as the enlarged prostate was concerned, could not be induced by dividing either one or both of the excretory ducts of the testicle. I based my suggestion partly on a case² in which some years previously, under somewhat exceptional circumstances, which I narrated, I had casually, though at the urgent desire of a patient, divided the vasa, with good results after a considerable interval of time. Further I drew

¹ "Surgical Disorders of the Urinary Organs," by Reginald Harrison, 4th ed., p. 276.

² Works edited by Palmer.

³ Journ. Anat. and Phys., vols. xxiii. and xxiv.

⁴ "On the Prostate Gland," Glasgow, 1856.

⁵ Trans. Am. Surg. Ass., 1893 and 1895.

¹ American Surgical Association, May, 1896.

² Brit. Med. Journ., September 23, 1893.

attention, in connection with the subject of injuries to the vas deferens, to certain cases recorded by Hilton and Birkett,¹ in which atrophy of the corresponding testis was proved to have followed the accidental division of this tube either by section or laceration. My contention was that if division of a vas brought about atrophy of the corresponding testis, it was logical to conclude that atrophy of the prostate would follow to a like extent—that is to say, the division of one vas would be followed by unilateral atrophy, first of the testis and afterward of half of the prostate—whereas, if both vasa were divided, both testes and the whole of the prostate would subsequently undergo shrinkage. I think I may claim that this has now been proved to be the case.

It must, however, be stated that one of the objections I have put forward against castration applies, as matters at present stand, with equal force to vasectomy. I refer of course to the uncertainty that exists as to what kind of results will be obtained.

In the course of a discussion that recently took place² in reference to the treatment of prostatic hypertrophy by these means, I took the opportunity of saying that from some experience of my own the results of vasectomy depended very much on attention to certain details connected with the operation, which I ventured to enumerate and which I will briefly repeat.

In the first place, I do not think it is well to operate on both vasa at the same time, as any risk connected with the proceeding is increased, and mental effects of a serious nature may follow, such as have been observed after castration. I have not met with an instance in which any ill effects resulted when a sufficient interval was allowed to elapse between the two operations. I think the interval should be not less than a month. I have seen instances in which the relief following the division of one tube was so sufficient as to render division of the opposite one unnecessary. In some of my cases I found that after one vas had been divided the prostatic symptoms subsided at once, and then, after an interval of three weeks or so, began to reappear coincidentally with some hypertrophy of the testicle of the opposite side, where the tube had not yet been divided. The second operation was then proceeded with, and it was in the group of cases in which this incident was observed that I obtained the most satisfactory results.

It must, however, be remembered, as I have endeavored to put it, that in bringing about prostatic atrophy by section of the ducts it is through the medium of a double process, or rather by the induction of an atrophy by an atrophy. Hence the effects of vasectomy upon the prostate are longer delayed and more gradual than when the testes are primarily removed. In some of my cases of double vasectomy it was observed—though in all instances the effects were properly explained to the patients beforehand—that the division of these ducts was not immediately followed by cessation of sexual desire and power, and months sometimes elapsed before these sensations finally ceased and atrophy of the testes was marked. I am not aware, however, of an instance in which these effects, though delayed, were not finally attained. Though vasectomy must be regarded as a slower process than castration, relative to prostatic changes, in this, I believe, lies its comparative safety and advantage.

In the next place a portion of the vas must be resected and not merely ligatured. Pavone,³ who has recently reported twenty-eight cases out of thirty-four in which the patients were either cured or improved after vasectomy, advises that in addition to excision the ends of the canal should be twisted, so as to insure

complete closure. The possibility of the restoration of the occluded vas when a ligature only has been used has been illustrated by Dr. Bransford Lewis.⁴ Here, on the return of prostatic symptoms, it was found that the continuity of the duct had been re-established after the ligature had come away.

The simplest way of performing the operation seems to consist in exposing the vas by a short linear incision over it, and protruding it between the finger and thumb. An aneurism needle is then slipped under the isolated duct, by means of which a loop about an inch in length is withdrawn. The latter is then included in a silk ligature, when the free portion is removed by scissors. The small wound usually heals quickly. Apart, however, from some failures arising from want of attention in operating to details such as these, there appear to be other reasons requiring consideration, and which apply with equal force both to castration and to vasectomy. I have already stated that when the prostate has passed into a fibrotic condition, or when the obstructing third lobe represents in structure a fibrous tumor, the prospects following either operation on the sexual apparatus are unpromising. Here McGill's operation is usually indicated. There are, however, other conditions of the prostate which must be taken into our reckoning.

I am inclined to believe that if the consideration and discussion of these two operations relative to prostatic hypertrophy did no more than lead us to reconsider many points connected with the pathology of this part much will have been accomplished. I have long thought that slowly progressive carcinoma of the prostate, resembling in some features the more ordinary forms of hypertrophy, is far more common than is generally believed to be the case. My attention was first called to this matter in 1886, when I recorded a case⁵ which I will briefly refer to.

It was that of a man, aged fifty-nine years, whom as a private patient I had the opportunity of watching for two years, up to the time of his death. In the first instance he suffered from some irritability of the bladder which he could not completely empty. He was losing flesh, becoming pale, and, though the mental faculties remained vigorous to the last, he constantly complained of pain in the loins, nates, and thighs. In the course of a few weeks he became entirely dependent upon the catheter. His prostate, as felt from the rectum, was hard, nodular, and almost insensitive to the touch, though it was not much enlarged, nor were any neighboring glands found to be involved. As his general health slowly declined, minute petechial spots appeared on various parts of his body, and his feebleness gradually increased. Occasionally he passed a small quantity of blood with his urine. He appeared to die of exhaustion, the result of prolonged blood vitiation. After death his prostate was examined by Mr. F. Paul, who reported it to be an unmistakable example of carcinoma. There was no evidence to show that this was other than the primary disease. I remember Mr. Paul remarking to me at the time that the precise nature of the disease would probably have been undiscovered had it not been carefully looked for, as there was apparently to the naked eye but little to distinguish the specimen from one of ordinary hypertrophy. I have since met with many instances of this kind in practice and have been able occasionally to confirm the diagnosis by pathological examination.

Clinically this group of slowly progressive carcinomata may be distinguished by the following indications: In the first place, they are generally met with in persons who are rather under what I would speak of as the prostatic age, that is to say, they chiefly occur

¹ Holmes' "System of Surgery," 1st ed., vol. ii., p. 739.

² Brit. Med. Journ., October 10, 1896.

³ Il Policlinico, No. 15, 1896.

⁴ Journ. Cut. and Gen.-Urin. Diseases, New York, 1896.

⁵ Op. cit., p. 509.

in males of fifty-five years or thereabouts. When felt from the rectum the gland is found unusually hard, bossy, and rather insensitive to the touch. They seldom bleed much or ulcerate, unless damaged by a catheter or sound. Though the use of the former is generally required more or less constantly before the case terminates, there is seldom either sudden or complete retention, or even distention of the bladder. Reflected pain in various parts, such as the thighs, nates, and rectum, is often complained of, in addition to much painful irritability of the bladder. Death is usually caused by blood vitiation and exhaustion, with well-marked signs of what we used to speak of as a cachexia.

I have referred to fibrous and carcinomatous prostates for the purpose of remarking that for such growths as these neither castration nor vasectomy is at all likely to be of any avail. Together they represent a by no means uncommon condition of this part, and their treatment must be conducted on the principles which are applicable generally to growths involving the interior and neck of the bladder. In going over the recorded cases of castration and vasectomy, it is not difficult in reading between the lines to see that among them are included instances of the two conditions to which I have just referred and in which experience shows that no good was likely to accrue from what was done. These we must endeavor to exclude, and then I think we shall find that division of the vasa deferentia will be found an efficient means for curing or relieving advanced forms of prostatic hypertrophy, without incurring the additional risk, not to mention other drawbacks, which naturally attend such an operation as castration.

I must not here forget to mention that I have in three instances employed division of the vasa in recurring stone with cystitis due to much enlargement of the prostate, with great and, I believe, permanent advantage. Apart from the non-recurrence of the stone after fair intervals of trial, a general improvement in the function of micturition has been maintained, and this is in correspondence with what other surgeons have illustrated in the records to which I have referred.

It will of course be understood that the expedients I have drawn attention to as worthy of consideration are applicable only to grave varieties of prostatic disease, whether complicating vesical stone or not. When we consider how considerable a number of well-matured brains carry on long and useful lives with advantage to those belonging to them, as well as to the community at large, and who are more or less dependent upon the aid a catheter affords, it is unnecessary to say that such measures as those I have been discussing can apply in any degree only to the exceptions and not to the rules. The latter are already, I believe, adequately provided for, while in the interests of the former all proved methods, either of cure or relief, must receive, as they always have done, our careful and unbiassed consideration.

I will now pass on to offer some remarks in reference to perineal lithotomy. Among the variations that stone cases present a small proportion will be met with in which, by reason of the condition of the bladder and the urinary apparatus generally, the ordinary operation of crushing is not applicable. In these cases not only must the stone be removed but provision made for the drainage of the bladder; and for the latter purpose lithotomy in no way adequately provides.

When the stone is large, and I am speaking now of calculi between two and three ounces in weight, and the prostate and bladder are more or less involved in supuration and chronic inflammation, various substitute proceedings are adopted which have to be considered. Suprapubic cystotomy under these circumstances is

attended with a high rate of mortality. Guyon and others have estimated it in males of advanced age, who are generally the subjects of these complications, at somewhere about fifty per cent., and my own impression is that this is about the case.

Such a mortality as this takes us back to some of the worst days of lithotomy and contrasts unfavorably with other forms of suprapubic cystotomy, as, for instance, when applied to younger persons, and even with suprapubic prostatectomy, which Mr. Mayo Robson¹ has shown to be a much less risky proceeding. It is now some years ago since I had this point under careful consideration in connection with one or two cases of septicæmia after lithotomy, arising under the conditions I have just referred to.

On reviewing the various operations employed for removing stone from the bladder, other than by crushing alone, it appeared that there was much in Dolbeau's² method of perineal lithotomy to recommend it. The objections against it chiefly centred in the employment of forcible dilatation of the prostatic urethra and the neck of the bladder, and in the instruments used in crushing and evacuating the stone fragments. Further, no provision appears to have been made by Dolbeau for draining the bladder systematically, after the stone had thus been withdrawn. These objections, however, seemed to be capable of removal, and I proceeded to practise this operation from time to time, as suitable cases presented, in the following manner:

In the first place an ordinary boutonnière or median perineal cystotomy is practised on a grooved staff sufficient to admit the introduction of the finger into the bladder, as for digital exploration. This represents all the dilatation of the prostate or neck of the bladder that is attempted. The next step is to withdraw the index finger and substitute a pair of crushing forceps specially made for this purpose, though in other respects resembling an ordinary pair of lithotomy forceps, either straight or curved. These have been constructed for me by Messrs. Krohne and Sese-mann, and by Messrs. Tiemann, of New York. They are made in different sizes, the most powerful having a screw at the handle by which the full crushing power is brought into play. In circumference the combined blades correspond in size with an average index finger, and contain well within cover a strong cutting rib running down the centre of each, by which the fragmentation of the stone or stones is chiefly accomplished. By means of these forceps the stone is sufficiently reduced in size to be either easily withdrawn in fragments from the bladder by these instruments or to be sluiced out with a cannula and an ordinary wash bottle as used for litholapaxy. Straight cannulæ will be found the most convenient for this purpose.

After the stone has been withdrawn and the bladder and prostate have been carefully examined, either with the sound or with the finger, the drainage tube is introduced and retained for as long as is necessary, in accordance with the nature of the case. Here is a specimen of the hardest kind of urate stone, the fragments weighing over three ounces, which was broken up and withdrawn in this way in something like five minutes, a process which would have occupied an hour or more had it been expedient to substitute lithotomy. I also removed with my finger quite easily a grape-like third lobe which was in my way. The patient made a rapid and complete recovery. I show this specimen merely as illustrating what these forceps are capable of effecting and what may be withdrawn through a wound only sufficient in extent to admit the introduction of an index finger. I have in one or two instances tried a short lithotrite, such as Surgeon-Major Keith has described, passed into the bladder through the perineal wound,

¹ Brit. Med. Journ., April 25, 1894.

² "De la Lithotritie Périnéale," Paris, 1872.

instead of crushing forceps, but find the latter more effective and convenient for use in this position.

I have selected this method in fifteen instances out of considerably over three hundred cases of lithotripsy and have so far had no deaths or recurrences of stone following it. The chief points in its favor are these: (1) It enables the operator to crush and evacuate large stones in a short space of time. (2) It is attended with a very small risk to life as compared with other operations, such as lateral or suprapubic lithotomy, and is well adapted to old and feeble subjects when for any reason crushing is inadmissible. (3) It permits the operator to wash out the bladder and any pouches connected with it more effectually than by the urethra, as the route is shorter and the evacuating catheters employed are of much larger calibre. (4) The surgeon can usually ascertain, either by exploration with the finger or by the introduction of forceps into the bladder, that the viscus is cleared of all debris. (5) It enables the surgeon to deal with certain forms of prostatic outgrowth and obstruction complicated with atony of the bladder in such a way as to secure not only the removal of the stone but the restoration of the function of micturition. (6) By the subsequent introduction and temporary retention of a soft-rubber drainage tube states of cystitis due to the retention of urine in pouches and depressions in the bladder wall are either entirely cured or are permanently improved. To lock up unhealthy ammoniacal urine in a bladder that cannot properly empty itself after a lithotripsy is to court the formation or recurrence of a phosphatic stone. Hence it is well suited to some cases of recurrent calculus. I have never known the wound to remain unhealed except in those instances in which, for some reason or other, it has been desired to construct a low-level urethra. It is well adapted for some cases of stone in the bladder complicated with stricture in the deep urethra, as it enables the surgeon to deal with both at the same time.

In a recent paper by Mr. Herbert Milton, of Cairo,¹ I see that the operation of perineal lithotripsy figures prominently and successfully among the two hundred cases of stone he records. He has employed it, much on the same lines as I have described, in twenty-one instances with one death. Though speaking of Bigelow's operation as the more brilliant of the two, he evidently has reason to regard perineal lithotripsy, as now revived, as the more generally useful. A specimen made by Messrs. Down, of London, of the breaking forceps Mr. Milton employs is submitted for inspection. Taking Mr. Milton's twenty-one cases and fifteen of my own, we have a total of thirty-six with one death, which, considering the size of many of the stones and the complications that were present, gives, I think, a very satisfactory result and one that will compare favorably with those obtained from other operations, either crushing or cutting used in the treatment of stone. I have a growing impression that in countries where by reason of the great age that is often attained by persons suffering from stone in the bladder, and where the opportunities for practising litholapaxy are not very frequent, perineal lithotripsy will be more generally utilized.

Before leaving subjects connected with the treatment of vesical stone by crushing, I would briefly allude to a change in practice for the better, which is a direct outcome of the excellent work in the application of this operation to male children. I refer more particularly to the successful employment of litholapaxy in this direction by our distinguished fellow, Dr. Keegan, work which has been importantly supplemented by my colleague, Dr. Freyer.

Sudden retention of urine in young males is most frequently caused, as we are all aware, by the impac-

tion of a small stone in the urethra. Such an incident, apart from the extreme urgency of the symptoms thus produced, has not unfrequently led to ulceration of the urethra and serious, if not fatal, extravasation of urine into the neighboring tissues. In fact, it may be stated with hardly an exception that it is under these circumstances alone such a calamity is met with in these young subjects. In earlier days when the catheter detected that a stone was thus impacted, the practice universally was either to cut down and remove the calculus from the position it occupied in the urethra, or if possible to push it back into the bladder and then to extract it by some form of lithotomy or cutting operation. Though either proceeding was usually successful, it entailed an operation which necessarily required a period of convalescence to follow. Among some of my earliest lithotomies in male children were cases occurring under these circumstances. In illustration of the importance of this change in practice I may be permitted to mention very briefly the particulars of a recent case. It was that of a boy, aged four years, whom I saw, with urgent retention of urine due to the lodgment of a stone in the urethra just behind the scrotum. I pushed the stone back into the bladder and the retention was at once relieved. On the following morning I had the child placed under an anæsthetic and crushed the stone. As I found at the moment I had not an evacuating catheter sufficiently small to enter the bladder without more force than was desirable, I contented myself in more completely pulverizing the calculus with the lithotrite than I should otherwise have thought necessary to do. The debris was discharged in the natural course of micturition and the patient was practically well without any delay, as the urine was never even tinged with blood. Sir William Roberts was kind enough to examine the fragments of the calculus and reported that it consisted of uric acid with a coating of oxalates and weighed a little over five grains. A short time ago the patient would undoubtedly have been submitted to a cutting operation. I may incidentally mention that I reported¹ a very similar case, in which I practised lithotripsy in a male child, aged eleven years, in 1881, and I have since from time to time successfully adopted this proceeding. I believe this was one of the first recorded examples in so young a subject, a circumstance I had forgotten until recently reminded of it by my friend, Dr. Keegan, and some small lithotrites were then made for me by Messrs. Weiss.

In bringing my observations to a conclusion I shall ask your indulgence for a few moments while I engage in some speculations in contradistinction to the subject matter I have hitherto ventured to bring under your notice, in the belief that it has been sufficiently demonstrated to warrant me in doing so. I refer to the application of the Roentgen or x-rays to this branch of surgery. I feel that I am justified in doing so, partly for the reason that if these anticipations eventually fail to be realized, they may still possibly serve to indicate in what directions assistance from collateral science is required and may be expected, and partly because Sir Joseph Lister, the distinguished president of the British Association, in his recent address in Liverpool, emphasized the belief that in the near future surgery had much to gain by this method of investigation. As to the truth of the latter statement there can be no doubt.

To what extent this means may be utilized in matters which have occupied a considerable portion of this lecture has yet to be demonstrated. In its application to the diagnosis of calculus situated within any portion of the male or female urinary apparatus from the kidney downward, I am not aware that it has been sufficiently successful in indicating either the form or

¹ Lancet, April and May, 1896.

¹ "Surgical Disorders of the Urinary Organs," 4th ed.

the position of the stone. From some experiments made chiefly outside the human body (I refer to such as those of M. D'Arsonval,¹ in Paris, and of Mr. Henry Morris² and others) it is quite possible by the shadows thus cast to distinguish various kinds of calculi. At present I do not think more than this can be said or has been sufficiently demonstrated. Though I have had several patients skiagraphed, I have not yet succeeded in obtaining results which were of help to me in making a diagnosis independently of such means as we are in the habit of using.

In thus referring to this method of investigation it is with the hope that in its further development and application it will among other aids enable us to dispense with the use of the sound as a means of diagnosing stone in the bladder. I cannot call to mind an instance in the child, woman, or young male adult, extending up to what I could call middle age, who was ever seriously damaged by the judicious use of this instrument, but in males of a more advanced age, in whom the prostate was large and access to the interior of the bladder by means of a rigid instrument by no means easy, we have seen, when a stone had been discovered as well as when one had not, serious and even fatal consequences ensue. A cystitis, for instance, has thus been aroused, with considerable general disturbance which has sometimes taken a long time to overcome, not to say anything of being the means of postponing a necessary operation indefinitely, by reason of the acute septic conditions under which it would otherwise have been undertaken.

Nor is this all. How few surgeons, in whatever degree they may be engaged in work of this kind, can feel that the skilful employment of the steel sound is an absolute guarantee against the possibility of a stone escaping their vigilance. When we look at the shape the diseased bladder and prostate often assume, it is astonishing to me that this somewhat primitive mode of examination so rarely fails us. But it is in just this particular class of cases that we rely upon it most, and as to which our disappointment is the keenest if it falls short of our expectation, whatever the explanation may be.

Under these circumstances I have for some time past been in the habit of including under one process, with great advantage, the administration of an anæsthetic, the use of the sound for the first exploration of the bladder, and the immediate removal of the stone, by crushing if practicable, if one is discovered. Just as in earlier years a preliminary paracentesis of an ovarian tumor was often found to be an unfavorable antecedent to an ovariectomy, so may the passing and use of a sound be a preface, which we would avoid, to the subsequent removal of the stone, however this may be effected. No more desirable object can be wished for in connection with the practical use of these rays than their application in determining the presence, position, and constitution of the various stony concretions that have their habitat in the human urinary organs.

I have every confidence in expressing the belief that the time is not far distant when, under the circumstances I have mentioned, these Roentgen rays will enable us to see the stone instead of feeling it, just as in a recorded case³ in which a Murphy's button, lost in a remote corner of the intestines, was found in this way by my old friend and colleague, Mr. Mitchell Banks.

Infantile Colic.—Tincture of lobelia, one drop in an ounce of water. Dose, one-half teaspoonful warmed. —*Cal. Med. Journal*.

CLEANSING AND CLEANLINESS IN ABDOMINAL SURGEONS' OPERATIONS.

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A FEW days ago I read the detailed description of an operation for the removal of a bullet lodged in the brain, the operation being done by one of our best-known European surgeons and a pronounced follower of the school of Lister. He first removed the dressing and exposed the scalp, which looked like a huge billiard ball, excepting for one ominous black spot where the bullet had bored its unkindly way. Then he took a scalpel which was dripping with antiseptic, a precaution which had not been taken with the foregoing bullet, and deftly incised the scalp. Almost all the time an assistant allowed a fine stream of warm water—sterilized by being boiled and allowed to cool to a safe temperature—to play from an irrigator upon the field of the operation. Then instrument after instrument was used, all evidently the subject of fear, for they all dripped with antiseptic, though the track of the wound and the locus of the infected bullet were left to the prey of the germs which had been carried there, and had been working about for forty-eight hours before the operation. The operator had not read Mr. Leedham Greive's interesting papers on how difficult if not impossible it is to sterilize the hands of the operator, for he consistently made no attempt in the direction, and yet he closed the wound with a parcel of cotton wool feebly impregnated with corrosive sublimate. He then addressed his surroundings on the marvellous results obtained in modern times by antiseptic surgery. In the museum of the Royal College of Surgeons is a large iron bar, technically known as a jumper, which went, under the influence of a charge of gunpowder, from below the chin of the user and straight upward through the head and out at the vertex, carrying into the wound a lot of germs and leaving them there. No sterilized water was used about the superficial wound, and no corrosive sublimate was then employed, about the end of last century; yet the patient got well and remained so for years. The museums of this country and of others literally swarm with ancient specimens, which prove the receipt of serious cerebral injury with complete and permanent recovery, so that the belief, now seemingly established in the minds of surgeons for the present moment, that a stream of sterilized water and a few grains of corrosive sublimate in the superficial dressings give any greater security for recovery, has no foundation in fact and is a mere temporary mental aberration.

Some few months ago I read a paper by the same surgeon as I have already quoted, on the subject of the influence of germs; and, in the short space of a column and a half of an ordinary medical journal he used in thirteen instances such phrases as: "It is now fully established," "It is beyond dispute," "It must be universally acknowledged," "Smith has proved," "Jones' remarkable observations have established," and "A complete result of Robinson's original researches we must believe;" though in not a single instance would I, for one, admit anything of any one of the single assertions. It happens that those indicated as Smith, Jones, and Robinson are three frequent contributors of papers on the application of the ever-advancing, ever-developing, ever-changing, and never-ending conclusions of the bacteriologists to the practical work of the surgeon; and such men, always anxious for second-hand novelties, forget in one week what they said the week before. In their writings it is an easy matter to picture in detail the extraordinary phases of the evolution of the practice and principle of Listerism, though it is only fair to say that I use Lister's name here with this qualification, that he,

¹ Bull. de l'Acad. de Méd., Paris, June 2, 1896.

² Lancet, November 14, 1896.

³ Brit. Med. Journ., October 24, 1896.

while the originator and still the chief advocate of the doctrines so various and so varying, is not responsible for more than about half the nonsense which has grown round the original antiseptic religion. There have been a large number of surgical "Pauls," who have freely disseminated perplexing epistles to the various surgical churches of the world, and thereby much and very acrimonious differences have arisen.

The antiseptic generation has now sped its cycle from 1866 to 1896, and we have come back to the figure of the clock at which we started. The time exactly embraces my own surgical life. In Glasgow and Edinburgh I saw patients die of the same terrible infliction, no matter what had happened to them. I saw removal of breasts end with a fatality which seemed to rival that of amputation at the middle of the thigh, and yet in my own practice during the cycle, out of many hundreds of cases of removal of breasts—how many I could not venture to guess—I think it pretty certain that the mortality has been a long way under five per cent., and probably not been one per cent. In fact, I can call to mind only two fatal cases. The crowded wards, the deficient ventilation, the one saluting-dish and the one sponge in each ward, the want of ordinary lavatory cleanliness were the causes of the terrible results. The carbolic oil, the putty, and the lac plaster may have had some countervailing influence under the circumstances of these horrible old pest houses, but in practice outside such influences they were useless. These details, together with others which ended finally in the harmonious logic of the spray, marked the first epoch of the antiseptic cycle, a time during which it was devoutly believed that every germ was potent for evil and every resting spore was a surgical pest. Every germ, every spore, every scrap of harmless dust must, therefore, be submitted to a process of destruction by some potent chemical agent. This chemical agent was constantly changed. As soon as one was contrived, adopted, beloved, and trusted, it was found by some new observers to be wanting when weighed in the clinical balance. The chemical manufacturers were nearly wild, and many of them were ruined by the continual changes, and the antiseptic market rate for years was something more variable than that of African gold shares.

When the spray was introduced, I was led, by circumstances altogether outside my own conviction, to range myself once more as a follower of the chemical antiseptic school, though I did not for a moment forget or neglect my old methods. I performed a hundred consecutive ovariectomies with a full and complete adoption of all the antiseptic precautions of the Listerian school of the period, and I published a paper in the Transactions of the Royal Medical and Chirurgical Society, contrasting the details of that series with those of a consecutive hundred in immediate opposition to them (and the contrast was not in favor of the antiseptic practice).

By this time I had become thoroughly persuaded as to the future progress of the antiseptic doctrines and practice, and I expressed my prophecy in what I called an experiment, though it was more of the nature of a satire.

I went through all the ceremonious observances with gradually diluted solutions, until I used nothing but boiled water, and then that was dispensed with. Finally, I used only ordinary tap water, and then I gave up the spray. This is precisely what has happened all round. The poisonous solutions were weakened bit by bit: the spray was abandoned, with an expression of shame that it had ever been introduced; rigorous hunting for germs was slackened, and the antiseptic belief so modified, that it was at last accepted that not every germ was hurtful, but only such as might yet be identified.

But, on the other side, we found the cubic space allowed to each patient rapidly increased; new hospitals were built, and, above all, the segregation of surgical patients was enormously advanced by the erection of cottage hospitals all over the country. For my own part, between 1878 and 1880, I secured an accommodation of about forty beds, for the occupants of which had each a separate room; in fact, practically they may be said to have all had separate rooms. The effect was at once apparent, for my mortality went down from about thirty per cent. to less than five; and I had long runs of fifty, sixty, eighty, and once as far as one hundred and forty-six consecutive operations, without a death. Even hysterectomy, the most obstinate of all abdominal operations in yielding satisfactory results, has, within the last ten years, given me runs of thirty, forty, and even forty-five consecutive successes. What are the explanations of all this? The answer is, that though I cannot produce anything from which I can "absolutely prove" or "make it apparent beyond doubt," or anything of the cocksure order, yet I can give basic conclusions which will be with difficulty upset; and those who neglect them will have to bear serious responsibility in the criticism of the future.

The first conclusion at which I arrived concerning abdominal operations was, and it remains the strongest now, that the more the patients submitted to them are separated the better. For this purpose and for the greater part of my practice I adopted, as I have said, a room for each patient. Sometimes with a press of work I was tempted to "pack," as we used to call it—that is, put two patients in one room, after the first six or seven days; but I had so frequently to regret this that I ultimately abandoned it.

I am quite sure that there is much truth in one conclusion I have often advanced, that time has much to do with what will happen in the septic infection of an abdominal section. The fourth night is the critical night with all save hysterectomies, and with them that period is not to be so definitely fixed. If an ovariectomy is all right on the fifth morning, the chances of the patient going wrong are small indeed. But if you "pack" them, they will have hamatocetes, stitch abscesses, pulmonary complications, mumps, and all sorts of secondary troubles, in a proportion far greater than if you keep them absolutely one in each room. These complications do not affect the mortality much, but they prolong the convalescence in a fashion of the most annoying kind. This has been still more impressed on me during the last three years, in which I have far more widely adopted the plan of operating in the houses of the patients, and leaving the subsequent treatment of them to their private medical attendants. This is now possible, seeing that I sedulously avoid anything in the shape of gratuitous work, whereas for more than twenty years I did not get payment of any kind for more than one-fourth of my clientèle, and not more than costs out of pocket for one-tenth of them. I am now, therefore, working solely in a class among whom it is possible to have all that is requisite in the way of accommodation in the houses of the patients, and after the operation is over I am seldom required to see the patients again, recoveries are so little interrupted. All this experience points out to me the extreme importance of segregation, and the uniform results of the work at the Sparkhill Hospital, not in the hands of one man but in the hands of all to whom it has been intrusted, prove this, as far as proof in surgery can go: for there segregation is carried out almost as completely as it can be carried out in the best houses, while the perfection of the sanitary arrangements provided by the committee of management is almost absurd in its completeness of detail.

All this, and the necessity for it, were enforced on

my mind coincident with the complete banishment of any fear of germs, either wholesale or individual, though there still remained with me the wholesome dread of certain specific poisons, the nature of which I do not know—and I think I may safely say that their nature is equally unknown to everybody else. First of all of these, as deadly beyond all things known to me, is the poison begot in the peritoneum and uterus of the puerperal woman, and in some subjects who have died after abdominal sections.

This brings me to speak of the third phase of the slowly developing Listerism or antiseptic doctrines of surgery, when it had begun to call itself "aseptic," and to adopt some of the minor doctrines and practices which I have been preaching and practising since 1881. All that I have been saying up to now leads me to that condition which, after segregation, constitutes my second general condition essential for success in abdominal surgery, and going a long way to explain our modern success—I mean cleanliness.

Cleanliness in surgery may be divided into general and specific. General cleanliness, such as close attention to cleaning wards and all in them, the cleanliness of all linen bedclothing, etc., and the personal cleanliness of the surgeon and the members of his staff, are matters I need not waste time over. The details of specific cleanliness are matters much more in need of discussion.

For a long time in the earlier part of my practice, I allowed all properly introduced and qualified practitioners to visit it, and they came in great numbers, chiefly from America. But I soon had to stop this kind of hospitality and to limit admission to such as came as serious-minded students, prepared to see and understand what they saw. The reason for this was simple. The "globe-trotter" came and saw one or two operations, and departed without understanding anything he had seen; and, if he published, he perversely misrepresented the facts. To this misrepresentation are due two misstatements, which even now appear at intervals in the medical journals of the continent and America. The first is that I really am a devoted disciple of the chemical-germ-destroyer school, but that I have some substance in use which I will not disclose. The second is that my secret is "water sterilized by boiling;" and this ridiculous blunder recurred only a few months ago at one of the great congresses of America, and, strange to say, from the mouth of one of my old pupils, Dr. Ricketts, of Cincinnati, who spent six months with me.

It is now fourteen years since I have used sterilized water for any purpose save to raise common tap water to the temperature required, so that the mixture would be probably five parts common tap or well water, and one part water which had been boiled and possibly sterilized. The mixture would have a temperature of about 102° F., for my hands will not stand much more with comfort. I have yet to learn that such a mixture deserves the term of "sterilized."

My attention to specific cleanliness is as close as can be given. It may be divided between the instruments and hands of the operator and the abdomen of the patient.

I hail with great satisfaction all the wonderful inventions and devices of the modern operating-theatre for securing general cleanliness, for that cleanliness can be secured only by the work of women, and women in themselves have not the slightest idea of cleanliness save on the surface, and unless they belong to the really well-educated classes. This is a fact which no one knows so well as he who has gone through the filthy drudgery of a gynecological outpatient department, where fifteen out of sixteen of the patients have lice or fleas upon them, and often both. This is the material from which the great bulk of the

so-called trained nurses are obtained, and with their training, unless most especially well looked after, they alter their habits only in the sense of the smart cap and an attractive uniform. They remain as dirty as ever, and it is therefore necessary to give them shelves and boxes of plate glass.

All instruments with sliding tubes, screw, or Clendon joints ought to be abandoned; every joint should be capable of being unshipped, and after every operation every instrument used should be scrubbed with raw turpentine and a brush, and then well washed with soap and water. If this is done, simple immersion in cold tap water at the next operation is all that is wanted. Sponges—ah! they want a paper to themselves. They are and ought to be the terror of the operating surgeons, and I cannot stay now to say what I have to say about them, save that new sponges are bad, old sponges dangerous, and that none of them should ever be boiled. The Americans will have it that I boil my sponges; but I never did such a thing but once, and that ruined the lot.

Now I come to the real subject matter of my paper—the cleanliness or cleansing of the patients.

I see that a number of superstitious observances on this subject are still recommended, such as the application of an antiseptic pad to the abdominal wall for twenty-four hours before the operation.

I have never employed any such plans, being quite content with a soap-and-water washing of the skin to remove the dead fat and epithelium with which women are always coated, and generally thickly. If there were any real poison in the skin, no antiseptic pad would remove it in twenty-four hours. The real poisons known to me as absolute realities, such as those which I have spoken of as occurring in puerperal peritonitis, cannot be removed by any known germicide from the hands of the surgeon infected by them. Mr. Leedham Greives' experiments seem to show that it is impossible to cleanse the hands from the ordinary spores of decomposition, and yet we know that nowhere is epithelium reproduced and shed at so rapid a rate as it is on the hand. My knowledge of the terribly infective power of the puerperal poison, from my own experience and that of others, has been so emphatic and the lessons so disastrous, that I am persuaded that the poison, whatever it be, permeates at least the whole epithelial layer and cannot be got rid of save by efflux of time and skin, and that it is not safe for any one so infected to operate till at least a fortnight or three weeks have elapsed. Have there not been lessons enough in the same direction by the spread of puerperal fever from the hands of the accoucheur?

I am not alarmed by the conclusion to which Mr. Leedham Greives' observations point, for I do not fear the ordinary germ poison at all. But still, I take the precaution of keeping my nails short and clean, and washing my hands in raw turpentine the last thing before performing any operation, and then washing off the turpentine by ordinary soap and water. My reason for this may be seen in the simple experiment of washing the hands three or four times in the ordinary way, and then in perfectly fresh water repeating the process with the previous employment of turpentine. After this last water has stood for a few minutes, there will be seen on its surface evidence of dirt of a very convincing kind. That dirt must be either in the clear turpentine or it must be a layer of dirt removed from the hands by the turpentine, after having resisted the previous efforts with soap only. The latter conclusion is that accepted by me, and it accounts for my using turpentine on the patient's skin and my own, as well as on the hands of my assistant, in the rare cases in which I need one.

The final cleansing, and I think by far the most im-

portant of the lot, is the cleansing of the abdominal cavity during and after operations.

All the other details of every operation performed by me are conducted, as I have said, by the use of plain cold water, taken immediately from the tap or well and raised when necessary to the desired temperature by the addition of the water from the kettle or boiler; nothing whatever is added to that water for instruments or sponges.

A careful search through the records of abdominal operations, particularly those for the removal of ovarian and other tumors, has not revealed any but the slightest and most casual allusions to any cleansing process, till we come to the work of Charles Clay and Baker Browne, who freely mopped out the pelvic cavity with sponges through their large incisions. One of the most interesting recitals, for many reasons, is that of the first ovariectomy of which we have any record, that by Houston, of Glasgow, when he removed the glairy contents and cystic fragments of a ruptured and half-digested tumor with gelatinous contents. He makes no allusion of any kind to a process of cleansing, and yet it is certain that the contents of this ruptured cyst must have spread themselves throughout the peritoneal cavity and have coated every viscus contained within it, as I have seen on many occasions. In my earlier experience I thought such a case was that of all others which required a full peritoneal toilette, and it was to one such in the year 1875 that I owed the initiation of the process of washing as largely a substitute for, and certainly a great addition to, the process of sponging. Now I am quite sure that this is not the case, and for the reason that the gelatinous cyst contents are not dead material, but endowed with just that degree of vitality as to be able to resist the germs of decomposition unless overdosed with them, just as Lister's blood clot did. In a properly aseptic operation, therefore, as Houston's must have been, the peritoneum will absorb what is left with perfect safety, and here it is that sponging is most especially dangerous and washing particularly safe. The moment a sponge touches such material, the surface of its framework is clogged and it will not absorb, while the gluey material is readily soluble in warm water. In the same way, coagulated blood is not dead so long as it is safely locked up in living tissue and protected by it from the access of the germs of decomposition, when it speedily dies, decomposes, and becomes a source of danger. Clot adherent in layers becomes slowly organized, and after a period of weeks or months comes to have a system of full nutrition, progressing in this direction till removed or so altered as to be recognized with difficulty from original tissue. This is fully proved by the history of clot layers in cases of recurrent hemorrhage in ruptured ectopic pregnancies, and in the process of cure of aneurism by arrest of the current through the sac. Bearing the fact in mind, therefore, that the displaced substances we have to deal with in cleansing the abdomen have different degrees of vitality, and therefore different degrees of resisting power, it will help us much in deciding not only how much cleansing is required, but as to the particular method in which the process should be carried out. These, at least, are the principles on which I have worked for over twenty years, and there has not yet been heard any utterance of weight against the almost uniformly admitted fact that my methods of cleansing have not only materially assisted the surgeon in his work, but that they have greatly diminished its mortality.

My early publications on this subject were met with claims for priority by others, as by Keith, who did not, however, advance any evidence on the subject, nor did others. But it would not matter if it were the fact, as it very likely is, that some one else or many others

had poured out a jug of water into the peritoneal cavity before 1875; but certainly no one made any attempt to systematize the processes of peritoneal cleansing until I did so, or to show how best it could be done and which methods to choose under particular circumstances. All this I reviewed in a paper published in the *British Gynecological Journal* in August, 1887, and therefore I need not repeat it here.

First of all, let me say that if an operation, such as the removal of an ovarian tumor, has been conducted so well and so fortunately that nothing has entered the peritoneal cavity, the wound ought to be closed at once without sponge or anything else entering it. If, on the contrary, a mess has been made inside, it must be cleansed out; and the question is to decide on the best method, and the weight of argument should always be against the use of sponges—they are so inherently dangerous, yet their use is often essential. Thus, in separating adhesions of the omentum to a tumor, nothing displays the ability and dexterity of a surgeon so much as the rapid folding up of a dry sponge in the damaged apron. Or, if the adhesion of the appendages to the pelvic wall bleed freely, the pelvis must be packed, and the packing will probably remove much dirt with it. Until two years ago, I always used sponges for this purpose, and would often have six or eight sponges squeezed tight down in the pelvis. Now, I use iodoform gauze for this purpose. Who it was who led us into this important advance, I do not know; but it is one of real value, for iodoform gauze stops oozing from parietal and visceral surfaces in a way that nothing else will do, save perchloride of iron. If, however, a ligature has cut through a rotten parietal, or a vessel has escaped the forceps and ligature and cannot be found, these washings out with a stream of clean water will speedily display the source of the bleeding and enable the vessel to be secured. I do not combine the two processes if I can help it, for they do not generally aid one another.

As I take it that pus is a substance already dead and generally decomposing—as Miller very characteristically defined it from his common-sense surgical pathology, "effete matter, a foreign body"—I take the utmost care to cleanse it all away, or anything which from my view more or less imitates it, such as loose blood clot and blood in solution. The method to be employed in this case is the continuous stream. The handiest method to serve this purpose is simply to reverse a stream of common tepid water through one of my ovariectomy trocars, and I use a large or small one according to whether I wish to dislodge and wash out loose clots by means of a large volume of water issuing from a large tube; or, on the other hand, if I want to wash carefully every inch of the peritoneal surface, I use a small tube with a gently flowing stream. If the tubes are not handy—and in our worst emergencies, like ruptured pregnancy, they may not be—a very efficient substitute is to open the wound as widely as possible, pull up the parietals, and to pour in with cautious violence one or more jugfuls of tepid water, insert the right hand into the abdomen, and with the left close the wound round the wrist as closely as possible. The process of washing may then be carried out as fully as is considered desirable.

If a tube of my kind can be obtained, it is better to use it, for it can be carried into every one of the complex interstices of the peritoneum, and the washing be thereby made most thoroughly. But let me caution the inexperienced operator against using a double tube for entrance and exit, as has recently been recommended in *The Lancet*. This is no new proposal, and when such is used the stream does not get spread but returns at once, short-circuited, as the electricians say, and without doing much cleansing. Care must be used to have the temperature of the water streams not

lower than 100° F., and not higher than 103° F., and it must be borne in mind that few women, and none whatever of the nurse type, have any sense of temperature in their hands. To them, "blood heat" may be anything between 75° and 120° F.

The further or secondary cleansing of the peritoneum is secured by the use of the drainage tube, to be considered at length in another chapter. So far as I have gone I have laid down the lines on which have been developed the wholesome and aseptic surgery of the peritoneum, a system which I have been advocating for over twenty years, for which persistence my reward is now coming, in seeing that it is being accepted all over the world, and my former opponents of the antiseptic school are finding shelter under its roof from their former extravagances.

A FURTHER STUDY OF THE BIOLOGY OF THE GONOCOCCUS (NEISSER), WITH CONTRIBUTIONS TO THE TECHNIQUE: A PAPER BASED ON THE MORPHOLOGICAL AND BIOLOGICAL EXAMINATION OF EXUDATES IN CASES OF CHRONIC URETHRITIS.*

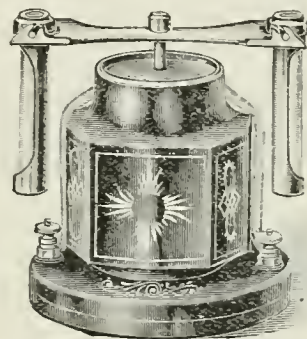
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In studying the biology of the gonococcus in the experiments noted in my first paper,¹ entitled "A Clinical and Bacteriological Study of the Gonococcus (Neisser)," etc., New York MEDICAL RECORD, June 22, 1895, I employed for the gonococcus cultivations chest serum plus agar,[†] believing this to be the best medium. At that time I stated that a sterilized platinum loop was passed into the urethra and some secretion withdrawn. This method was tedious and troublesome, inasmuch as either the infected subject had to be brought to a laboratory or else the culture medium had to be brought to the patient. A second difficulty encountered was that the quantity of pus withdrawn by means of the sterilized loop was scanty. In order to obviate these disadvantages, I decided to employ for the collection of the secretion tubes available for the centrifuge. It is important to state at the outset that in no case did I first cleanse the genitals. The patient was instructed to pass his urine into a sterilized tube. This was then placed in a centrifuge,[‡] where it was whirled for three minutes. On decanting the resulting supernatant fluid, it was found that a com-

plete sedimentation of the pus was obtained, a layer from one-half to one centimetre in height resulting. This sediment was then planted by means of a sterilized platinum loop on chest-serum agar plates (Petri's), as a surface culture. In this manner I was enabled to procure an almost pure culture of the gonococcus. This method I employed in twenty-two cases of acute gonorrhœa in the male, obtaining positive results in all. One of these cases, it is interesting to note, was that of a boy two years old. Cover-glass examinations and cultures in this particular case gave positive results. The "centrifuged" sediment, if I may be permitted to coin a new word, was found to be acid in reaction, while the pus which was obtained by means of the platinum loop from the urethra was found to be neutral or else alkaline. In this connection I would like to cite eight cases of colpitis gonorrhœica of children, from each of whom, without cleansing the genitals, some vaginal pus was placed by means of a platinum loop into the tube accompanying the centrifuge. This tube was then placed in a test tube containing some sterilized water. This procedure was adopted to prevent the pus from drying, a difficulty always encountered when swabs were used. Preserved in this manner, it will be found that even in twenty-four hours at room temperature, a



positive result can be obtained in cultivating the gonococcus on chest-serum agar plates. For the purpose of ascertaining how the "centrifuged" sediment of the urine of acute gonorrhœal urethritis in the male behaved when planted on media unfavorable to the growth of the gonococcus, I planted some of this sediment on gelatin and some on agar plates, and for control purposes on chest-serum agar plates. The result was as follows: Nutrient agar plates, kept at body temperature, showed a considerable growth of bacteria, especially a diplococcus, which did not thrive so well on chest-serum agar plates, while on the gelatin plates the growth was still less than on agar plates.

Media Employed for the Cultivation of the Gonococcus.—Of the various media employed in my experiments, I found that the gonococcus would not grow when planted on the coagulated (by heat) chest serum. I also found that when I employed a culture medium composed of one part of non-sterilized chest serum and two parts of a two-per-cent. prepared nutrient agar, which had been previously boiled, filtered, and sterilized for one-half hour on two consecutive days in a steam sterilizer, and which medium, while still hot, was poured directly on plates for streak cultures, gonococci did not grow. I then attempted to plant the gonococcus according to the method employed by Pfeiffer² in the case of the influenza bacillus. That is, a drop of blood is taken from the finger and smeared on the surface of a nutrient-agar tube. Upon such a smear a pure culture of the gonococcus was planted, with positive results. For further control purposes I transplanted this gonococcus from this same smear on a chest-serum agar* plate after the third day, and obtained typical colonies. Another series of my experiments was based on the method described by Hammer,³ of Heidelberg. The medium employed by him consisted of one part of sterilized urine, containing 1.5 per cent. of albumin plus two parts of nutrient or glycerin agar. This medium, Hammer

* This paper was based on experiments conducted in the bacterial laboratory, department of pathology of the College of Physicians and Surgeons, Columbia University, New York.

† This culture medium consists of a 2 per cent. agar plus 1 per cent. of peptone plus 0.5 per cent. of salt. Of this mixture two parts were added to one part of chest serum (pleuritic effusion) fractionally sterilized between 65° C. and 70° C. Chest serum of neutral reaction is desirable. In case the chest serum should be strongly alkaline, it is desirable to treat the 2 per cent. nutrient agar in such a manner that it will remain slightly acid, so that on the addition of the alkaline serum the medium will give a neutral reaction.

‡ The centrifuge employed in my experiments is my own modification of the Litten apparatus. The improvement consists in the employment of eight Edison Lalande cells with a special motor devised by the Edison Manufacturing Company. This improved centrifuge gives a speed of 1,500 revolutions per minute and is so constructed that the hematocrit (Richards & Co.) can be attached so as to give the required 6,000 revolutions per minute. The battery operating this improved centrifuge can be advantageously employed as a galvano-cautery, and can also furnish an incandescent light of six-candle power. This centrifuge possesses the further advantage that the street wire can be tapped, by interposing a rheostat. This combination centrifuge can be purchased from the Edison Manufacturing Company, 110 East Twenty-third Street. The accompanying print demonstrates the motor and tube carrier of the apparatus; the semilunar-shaped tubes are employed to reduce the weight of the disc.

* To Drs. Alex. Lambert, James Ewing, and F. S. Mandelbaum I am indebted for the chest serum.

claims, gave him good results. His method is theoretically correct, because urine containing albumin in large quantities contains also a large proportion of serum albumin, paraglobulin, albumose, and peptones. I am of the opinion that liquid albumin or its allied products are essential for the successful cultivation of the gonococcus. I followed Hammer's technique in all its details, except that I employed urine containing one per cent. of albumin by Eschbach's test tube, and for control purposes gonorrhœal pus was planted on chest-serum agar plates. My experiments showed a comparatively small growth of gonococci on albuminous urine plus glycerin agar, but an abundant growth on chest-serum agar plates; while, on planting the pure cultures on tubes containing albuminous urine plus glycerin agar, I also obtained a relatively small growth of the gonococcus. It is worth noticing that Hammer does not mention the degree of reaction of his medium. The albuminous urine in my experiments was neutralized by adding 1 c.c. of a solution of sodium hydrate to 100 c.c. of urine. My experiments, in common with those of Hammer, gave negative results on the acid albuminous urine plus agar. Another medium was then tried, viz., a sterilized liquid hydrocele fluid plus two per cent. of nutrient agar for the planting of gonorrhœal pus from the male urethra, and for control purposes chest-serum agar, with the following result: Hydrocele fluid plus agar gave nearly as good a result as the chest-serum on the plate and test-tube cultures. I then tried still another medium, prepared as follows: 500 grams of finely chopped meat were mixed with 1,000 c.c. of water; this mixture was placed for twenty-four hours in a refrigerator and then strained through cheesecloth. The resulting meat infusion was acid, reacting 0.42 per cent. to phenol-phthalein. Some was made neutral, and to a portion of this latter was added 0.5 per cent. of sodium chloride. A portion of this neutral meat infusion was then treated by the addition of 1 per cent. of peptone and 0.5 per cent. of sodium chloride. These media were placed in a refrigerator for twenty-four hours, then filled into test tubes for fractional sterilization at low temperatures, the low temperature being applied to retain the albuminous matter in solution. After the first sterilization at 65° C. for one hour, I noticed a considerable amount of coagulated material, consisting of, as was afterward ascertained, muscle proteids. This latter, according to Halliburton, is composed of musculin, coagulable at 47° C.; myoglobulin, coagulable at 63° C.; myoalbumose, a substance obtained from the coagulum and itself not coagulable.

A second precipitation followed the further sterilization of the meat infusion. At the completion of the sterilization, I utilized the liquid portion with one or two per cent. of nutrient agar, in the proportion of one to three. Planting gonorrhœal pus on Petri plates containing this last-described medium, a negative result followed. This failure might be attributed to the small amount of albumin contained in the meat infusion, as compared with the greater amount of albumin present in the various kinds of serum which are in use for the cultivation of the gonococcus. For example, according to Hammersten,⁴ blood serum contains 8.2 per cent. of solids, of which 6.9 per cent. is albuminous. The rest of the plasma ingredients amounts to 1.3 per cent., of which 0.84 per cent. consists of inorganic substances. He also states that the albuminous ingredients of animal-blood serum consist mainly of globulin and a small proportion of serum albumin. Pure serum albumin, he states, coagulates at 50° C., but in combination with salt solution at between 72° and 75° C. It is a well-known clinical observation that with the increase of the pleuritic effusion the sodium chloride in urine gradually diminishes. This

accounts for the fact that the pleuritic effusion becomes rich in sodium chloride. My experience has been that chest serum (pleuritic effusion) gelatinizes at 75° C. and coagulates at between 80° and 82° C. I found the reaction of sheep and chest serum neutral. The yellow color of blood serum is attributed to the presence of a soluble coloring matter, termed lipochrom (Hammersten), which precipitates in the presence of amyl alcohol. Hammersten also found soaps—lecithin-cholesterin, glucose-sodium-chloride—in predominance in blood serum. Bunge (Neumeister) furnishes the following table of an analysis of horse, cattle, and pig serum: Potassium, 0.026; sodium, 0.435; calcium, 0.013; magnesium, 0.004; chlorides, 0.369; phosphoric acid, 0.022. Total, 0.869 and sodium chloride in solution.

The medium to which I gave preference is sterilized liquid chest serum—1 part (pleuritic effusion) plus 2 per cent. of agar plus 1 per cent. of peptone plus 0.5 per cent. of salt, 2 parts. This is readily obtainable, and upon it the gonococcus grows, according to my experiments, better than on any other medium. My first experiments with chest-serum sterilizations were faulty, as many of my plates became contaminated. I attributed this to the fact that sterilization for one hour at 65° C. for six consecutive days, and then placing the serum in the incubator for control for forty-eight hours, are not sufficient to render the serum entirely sterile. I therefore continued the fractional sterilization for three days longer at 65° C., after having kept the serum at room temperature for three days.

Liquid Media Employed for Gonococcus Cultivation.—It is a well-known fact that up to the present time no liquid medium has been found in which the gonococcus thrives. Bearing this point in mind, I endeavored to find a liquid medium adapted to this purpose. After much experimentation, my efforts were rewarded in finding three media which gave positive results, namely: Liquid chest serum, sterilized at 65° C., plus fermentation broth;* secondly, sterilized liquid chest serum plus Dunham's peptone solution; thirdly, sterilized liquid chest serum plus nutrient broth. That is to say, on planting the gonococcus on fluid chest serum, on fermentation broth, on Dunham's peptone solution, or on nutrient broth alone, it does not thrive; but on adding an equal part of chest serum to any of the other media we get positive results. Knowing that the gonococcus thrives upon sterilized liquid chest serum plus one or two per cent. of nutrient agar, and believing that the agar does not furnish the principal nutriment, I utilized the three above-described media in equal parts, and carefully mixed them to avoid further sterilization. Upon these media I then planted a second generation of a pure culture of the gonococcus from a chest-serum agar tube, placing the liquid media at body temperature. Examining the liquid chest-serum plus fermentation-broth tube twenty-five days later, I found a few gonococci in cover glass preparations. At the same time I planted a portion of the above liquid medium for control purposes on chest-serum agar plates, and obtained a pure culture of the gonococcus. On repeating the experiments on the twenty-ninth day, I found no gonococci on cover-glass preparations, but obtained a pure culture on chest-serum agar plates. On the fifty-first day I was still able to grow the gonococcus contained in the liquid medium on chest-serum agar plates. How

* Theobald Smith, in "Wilder Quarter-Century Book," 1893: "The bouillon was prepared by digesting fresh beef in water at 60° C. for several hours, then filtering and adding 0.25 per cent. of peptone, 0.5 per cent. of sodium chloride, and about 3 c.c. of a normal solution of sodium carbonate for every 100 c.c. of the fluid. This suffices to make it feebly alkaline. To this peptone bouillon 2 per cent. of one or the other of the three sugars mentioned was added and the resulting fluid sterilized in the fermentation tubes."

much longer the gonococcus would retain its vitality in the liquid chest serum plus fermentation broth, I am unprepared to state at present, as my experiments in this direction are still unfinished. Fifty-one days is, therefore, the oldest gonococcus culture known to me. When the gonococcus was first cultivated by Bumm,⁵ in 1885, on solidified placental blood serum, it was necessary to transplant it every sixth or seventh day, owing to the readiness with which it dried. Since then, Finger⁶ was able to demonstrate the fact that the gonococcus could live as long as four weeks upon a sealed beef-serum agar tube. From the liquid chest serum plus nutrient broth containing the gonococcus I repeatedly planted on chest-serum agar plates, finding on the forty-second day that I was still able to grow the gonococcus. In the Dunham's solution the gonococcus was still found on the seventeenth day, when planted on chest-serum agar plates.

Experiments to Determine the Longevity of Gonococci with Gonorrhœal Pus Kept Either at Body or Room Temperature.—Gonorrhœal pus for this purpose was obtained from gonorrhœal urine for the centrifuge. The clear urine, having been decanted, was then placed in the tubes of the centrifuge, and then repositied within a larger test tube which contained a small amount of sterilized water. Some of these tubes were placed at body and some at room temperature. The result of the immediate examination of the gonorrhœal pus intended to be kept at body temperature was positive both in cover-glass preparations and on chest-serum agar plates. After twenty-four hours at body temperature, I was able to find only few gonococci in cover-glass preparations and very many on cultures. Some of the gonorrhœal pus reacted acid and some neutral. Some of the tubes containing gonorrhœal pus, kept under the same condition at room temperature, showed gonococci in the first examination in cover-glass preparations and on chest-serum agar plates. After they had been kept for twenty-four hours at room temperature, I was able to demonstrate the gonococcus on both cover glasses and plates, obtaining the same results after forty-eight hours. In gonorrhœal urine kept twenty-four hours at room temperature, I also found gonococci both in cover glasses and on chest-serum agar plates.

I now smeared gonorrhœal pus on sterilized linen, which was stored in a test tube, and after three hours planted the pus directly from the linen on the agar plates, and made cover-glass preparations. This experiment gave a positive result, but on planting the material directly from the linen after twenty-four hours I could no longer grow the gonococcus, while the pus cells on cover glass appeared to be undergoing decomposition. Some of this pus-smeared linen was examined by me sixty-six days after its preparation, when I was still able to demonstrate the gonococcus with cover glasses. The pus was obtained from the linen in the following simple manner: A drop of sterilized water was placed by means of the platinum hook on the linen, and a cover glass was smeared directly over the moistened surface. Wocholtz and Nowak⁷ found that gonococci, when dried, lose their power of growth. They report results similar to those obtained by me from dried spots of gonorrhœal pus. A. Haberdad⁸ reported that he found gonococci on linen several weeks after besmearing the fabric. He did not, however, make culture experiments.

On one occasion I just smeared gonorrhœal pus upon the inner side of a sterilized test tube, and as late as fifty-seven days after I was able to demonstrate the gonococcus morphologically. Some of the dried pus from the above tubes was planted after twenty-nine days on chest-serum agar plates, with negative results: but I found gonococci in cover-glass preparations. In all instances of my own, Gram's method was employed.

Relative Growth of Other Pathogenic Bacteria on Chest-Serum Agar Plates.—In my experiments to determine the relative growth of some of the other pathogenic bacteria on chest-serum agar, I planted, among others, the staphylococcus pyogenes aureus, the streptococcus pyogenes, and for control the staphylococcus pyogenes aureus on nutrient agar, and found that the staphylococcus thrived better on nutrient agar than upon chest-serum agar. The streptococcus pyogenes grows nearly as rapidly upon chest-serum agar as the gonococcus does. This is an observation of importance, for the reason that it demonstrates that a mixed infection might occur. But granted, still it would be possible to demonstrate the gonococcus with chest-serum agar plates in cases of mixed infection, e.g., when both streptococci and staphylococci are present. In this connection it is proper to allude to the observations of Welch,⁹ of Baltimore, who at the meeting of the Association of American Physicians, 1895, was the first on record to demonstrate the gonococcus in cover glass and culture medium from the blood of a living person. Welch's report was based on a case of endocarditis with general septicæmia following gonorrhœa. Even with this complex of pathological processes the only pathogenic bacteria he found was the gonococcus.

Morphological and Biological Examinations of Chronic Urethritis Exudates.—In reviewing the literature of chronic urethritis, I find that much has been written upon every phase of the subject except upon the bacteriology; especially upon the examination of gonorrhœal threads with culture medium has little been published. It is on this account that my efforts were mainly directed toward the well-known "Tripperfäden." Those who study these threads with the microscope are familiar with the fact that the old method of collecting them is both tedious and uncertain. It occurred to me to avail myself of the centrifuge, for I remembered how useful and successful this apparatus proved to be in collecting urinary sediments. This apparatus was therefore employed in all my experiments for the collection of gonorrhœal threads, and I believe my experiments are the first on record in which the centrifuge was employed in connection with culture media. My method of procuring the urine in chronic urethritis is to allow the patient to void his urine into two sterilized centrifugal tubes. The first tube will contain threads of the anterior urethra; the second tube will be likely to contain secretion from the posterior urethra and from the prostate gland, if, while urinating, the patient's prostate be pressed upon with the finger. Tubes containing such urine are placed in the centrifuge and whirled for three minutes at twelve hundred revolutions per minute: the threads are thrown down. The centrifugal action to which the pus cells are incidentally subjected seems to have no effect upon the bacteria. The "centrifuged" sediment will be found to contain other bacteria, epithelial cells, and at times spermatozoa. Normal urine on being "centrifuged" at this velocity will be found at times slightly turbid at the bottom of the tube. This turbidity will be found on microscopical examination to consist of epithelial cells, a few leucocytes, and some bacteria. A point of practical importance developed by this procedure is the fact that the urine, after having been whirled, will contain a large amount of mucus. This fact would seem to point to the presence of a catarrhal urethritis. The literature of chronic urethritis deals solely with cover-glass preparations. This is probably attributable to the fact that suitable culture media were difficult to procure.

In my former paper, I stated that if I had to examine chronic urethritis cases with cover-glass preparations, I should require three examinations of the

gonorrhœal threads at different intervals. To-day, with my additional experiments, I am led to modify the above statement, in that we should only employ culture media (surface culture) in connection with the cover-glass examinations. I am also forced to discontinue the use of the ordinary staining solutions of the gonococcus, such as methyl blue or the solution recommended by me in my former paper, namely, a two-per-cent. alcoholic methyl-violet solution for differential diagnostic purposes. I look upon the decolorization by Gram's method as the only reliable criterion, so far as known, for the gonococcus, and it is of material help also in determining whether a culture is or is not that of the gonococcus. The examination of gonorrhœal threads with cover glass by Gram's method is a very tedious affair, as in every instance I examined no less than three, and at times as many as ten cover-glass preparations. It would require many hours upon each and every specimen, especially if gonococci are present in very small number, before a reliable and conscientious opinion could be rendered. If, after all, a negative opinion is ventured, we still are under the necessity of proving that the threads which we fished out for the cover-glass examination were free from gonococci, while the remaining ones might contain them. It is a well-admitted fact that the culture medium is more sensitive for bacteria than is the cover glass, and this holds true for the gonococcus, for we are able to plant each and every thread of the sediment in the centrifugal tube. Fürbringer¹⁰ in his work mentions the fact that in certain cases the absence of the gonococcus in many examinations of cover-glass preparations is not a positive proof that the gonococcus is not present, and to illustrate this unreliability he quotes Oberlaender's language: "Verlorene Liebesmühe," "Love's labor lost." I have been able to confirm the correctness of the above allusion, for on one occasion, in examining

threads, when I could not demonstrate the gonococcus in cover-glass preparations I succeeded in growing it on chest-serum agar plates, while in all instances in which I found the gonococcus in threads in cover-glass preparations I invariably succeeded in growing it on chest serum agar plates. The results of other observers in chronic urethritis are open to the objection that Gram's method was employed only in doubtful cases.

I append here the tabulated results of my investigations. They include examinations of gonorrhœal threads with cover glass alone, from chronic urethritis varying in duration from seven weeks to eight years (Table I.). Of these 34 cases 7 positive and 27 negative results were obtained—a percentage of 20.55 of positive results. Table II. covers examinations of gonorrhœal threads in 61 cases of chronic urethritis with cover glass and culture medium. In these 61 cases, 13 positive results were obtained with cover glass and 48 negative results—21.31 percentage of positive results. The same cases examined with culture media gave 14 positive results and 47 negative results, a percentage of 22.95 of positive results.

In regard to the question of infection in chronic gonorrhœa, I am inclined to believe that chronic gonorrhœa can cause only an acute gonorrhœa in another person. This belief is confirmed by Finger and Wertheim¹¹ by inoculation experiments. Of course we cannot always trace the method of gonorrhœal infection in the male urethra, nor even account for it. This latter observation holds true for acute gonorrhœal colpitis cases in which coitus can be excluded, although the infection is gonorrhœal. I cannot believe with certain observers that diplococci may be present in the male urethra or in the vulvo-vaginal tract, which under certain peculiar conditions can become virulent and thus produce a true gonorrhœa. Of course I do not deny that there may not be some

TABLE I.—MICROSCOPICAL EXAMINATION OF CHRONIC URETHRITIS WITH COVER GLASS BY MEANS OF THE CENTRIFUGE.

Number of Infection.	Duration of Disease.	Condition of Urine.	GONOCOCCI FOUND.		Number of Cases.	Percentage.	Remarks.
			Positive.	Negative.			
First.....	7 weeks.	Clear, threads.	.....	1	1		
".....	8 "	" few threads.	.....	1	1		
".....	2 months.	" threads.	.....	1	1		
Second.....	2 "	" "	.....	1	1		
First.....	3 "	Cloudy.	Present.	.....	1		
".....	3 "	" "	"	.....	1		
".....	3 "	Clear, threads.	.....	1	1		
Second.....	4 "	" "	.....	1	1		
First.....	4 "	" "	.....	1	1		
".....	6 "	" "	.....	1	1		
".....	6 "	" "	Present.	.....	1		
Second.....	6 "	" "	"	.....	1		
First.....	8 "	Cloudy.	"	.....	1		
Second.....	1 year.	Clear, threads.	.....	1	1		
First.....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
Second.....	1 "	" "	.....	1	1		
First.....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
".....	1 "	" "	.....	1	1		
Second.....	1 year 2 months.	" "	.....	1	1		
First.....	1 " 6 "	" "	.....	1	1		
Second.....	2 years.	" "	Present.	.....	1		
First.....	2 "	" "	.....	1	1		
".....	2 "	" "	Present.	.....	1		
Second.....	2 "	" "	.....	1	1		
First.....	3 "	" "	.....	1	1		
".....	3 "	" "	.....	1	1		
".....	3 "	" "	.....	1	1		
".....	8 "	" "	.....	1	1		
			7	27	34	20.55	After injecting Ag. No. 3.

with a culture fifty-one days old, experiments prove that gonococci may be present in gonorrhœal threads, and yet may not be recognizable in cover-glass preparation but only in cultures. I endorse the experiments of Wertheim, who believes that the gonococcus does not lose its virulence in the urethra, but that the mucous membrane which it infests becomes tolerant to this particular gonococcus. A patient who had a gonorrhœa of two years' standing was inoculated by Wertheim with a pure culture of gonococcus obtained from the patient's urethra seven times, with negative results. The same culture was then inoculated into another urethra, with the result that a typical gonorrhœa followed. Wertheim therefore concluded that a spontaneous cure for gonorrhœa is the general rule. A male with chronic gonorrhœa will cause an acute gonorrhœa in a person with whom he cohabits, and the same is true of the female. The probability therefore points to the fact that an acute exacerbation in a case of chronic gonorrhœa is produced in such a way. Another advantage of culture examinations over cover-glass preparations is that with the former we are able to demonstrate the viability of the gonococcus. I am well aware how difficult it is to determine the presence of gonococci in chronic gonorrhœa of adult females. In children with chronic colpitis I found a diplococcus smaller than the gonococcus, which decolorizes by Gram's method and has a different appearance in culture. Bumm in 1885 said that the time is not far distant when the term "latent gonorrhœa" will be dropped by those studying the etiological factors of gonorrhœa with culture media.

The following are the results of the examination of gonorrhœal threads of chronic urethritis with cover-glass preparations of other observers. Goll,¹⁶ according to his elaborate article, examined 1,046 cases of chronic urethritis varying in duration between four weeks to six years or more, finding gonococci in 178 cases, the remainder giving negative result. Neisser,¹⁷ out of 143 cases varying in duration between two months and eight years, found gonococcus in 80 cases. Weinrich,¹⁸ out of 25 similar cases, obtained 2 positive results. E. Noeggerath,¹⁹ in 1887, deplored the fact that on account of the lack of culture media for the gonococcus we cannot always demonstrate them. Bröse,²⁰ in 1893, stated that the culture medium is the only reliable agent for the detection of the gonococcus. This latter statement is certainly applicable to chronic urethritis of the male. Neisser,²¹ in 1893, stated that in chronic urethritis with slight discharge the examination with a culture medium for gonococci will replace the cover glass. Lundstrom²² examined 50 cases of acute chronic urethritis, finding gonococcus in cases of two years' duration. Gabriel²³ examined the secretions of 100 chronic urethritis cases, without finding the gonococcus in any. Kaeufer²⁴ examined 50 cases of chronic urethritis, finding in 15 cases no bacteria, in 7 cases gonococci, in 10 cases bacilli and other cocci, and in 18 various forms of cocci. It is interesting in connection with the results of the last writer to allude to the fact that his cover-glass preparations were stained with solution of the aniline dyes and only in doubtful cases was Gram's method applied.

Clinical Division of Urethral Threads.—Fürbringer²⁵ speaks of two varieties of gonorrhœal threads: firstly, a muco-gelatinous, about one centimetre in length (this variety occurred in most of my cases); secondly, a brittle, yellowish, short thread, slightly tenacious and easily scattered when shaken. Taylor²⁶ describes four varieties of gonorrhœal threads—the purulent, the gelatinous, a variety consisting of pus, mucus, and epithelium, and, last, the epithelial. For clinical purposes this last division of threads is quite valuable.

In conclusion I will submit the following propositions as a summary of my experiments:

I. I believe that in the examination of secretions from urethritis the employment of the centrifuge not only is the most convenient method but also gives the best and most reliable results.

II. The medium employed by Hammer, consisting of albuminous urine plus glycerin agar, does not give so good results as chest-serum agar, as far as my experiments have shown.

III. Fractional sterilization of serum should be continued longer than six days, and after an interval of two or three days it should be sterilized again on three consecutive days.

IV. I recommend fermentation broth plus liquid chest serum, Dunham's peptone solution plus liquid chest serum, nutrient broth plus liquid chest serum, as liquid media for the gonococcus.

V. In the fermentation broth plus liquid chest serum I was able to cultivate the gonococcus after fifty-one days, at which time I discontinued my experiments.

VI. Gonorrhœal pus submitted to the centrifuge and kept moist at room temperature contained living gonococci after forty-eight hours, as proven by culture.

VII. In gonorrhœal pus which had been smeared on linen the gonococcus was demonstrated morphologically by Gram's method after forty-nine days in cover glass, at which time my experiments were discontinued.

VIII. The gonococcus was demonstrated after twenty-nine days in cover-glass preparation made from pus which had been dried on glass.

IX. In chronic urethritis, culture media alone are to be recommended for the detection of the gonococcus.

X. In 34 examinations of gonorrhœal threads with cover-glass alone, by Gram's method, 7 cases showed the gonococcus.

XI. Of 61 cases of gonorrhœal threads examined with cover-glass and culture media, 13 gave positive results with cover-glass and 14 with culture media.

XII. For the collection of the secretions and threads for planting, at least two specimens of urine must be obtained: first that which washes out the urethra; second, that which contains threads of the posterior urethra and secretion expressed from the prostate.

XIII. I believe that a urethra may contain gonococci which lie dormant and may be innocuous in that person for years, but which may at any time excite an acute gonorrhœa in another person.

NOTE.—I cannot conclude this article without expressing my sincerest thanks to Drs. J. K. Hayden and H. Goldenberg, of this city, for material furnished by them from their clinic. To Drs. Prudden and Cheeseman, of the College of Physicians and Surgeons, I am indebted for many acts of courtesy in connection with the pursuit of my experiments at the laboratory.

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220 EAST ONE HUNDRED AND SIXTEENTH STREET.

Progress of Medical Science.

Forceps, Indications for Use.—Dr. A. D. Wilkinson (*Western Medical Review*, October 15th) submits the following propositions. The forceps are indicated and should be employed: 1. In all pelves where the diameters are below the normal measurements. 2. When the head is in an immovable position, with chin fixed over the symphysis pubis. 3. When the head is in the superior strait, with chin to the front. 4. When the head is locked at the pubis, but when flexion is imperfect and fixation of the frontal part of vertex is the result. 5. When the face is fixed anteriorly, with chin locked. 6. When the face is fixed laterally. 7. In transverse and oblique positions of head. 8. When the head is laterally rotated and deeply fixed in the pelvis. 9. In great narrowness and rigidity of the soft parts, when the hand cannot be introduced, or when the fingers soon become exhausted on account of the constriction. 10. In too large heads—as hydrocephalus. 11. In placenta prævia and eclampsia. 12. When the extractive methods have been tried and proved insufficient. 13. When the fœtus is dead. 14. When the head has been torn from its trunk.

Artificial Dilatation of the Cervix at Term or During Labor.—M. Fochier (*La Semaine Médicale*, April 15, 1896, p. 156) says: "Commencing dilatation of the cervix is to be recognized by softening of the cervix and the extent to which the lower uterine segment is thinned. During labor, if the cervix is effaced, thinned, movable, and retracted a little, the head being fixed, by the application of the forceps dilatation can be accomplished either suddenly or gradually, the head in the latter case being allowed to retract with

the pains and the progress of dilatation watched. If the head is not easily grasped by the forceps, version may be performed by the introduction of two or more fingers and bringing down a foot, thus furthering dilatation. In other cases, if these methods are unsatisfactory, good results are obtained by the use of the balloons of Champetier. Rigidity of the cervix due to infection or eclampsia, as a rule, requires incision or hysterotomy. Spasmodic rigidity of the cervix indicates the employment of chloroform anæsthesia. Roughly speaking, dilatation should not require more than half an hour; but if the balloons of Champetier are used, it may require two hours. No one method accomplishes the three results desired—rapidity of delivery, harmlessness, and good results."

The Treatment of Headache with Methylene Blue.—In a recent communication, Lewy (*Berliner klinische Wochenschrift*, November 9, 1896, p. 996) reports a series of cases of headache of varied origin, in many of which relief was afforded by the administration of methylene blue. The beneficial influence appeared to be not merely temporary, but in many instances of a curative character. The drug was given in capsules, in doses of one and one-half grains, in conjunction with an equal quantity of powdered nutmeg, four times a day; and usually ten doses sufficed to effect the desired result, although often less was necessary. The urine became tinged with blue in the course of half an hour after the first capsule was taken, and continued so for from two to eight days. Upon the basis of this experience, Lewy recommends methylene blue in the treatment of angiospastic migraine, the headache attending neurasthenia, and, above all, in purely nervous headaches.

Successful Abdominal Nephrectomy for Rupture of the Kidney.—At a recent meeting of the Clinical Society of London, Wallis (*Lancet*, October 31, 1896, p. 1,229) reported the case of a man, twenty-two years old, who had fallen a distance of twelve feet from a ladder upon a spiked railing. Though collapsed and evidently in pain, consciousness was not lost. The abdomen was rigid and rather distended. On examination it was found that one of the spikes—three inches in length—had pierced the abdominal wall nearly an inch below the tenth costal cartilage on the right side. The opening in the skin ran downward and inward, and the finger passed into the wound could be pushed on into the abdominal cavity. Soon after admission to the hospital, the patient passed a pint of healthy pure blood by the urethra. He was at once prepared for operation, and an incision made from the lower end of the punctured wound downward to the right semilunar line. A lacerated wound of the peritoneum came into view, through which the bruised intestines presented. The peritoneal wound was enlarged and large masses of blood clot were turned out of the abdomen. Sponges were inserted and the sides of the abdominal wound held apart by two long silk ligatures. The under surfaces of the liver and the gall bladder were exposed and found intact. The intestines in the track of the wound were bruised, and one piece of small intestine presented a tear in the external coats, through which the mucosa bulged. At the bottom of the cavity the kidney could be felt, torn almost in two; blood welled up through the wound at a great rate. The left kidney was found intact in its normal situation. The peritoneum was now divided along the outer edge of the ascending colon, and this portion of the gut pushed in toward the middle line. The left hand was passed in behind the colon, the kidney rapidly freed and brought out of the wound. The ureter was clamped, tied, and cut, the vessels were treated in the same way, and the kidney was removed. The deep muscles were considerably lacerated and

bled freely. Sponges were temporarily inserted and the abdominal cavity was washed out with saline solution. The wound was packed with iodoform gauze in strips and dressed with cyanide gauze, blue wool, and bandaged. The patient was greatly collapsed after the operation, but reacted well during the following twenty-four hours. The wound healed without complication, and the ultimate recovery was perfect. For two days following the operation the urine contained blood, and for twelve days albumin. The quantity of urine passed in twenty-four hours averaged between forty and fifty ounces. It was pointed out that in the past, rupture of the kidney has been attended with a mortality of thirty-five per cent.

Surgical Immunization Compared with Susceptibility and Predisposition to Infection.—Dr. Gaston (*Alabama Medical and Surgical Age*, October, 1896) thinks we may draw the following inferences: That various agencies are at work, rendering the human organism to a greater or less extent free from the injurious impressions of surgical procedure. That local and constitutional influences operate in conferring immunity, and that the environments of individuals, with their habits of life, exert great control over the vital powers. Shock may be averted by proper measures in advance, and, in default of precautions, should be corrected by vigorous means of treatment. Germicidal solutions do not give immunity for normal structures, and are admissible only in septic contamination of the tissues. A preliminary examination of all the functions of vital organs should precede surgical operations, and efficient correctives should be resorted to for their derangements. The result depends largely on proper means of preparation. It is not necessary that the patient be placed in a hospital; cleanliness, good nursing, and the ordinary surroundings of the patient may secure satisfactory results. A thorough comprehension of the reciprocal relations of immunity and susceptibility should lead to the adoption of conservative measures in the practice of general surgery, and the use of the most radical and aggressive measures when indicated by the nature of the case. Appliances which promote surgical immunization should be adopted, and those means which lessen susceptibility and predisposition to infection are warranted in all cases of surgical interference. The author calls attention to the law of habit, as, for instance, in victims to the use of opium, whose nerve centres are very materially affected by it. In such cases the habit must be respected.

Successful Treatment of Suppurative Pericarditis by Resection of the Sixth Rib and Drainage.—At a recent meeting of the Clinical Society of London, Robinson (*British Medical Journal*, November 21, 1896, p. 1,504) reported the case of a lad, sixteen years old, who developed right-sided diaphragmatic pleurisy, following a protracted bath in a swimming-pool. On the fourth day there was some pain on the left side, and the left wrist was swollen; and on the sixth day an unmistakable pericardial rub could be heard. Although sodium salicylate was given, the temperature failed to decline. In the third week the area of cardiac percussion dulness was much increased, both upward and laterally to the mid-axillary line, but there was no dulness at the posterior aspect of the left chest. The symptoms pointed to the presence of pus, either in the pericardium or localized to the anterior and lower portion of the left chest. Aspiration in the fifth interspace just behind the anterior axillary line resulted in the evacuation of a small amount of pus. Using the trocar puncture as a guide, the sixth rib was on a subsequent occasion resected and the left pleura opened, the left lung being found fixed by recent adhesions. The bulging pericardium was incised,

and pus welled out freely on introduction of the finger. all fibrinous coagula were as far as possible cleared out of the cavity. Over two quarts of pus were thus evacuated. Irrigation was omitted, owing to the feeble condition of the patient. A drainage tube was introduced into the pericardium and stitched to the margin of the wound. Recovery was slow but uninterrupted, the tube being removed on the sixty-first day and the wound healing soon afterward. There was at no time any collection of pus in the left pleura. The patient was able to walk great distances after convalescence. There remained slight enlargement of the area of cardiac dulness upward, but there was no retraction of the chest in systole.

Treatment of Ingrown Nail by Perchloride of Iron.—The *Gazette Médicale de Liège*, September 24, 1896, p. 644, publishes the following: "There are cases of ingrown nails in which surgical treatment cannot be employed. In these cases we may have recourse to the method set forth by Dr. Reghi in the *Gaz. d. Osped.* This treatment consists simply in a daily application of a fifty-per-cent. solution of perchloride of iron. Direct the patient to take daily foot baths, and when this softens the skin and washes out the pus which has formed, the side of the nail as well as the groove made by the pressure of the nail should be stuffed with cotton soaked in the perchloride solution. The same operation is repeated twice daily, care being taken to remove the blackened crust that forms. When this is done, the toe is to be enveloped in a light dressing. During the first few days the patient should remain in bed. About the tenth day the granular mass disappears, the cavity of the ulcer is cleansed and presents a uniform surface, the end of the nail separates from the skin, and in twenty days the patient is cured. To avoid a relapse, it is necessary to separate the nail from the skin with a little cotton steeped in perchloride solution."

Treatment of Mammary Tumors.—The *Centralblatt für Chirurgie*, October 3, 1896, gives the following: No affection has increased to such an extent in this country. Dr. Williams states that in England and Wales in 1840 there were forty-five hundred cases, while in 1895 there were forty thousand. Should all tumors be operated upon for fear that they may become cancerous, or should they be left undisturbed in women from twenty-five to thirty? Dr. Cow answers these questions in the *Revue de Thérapie*, No. 13, by saying that every mammary tumor is liable to become malignant in a proportion of from ten to fifty in one hundred cases. Even with a proportion of one to one hundred, he considers an operation indicated. Aside from malignancy, he thinks there are other and sufficient reasons to justify an operation—the care and the pains, especially during menstruation, etc. A mild operation puts an end to all these disturbances, if the tumor is not diffuse or malignant. He considers a previous microscopical examination injurious, as it may produce a rapid surrounding growth of the tumor, or may open a passage for the introduction of cancer cells leading to further infiltration. In actually malignant neoplasms, the pectoral muscle and glands, as also the fat in the axilla, must be removed. He recommends to open and excavate the axillary cavity first, thus avoiding infecting the depths of the opened mammary tissue, and then remove the whole in mass. This method diminishes the hemorrhage, as all the blood-vessels that supply the tissue are ligated. Patients with generalized cancerous nodules should not be operated upon, except with the strict understanding that it is only a palliative measure, as otherwise surgery is brought into disrepute, and patients with operable tumors are deterred from applying for relief in time.

MEDICAL RECORD:

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ASEPTIC SURGICAL FEVER.

It has long been recognized by surgeons that operations and other forms of traumatism, such as subcutaneous incisions, simple fractures, luxations, and contusions, unattended with suppuration or other complication, may be followed by febrile reaction; and various explanations have been offered to account for this apparently paradoxical phenomenon. In open wounds the possibility of infection cannot always be excluded, despite the most rigid aseptic and antiseptic precautions; and some have gone so far as to attribute the febrile symptoms that appear under these circumstances to the presence of pathogenic micro-organisms of attenuated virulence. Other investigators have sought to place the responsibility for this reaction upon the fibrin ferment set free as one of the results of the traumatism. It has, however, been shown on the one hand that the febrile state may be unattended with the presence of fibrin ferment in the blood, and on the other hand that fibrin ferment may be present in the absence of febrile reaction. While traumatism is often attended with a considerable degree of nervous shock, the attendant febrile disturbance is not to be attributed to this factor, for a variety of reasons. In this connection it is to be borne in mind that general infection may arise from a latent or unrecognized lesion, so that the diagnosis of aseptic surgical fever is not to be made without the most rigid exclusion of all ordinary causes of fever. Such evidence as exists points to the fact that aseptic surgical fever is due to the absorption of substances set free at the site of the injury as a result of the traumatism.

From a careful analysis of the literature of the subject, in conjunction with a series of well-directed and carefully conducted observations, Schnitzler and Ewald¹ have reached the conclusion that so-called aseptic surgical fever is due to a combination of influences, and they adduce evidence to show that nucleins and albumoses are set free through the agency of the traumatism, and that these are, in part at least, to be held accountable for the febrile reaction that takes place in the absence of infection or other tangible cause. It has been claimed that the disintegration of blood corpuscles is attended with the setting free of albumin, and investigation has shown that the nuclei of the leucocytes contain nucleohiston, which is ca-

pable of causing multiple thrombi and breaks up in the process of coagulation into histon and nuclein. As the nucleins appear in the urine in the form of alloxur bodies (including uric acid), the presence of these substances in increased amount would indicate the entrance of the former into the circulation. It has further been shown that the presence of the nucleins in the circulation is attended with leucocytosis. Now Schnitzler and Ewald were able in both animals and man to demonstrate the presence of an excess of alloxur bodies in the urine following manipulative procedures of such a character as gave rise to subcutaneous traumatism together with subsequent febrile disturbance, in the absence of infection. They also found leucocytosis under the same conditions. The inference seems therefore fair that as a result of the traumatism there are set free nucleins, which occasion the presence in the urine of an excess of alloxur bodies and also the development of leucocytosis, and which further may be viewed as one of the factors responsible for the resulting fever.

Having advanced thus far in their investigation, Ewald and Schnitzler proceeded a step farther and confirmed the observations of previous investigators that albumose could be found at the site of traumatisms attended with extravasation of blood. It had already been shown that both nucleins and albumoses are capable of causing death in animals when injected in large amounts and of inducing febrile manifestations when non-lethal doses are employed, and more especially is this the case in tuberculous animals. In the latter, in addition to the fever, evidences of local reaction may be found after death about the tuberculous foci comparable with those noticed after injections of tuberculin. Similar reactions were observed in tuberculous animals subjected to sterile injuries, while they failed to take place in control animals. From this evidence one is forced to conclude that to the albumoses set free at the site of aseptic traumatisms must also be attributed a share in the etiology of the fever that manifests itself. Accepting the foregoing facts as established, we are furnished with an explanation of the elevation of temperature often observed in tuberculous patients following operative interference of varied kind, and also perhaps of the dissemination of the tuberculous process that sometimes takes place in the same way as such dissemination follows injections of tuberculin. The same explanation may apply also to the recrudescence of latent and the lighting up of unrecognized lesions of other nature following operative measures at remote points.

SOME OF THE INFLUENCES OF X, SOLAR, AND ELECTRIC RAYS UPON THE SKIN.

For some time newspaper accounts have told of remarkable effects which the rays from the Crookes tubes have produced upon the skin of those exposed to their influence. Reports of falling of the hair, discoloration of the skin, and desquamation have reached us from various sources. It has long been known that certain of the sun's rays possess for particular indi-

¹ Archiv für klinische Medicin, B. liii., II. 3, p. 530.

viduals the power of calling forth most distressing cutaneous alterations, and experiments upon the supposed power of red light over the efflorescences of variola are still fresh in mind. Indeed, no longer ago than December last the *Gazette Médicale de Liège* presented a lengthy *résumé* of Dr. Finsen's modern and scientific study of light in this connection, based upon the empiricism of the middle ages, which led to the custom of wrapping small-pox patients in red fabrics and surrounding them with hangings of the same color. After the successes reported by Lindholm and Svendsen from exclusion of the chemical rays in variola a certain enthusiasm was created, which, extending over Europe, reached us here, and a series of experiments was carried out at some of the small-pox hospitals. The success, however, was not pronounced. Instances of dermatitis from the effect of light, aside from direct sun action, in certain individuals of susceptible skin are well known.

Dr. Graham, of Toronto, has reported two such cases under the name of hydroa æstivale.¹ The majority of writers attribute the cause of these distressing eruptions to the action of the chemical rays of the sun, and experiments would tend to show that the ultra-violet rays act with great intensity in certain cases.

That the sun's action can be put to therapeutic uses has been demonstrated by Rikli, and, to judge by the following which this individual has secured in certain German and Austrian quarters, the treatment carried out at his institute in the mountains near Trieste should have something to recommend it. Light is here supposed to constitute the essential factor in the cure, and hence the patients expose themselves to it in a state of entire nudity. The sun baths are taken in the open air, so that the body is subjected not only to the direct action of the sun's rays but likewise incidentally to the variations of atmospheric temperature.

The effects of electric light upon the skin have been studied and present some features of interest in this connection. In a paper read before the recent meeting of the American Electro-Therapeutic Society, Dr. Watson stated that in a large percentage of persons whose naked bodies were exposed to the rays of a number of incandescent lights in a room free perspiration would be induced before the temperature of the room reached that of the normal body. This he attributed to the chemic effect of the light. That certain eruptions are called forth by the action of bright electric rays has been known for some time.

Passing now to the Roentgen rays and leaving aside the questions which have been raised as to their probable value in the cure of disease, we find that they exert a most pronounced effect upon healthy human integument long exposed to their action.

In an instance related by Dr. Fuchs² so much pain was experienced in the finger-joints of a hand examined for a lengthy period by the x-rays that the test had to be given up. The skin directly opposite the cathode was colored brown; the hand became swollen and gave the appearance of a frozen member. After the lapse of a quarter-hour bullæ formed, some being

of large size. The contents were similar to those in blisters from burning.

This frozen appearance of exposed parts has been noted in the ear of a man examined for several hours at the University of Minnesota in order to locate a bullet in the head. This patient, while experiencing no pain or disagreeable sensation at the time, lost all the hair from the one side of the scalp. Numerous other instances of temporary hair loss have been related.

Dr. Parker, of New Orleans, has called attention to inflammation of the skin after long exposures, subsiding, however, after a few hours.

In the *British Medical Journal* of November 7th Dr. Drury reports that after an exposure lasting an hour and a half the patient noticed a sunburn-like condition of the skin over the abdomen, more intense in the part which had been directly opposite the platinum plate in the tube. Upon the fourth day small vesicles appeared, increasing in size and number, bullæ forming and rupturing, until upon the eighteenth day after exposure a patch seven and a half by eight and a fourth inches occupied the region. While not painful, the discharging surface showed no tendency to heal for ten days, when it began to cover over slowly from the margins, as in a burn. Two months later there was still an open wound three by three and a half inches, despite attempts at skin grafting. Cautery with silver nitrate produced no attempts at granulation, and a month later the base of the ulcer, which was covered with a thick false membrane, was curetted under ether and the actual cautery applied. Sixteen weeks after the exposure there still existed an indolent ulcer, whose base was covered with an insensitive false membrane and which showed no tendency to heal under any plan of treatment. The patient was confined to his bed during the greater portion of the time. The serious nature of such an unfortunate outcome of a skiagraphic *séance* makes the matter one of interest and importance, and we would direct attention to a very similar report of a case observed by Dr. Barrister of the United States army. Such results should render those who employ this most valuable aid to diagnosis cautious in the matter of prolonged exposure. The patient who, while not securing the satisfaction of seeing a skiagraph of his disordered interior, has to undergo several months of contemplation of a disturbed exterior will not think well of the method nor kindly of the operator. The suggestion of hair removal in an intentional way, for cosmetic effect, seems not likely of successful application, since, so far as we are aware, the hair grows again after a time in the instances so far observed.

Fat Bivalves.—A recent official medical report published in London quotes with approval the words of Professor Conn, that "the public health is placed in jeopardy when oyster dealers, for the sake of producing plumpness, place oysters in the mouths of freshwater creeks in close proximity to sewers."—*Post*.

¹ Trans. Amer. Derm. Assn., 1896.

² Deutsch. med. Woch. No. 35.

INDIANA HEALTH BOARD RULES.

IN "Health Circular No. 5," just issued by the Indiana board of health, the following rule is the first of a series governing the proper conduct of physicians.

"RULE 1.—When visiting patients known to be sick with small-pox, scarlet fever, diphtheria, or other contagious or infectious disease, physicians shall clothe themselves in a specially provided clean linen duster, oil-cloth, or rubber coat, and a tight-fitting cap made of silk, linen, oil-cloth, or rubber. The cap shall well cover the hair. Before leaving the house, physicians shall cleanse hands and face with antiseptic soap and water, and use a disinfectant upon hands and face. The coat, cap, antiseptic soap, bottle of disinfectant, etc., shall be carried in a special glazed leather valise, together with a pad of cotton, which is to be kept wet with formaldehyde.*"

The asterisk calls attention to the fact that the outfit can be obtained from the "— Clothing Store" in Indianapolis. The rule is a most excellent one, and but one it would be well to have adopted generally in visiting small-pox, scarlatina, and diphtheria patients, when it comes to extending the wearing of this costume to "other contagious or infectious disease" the burden placed upon the physician becomes onerous, no matter how attractive the wearer may appear when thus arrayed. Imagine for an instant the evening mental and bodily state of a practitioner who starts out in the morning clothed and in his right mind—of course we assume that this is the way the Indianian does start out.

His first call is upon his best-paying client. The unfortunate lady has contracted pediculosis or scabies, or possibly both, from the stable boy, who has the habit of making a lounging-place of the victoria with its luxurious cushions and robes.

According to rule, on goes the rubber coat and cap. At the next call the disguise must again be extracted from its glazed bag and donned before the gentleman with gonococci concealed about his person can be examined. Then the little girl with pertussis next door gets a chance to wonder at the strange appearance of the doctor, and if he chooses the linen duster and cap in which to visit the man down the street with secondaries it will be dollars to doughnuts that he will be shot for a whitecap before he gets into the house.

If he escapes whole, the agility acquired during his day's experience will lead him to abandon his profession for that of lightning-change artist in a continuous performance, or it will drive him into a neighboring State.

What the Indiana health board needs—and it must be done quickly—is to issue "Circular No. 6," and leave out the words "other contagious or infectious diseases." It should also make provision for bald-headed doctors. As the matter now stands, the cap must be worn so as to cover the hair.

Jefferson Medical College.—Mr. William M. Singerly has been elected a trustee of Jefferson Medical College to succeed the late Mr. Joseph B. Townsend.

COVERT PUFFING OF PROPRIETARY MEDICINES.

It is no secret that much of the pecuniary prosperity of a medical journal depends upon well-filled advertising pages. While the character of the advertisements must depend upon the standing of the periodical, and thus carry with them a corresponding guarantee of the value of the articles named, it is generally conceded that the proper medium for such presentation to the readers is through the pages specially set apart for the purpose. All advertisers have then an equal chance of presenting any special claims for patronage. It is perhaps a natural desire on their part in some manner to obtain some sort of editorial reference. As a consequence, it is sometimes proposed, as a condition of contract with publishers, that an occasional article on a special and well-advertised drug or apparatus, or a covert notice of its value shall accordingly appear in the reading-columns. We have always maintained that such is a very reprehensible practice and one calculated to thwart the higher purposes of independent journalism. Readers naturally expect that an editor shall be perfectly sincere in his efforts to enlighten them on all matters connected with the earnest and honest pursuit of their studies. His opinions must be necessarily untrammelled by any pecuniary consideration, and be above any suspicion of partiality either to advertisers or authors. Hence he is often called upon to decline articles either designedly or innocently written which extol the virtue of certain proprietary articles, in order that his readers may not be deceived. As we know from long experience that it is possible to be absolutely consistent on this point, we are especially pained to observe, in the reading-columns of one of our much-esteemed contemporaries, a barefaced puff of an advertised article in the same number, with the signature of a reputable medical man, and with much of the language of the advertisement in the body of the so-called original article.

What possible benefit can be obtained from such methods it is difficult to determine. They injure the journal, its readers, and really the advertisers themselves. An article having such a transparent aim in view is never of any value to the reader, and in the end lowers the journal even as an advertising medium. The subscribers, who really give the journal its value as an advertising medium, have the right to demand proper scientific reading in its columns. If such is not given them, the true interest in the reading-columns falls off. If the puffing notices are limited, gross partiality is rightly charged by other advertisers; while if all solicitors of such advertising are treated alike in this particular, the journal inserting them must inevitably degenerate to the level of an advertising trade almanac, and no self-respecting medical man will read the trash. The ordinary doctor patronizingly so-called is never such a fool as many take him to be. He does not subscribe to journals for the sake of reading puffs of remarkable remedies, and is always ready to resent such insults to his common sense by refusing to support the journals which tolerate such doings. The best ad-

vertisers appreciate this condition of patronage, and are content to restrict themselves to the advertising pages, trusting to the benefits of legitimate methods for the sale of their wares and to the proper appreciation of straightforward methods in presenting their claims for professional consideration.

Advertising pages are as much an essential part of a journal in respect to a doctor's needs as the reading-matter; they both go to him at the same time, both appeal to him legitimately along different lines. The different departments have their function and place, and the integrity and worth of each are only properly maintained by keeping one absolutely separated from the other. Subscribers never complain of this, and are always generous with fair-minded advertisers accordingly; but they nevertheless hate to be fooled, and rightly resent the covert persuasions of the real fool at the other end, by refusing to read what he has written or to believe what he has said. Furthermore, and this is where some editors are short-sighted, the readers come to look upon every article published in journals which commit such blunders, with a degree of suspicion which ultimately becomes intolerable.

News of the Week.

Another Editorial Resignation from the "Bulletin."—Dr. Samuel Lloyd has severed his editorial connection with the *American Medico-Surgical Bulletin*.

A Deceptive Crank.—A man, aged sixty years, with sandy hair and full beard shot with gray, visits doctors at their offices and offers to engage them at an extravagant salary to attend a millionaire abroad. He is merely the victim of a delusion, says he is the private secretary of the liberal patron, and the physician who cannot make a diagnosis at sight becomes a victim to the same disease.

Department Store Dentists.—On November 12th, the superintendent and two employees in the dental department of Siegel-Cooper Company were arrested upon the complaint of the Dental Society of the State of New York, the charge against each being that he had practised dentistry in New York County without registering therein according to law. All of the accused waived examination and were held for trial at special sessions, wherein several adjournments were granted to them. Finally, on December 3d, all of these cases were set down peremptorily for trial. Counsel for two of the accused asked a further adjournment, upon the ground that the attorneys previously employed by them had abandoned their cases, and that he had just been retained and wished to call witnesses to prove his clients' innocence. The court said that under the rules the adjournments could not be granted against the opposition of the prosecution. Counsel for the Dental Society then said that, although the only defence to the charge of non-registration

would be the proof of registration, which, if it existed, could be procured within ten minutes from the county clerk's office, he would nevertheless consent to an adjournment until the following day, upon the absolute condition that the cases should be tried then. Upon this understanding, Mr. Mingey, the counsel, accepted the adjournment, and forthwith procured a stay of proceedings and an order to show cause why the cases should not be transferred to general sessions. Upon the following day the other defendant was then tried and convicted—one judge, however, dissenting from his colleague's opinion that the examination of a patient's mouth and subsequent advice as to the condition of the mouth and what was needed to be done constituted "practice of dentistry," the dissenting judge being of opinion that some mechanical or operative act should be performed.

Obituary Notes.—DR. CHARLES N. WOOLLEY, of Newburg, N. Y., died at his home in that city on December 11th, after a long illness. He was born in Southampton, L. I., in 1840, and was a graduate of the Long Island Hospital Medical College in 1868. He was for seven years a member of the Newburg board of education and its president two years.—DR. DÉCLAT, of Paris, whose ardent advocacy of the healing virtues of carbolic acid did much to popularize the use of that remedy among the profession, died recently at Nice. He always claimed for himself priority in the discovery with which Sir Joseph Lister's name is associated, as well as in that of certain more recently promulgated therapeutic measures based upon antiseptic or microbicide principles.—DR. LEONARD J. SANFORD, of New Haven, Conn., one of the medical faculty of Yale University, died at his home in that city on December 12th. He was born in New Haven in 1833, and was graduated from the Jefferson Medical College, Philadelphia, in 1854. He received the honorary degree of M.A. from Yale in 1858, and was appointed professor of anatomy and physiology at the same university in 1863. Since that time he had lectured regularly on these subjects and also upon hygiene in the medical and other departments of the university.—DR. C. E. SEGER, of New Hackensack, Dutchess County, N. Y., died at his home in that village, after an illness of two weeks, of typhoid fever, at the age of fifty-four years. He was health officer of the town in which he lived.—DR. GEORGE H. TAYLOR, who devised a mechanical massage treatment, and who wrote several medical works on the results of his experiments, died on December 9th, at his residence, No. 40 Central Park, South. He leaves a widow and two children.—DR. ALFRED J. MARTIN died at Allentown, Pa., on December 8th, at the age of fifty-nine years. He was graduated from the university of Pennsylvania in 1857. In 1878 he was elected mayor of the city of Allentown, and in 1880 served as a presidential elector. He was for twenty years prison physician and for a long time coroner's physician. He was also a trustee and consulting physician to St. Luke's Hospital at South Bethlehem.—DR. C. D. KEENE died at Homeville, Upper Oxford, Pa., on December 8th, at the age of forty years.

The Plague in India.—A telegram from Bombay states that the bubonic plague in that city is spreading, and several Europeans have recently been attacked. Two Englishmen died of the disease early in December.

The Association of Assistant Physicians of Hospitals for the Insane held its fourth annual meeting on December 3 and 4, 1896, at the Eastern Michigan Asylum, Pontiac, Mich. A number of practical subjects were discussed.

The Leprosy Congress.—A call, signed by Drs. E. Ehlers, of Copenhagen, G. Armauer Hansen, of Bergen, R. Koch and O. Lassar, of Berlin, has been issued, inviting those interested in the repression of leprosy to meet in Berlin in October, 1897. The committee states, as its belief, that leprosy, which is now slowly but steadily upon the increase, can be arrested by proper and concerted measures; and it is to discuss these measures and to devise some plan by which they can be made effective that the congress is called. It is unfortunate that the meeting is not to be held immediately before or after the International Congress at Moscow, instead of five or six weeks later. It will be out of the question for many, from this side of the water at least, to take part in the deliberations of both meetings, unless, perchance, leprologists have more leisure and more money than the majority of their confrères.

No More Lodge Work.—The following praiseworthy resolutions have been adopted and signed by the physicians of Santa Clara County, Cal.:

"Whereas, Rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession, we, the undersigned physicians and surgeons of Santa Clara County, Cal., enter into the following agreement:

"First, we mutually, jointly, and individually pledge our word of honor not to enter into any contract or agreement, or renew any existing contract or agreement, either written, verbal, or implied, to render medical or surgical services to any lodge, society, association, or organization.

"Second, we will not render medical or surgical services to the members of the above-mentioned bodies for less compensation than we charge the general public for similar services.

"Third, this agreement shall not be construed to affect existing contracts between physicians and surgeons and the above-mentioned bodies.

"Fourth, these pledges shall take effect and be in force for a term of three years from and after May 22, 1896.

"This agreement shall not apply to hospitals and purely public charitable institutions."

Association of Military Surgeons of the United States.—The following are the officers of this association for 1896-97: *President*, Com. Albert L. Gihon, Medical Director, U. S. N. (retired), New York City; *First Vice-President*, Brig.-Gen. Edward J. Forster, Surgeon-General, M. V. M. (deceased), Boston, Mass.; *Second Vice-President*, Maj. John Van Rensselaer

Hoff, Surgeon, U. S. A., Fort Vancouver, Wash.; *Secretary*, Maj. Herman Burgin, Surgeon, P. N. G., Philadelphia, Pa.; *Treasurer*, Capt. James J. Erwin, Surgeon, O. N. G., Cleveland, O.; *Editor*, Maj. Charles C. Foster, Surgeon, M. V. M., Cambridge, Mass. The seventh annual meeting of the association will be held at Columbus, O., May 25, 26, and 27, 1897. The local committee of arrangements consists of Maj. Henry M. W. Moore, *Chairman*, Assistant Surgeon, O. N. G., Columbus, O.; Capt. James E. Pilcher, *Secretary*, Assistant Surgeon, U. S. A., Columbus Barracks, Columbus, O.

Scarlatina is so prevalent in South Russia that it is proposed that all educational establishments shall be closed at once.

Military Surgery in Germany.—The medical services of the German army and navy are to be separate hereafter, and the privilege of changing from the army to the navy, or *vice versa*, formerly enjoyed by the members of either service has been abolished.

The Admission of Women to Universities in Austria.—In the budget committee of the Austrian Reichsrath on November 7th, the minister of instruction, Baron Gautsch, made a statement to the effect that the government was preparing legal measures for next year to admit women to all faculties of the universities, except that of theology, and also to grant to the women who have obtained medical degrees at foreign universities the right of practising in Austria after having undergone an examination.—*British Medical Journal*.

St. Christopher's Hospital for Babies.—On December 1st there was opened at 283 Hicks Street, near Joralemon, Brooklyn, Saint Christopher's, a hospital for babies. Most physicians practising among the poor have experienced the difficulty of getting hospital treatment for the very young, and it is to meet this want that this hospital has been established. No child suffering with a contagious disease can be received, but all others, sick and destitute, will be taken to the full capacity of the hospital. The hospital staff is as follows: *Consulting Surgeons*, Dr. A. J. C. Skene, Dr. William Maddren; *Consulting Physician*, Dr. Charles Jewett; *Consulting Neurologist*, Dr. William Browning; *Consulting Laryngologist*, Dr. William F. Dudley; *Consulting Ophthalmologist*, Dr. William H. Snyder; *Visiting Pædiatrists*, Dr. William A. Northridge, Dr. John W. Parrish. On the advisory board are Messrs. William G. Low, Edwin Packard, and Francis H. Southwick, and Dr. Edward H. Squibb.

Visitors to the Moscow Congress.—The St. Petersburg correspondent of the *British Medical Journal* writes that, in view of the fact that a large number of visitors to next year's International Medical Congress in Moscow is certain to take the opportunity of seeing St. Petersburg at the same time, Professor Petersen, of the Army Medical Academy, has undertaken to form a local committee in that city, the purpose of which shall be to enable the foreign visitors to see what is worth seeing there (and there is very much worth seeing) with the greatest ease and comfort: A

similar committee has been formed in Brest-Litofsk, a main junction on the line to Moscow, not with the design of showing local objects of interest, but to supply information and perhaps also accommodation to members of the congress who may break their journey there.

Funny Lawmakers.—A bill has been introduced in the Georgia legislature prohibiting the playing of football in the State; also one prohibiting the sale of cigarettes or cigarette paper. If the newspapers report correctly, the same assemblage of Solons proposes to make it a misdemeanor for women to wear bloomers, divided skirts, or shirt waists.

Professor Roentgen was the recipient, on November 30th, of a medal awarded him by the Royal Society of Great Britain, for his discovery of the *x*-rays. Professor Moissan, of France, was similarly honored, for his success in isolating the element fluorine.

Yellow Fever is epidemic in Port au Prince, Hayti, and a strict quarantine is maintained against the place by all the other West Indian ports. The Haytian authorities claim that medical authorities differ as to whether the disease is yellow fever or a pernicious form of malarial fever.

The Morristown (N. J.) Memorial Hospital.—A new building, a memorial gift of a friend, is to be erected, at a cost of \$38,000, on the grounds of this hospital. The proposed building will be, it is hoped, the central portion of a larger future hospital, to be built in three sections, of which this is the first. It will be about forty-five feet front, with a depth of ninety-five feet, three stories and basement, of brick, with trimmings of Indiana limestone, and fireproof. It will be equipped with elevator, baths, toilet rooms, steam laundry, etc.

Sunburn Effects from the Roentgen rays are due, according to Tesla, to the ozone generated by the rays in contact with the skin.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee will hold its next annual meeting in Nashville, on October 12, 1897.

Perfected *x*-Rays.—A sixteen-inch spark in a twenty-inch tube, giving an intensity two hundred per cent. greater than that possible with the four-inch spark in a twelve-inch tube, formerly used, is said to do the work in thirty seconds and do away with long exposures.

Jefferson Medical College.—There has been a strike at the Jefferson. The students refused to attend lectures on December 1st. Dr. Keene had an audience of one, to whom he lectured for the prescribed hour. Dr. Chapman's solitary auditor was assailed with a shower of eggs as he made his exit after the lecture. Other demonstrations of a riotous nature were intended as a protest against the rule which had been posted three weeks ago, requiring all fees to be paid for the first half-term on or before this date. Professor Hare succeeded in gaining an audience in the evening, when a lecture was delivered upon the rights of individuals.

The French Medical Press Association ate its thirty-fourth dinner in Paris on November 9th. Professor Cornil presided.

The British Association for Child Study was recently established at a meeting held in Newcastle-on-Tyne, under the presidency of Dr. Oliver.

A Medical Defence Society.—The editor of the *Lancet-Clinic* calls for the foundation in Cincinnati of a medico-legal society, which shall defray the expenses of any of its members who may be sued for malpractice. The suggestion is called forth by two vexatious and iniquitous suits recently brought against Cincinnati physicians, and also by the editor's personal annoyance in the matter of libel suits brought to discourage him in his fight against quackery.

Brains for the Paris Faculty.—Dr. Luys, of the Salpêtrière Hospital, Paris, has presented the Faculty of Medicine with his collection of twenty-two hundred brains, carefully prepared and catalogued. The collection is the result of thirty years' investigations, and includes the brains of idiots, of blind persons, of persons who had undergone amputations, and of those who had suffered from various forms of mental disorders.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending December 12, 1896: December 9th.—Assistant Surgeon H. F. Parrish, resignation accepted from January 1, 1897. December 10th.—Surgeon E. H. Marsteller ordered to the *Raleigh*; Surgeon H. G. Beyer detached from the *Raleigh*, and ordered to the *Newark*; Passed Assistant Surgeon H. B. Fitts detached from the *Essex*, ordered home, and placed on waiting orders; Passed Assistant Surgeon C. D. Brownell detached from the Puget Sound naval station, and ordered to the *Petrel*, December 16th.

Dr. Jameson's Illness.—We learn from the *British Medical Journal* the nature of the illness which has necessitated the release of Dr. Jameson from prison and his transfer to a private hospital near London. The trouble was one of long standing, which had been greatly aggravated by his enforced confinement. For some time he had been suffering from hemorrhoids, both internal and external. During his stay in Africa he underwent two partial operations for their removal, but since his arrival in England the condition had become so much worse that further interference was absolutely necessary. Recently a serious complication developed, in the form of a very painful fissure. So great and so constant was the pain that sleep was impossible. The operation was performed by Mr. Herbert Allingham. Dr. Jameson was thus in a low state of health when the operation was undertaken, and it is therefore not surprising to hear that he took the anæsthetic badly. After the operation his condition did not improve so rapidly as might have been wished. This was due to the restless condition of the patient, the result of his confinement, combined with the pain attending the dressing of the operation wounds.

Reviews and Notices.

FUNCTIONAL DISORDERS OF THE NERVOUS SYSTEM IN WOMEN. By T. J. MCGILLICUDDY, A.M., M.D., Consulting Physician to the Italian Hospital; Surgeon-in-Charge of the New York Mothers' Home Maternity Hospital, etc. Illustrated by 45 Wood Engravings and 2 Chromolithographic Plates. New York: William Wood and Company. 1896.

WHILE such great advances have been made in operative gynecology, the diseases of womankind which are purely functional and need not the surgeon's knife have been somewhat neglected, or at least have not received the attention which their importance would seem to demand. The author of the present work has attempted to draw attention to this class of affections, and he modestly lays no claim to completeness in his treatment of the subject. The work of three hundred and sixty-seven pages is written from the standpoint of the general practitioner, and it is kept well before the reader that many uterine disorders constitute but a small part of general conditions which require treatment. The experience and writings of other observers have been freely drawn upon in illustration of practical points, and the histories of numerous cases are given in a brief manner.

About eighty pages are devoted to therapeutics. In an appendix is a series of illustrative charts devised by the author to make clear the various reflex neuroses. The volume is neatly bound in conformity with the "Medical Practitioners' Library" series, to which it belongs.

MODERN GREEK MASTERY: A Short Road to Ancient Greek. By THOMAS L. SIEDMAN, A.M., M.D. New York: Harper & Brothers. 1896.

THIS work is intended as an aid to the acquirement of a practical knowledge of modern Greek, and primarily for those who cannot secure the services of a native Greek teacher. One of the aims which the author had in view in the preparation of this work was to demonstrate the possibility as well as the desirability of learning the ancient language through the modern. The book will be welcomed, however, not only by those who desire to study modern Greek for philological purposes, but also by those who regard this as the language best fitted to serve as the common tongue of scientific men of different nations. The method employed by the author differs widely from the traditional one. The teaching of grammar for grammar's sake has no place here. The student is put at once in possession of living Greek phrases, and insensibly acquires the ability to express his thought in this language without the intrusion of English. An appendix contains a list of all the irregular verbs and several specimens of Greek handwriting.

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY. With an Introductory Section on Post-mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., LL.D., Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia College, New York, and T. MITCHELL PRUDDEN, M.D., Professor of Pathology and Director of the Laboratories of Histology, Pathology, and Bacteriology, College of Physicians and Surgeons, Columbia College, New York. Fifth Edition. Illustrated by Three Hundred and Sixty-five Wood Engravings; Printed in Black and Colors. New York: William Wood and Company. 1896.

THE editions of this standard treatise on pathological anatomy follow each other in quite rapid succession, attesting not only the numerous and rapid advances constantly being made in the science of pathology, but also the favor with which this work is regarded by the medical profession. The plan of this edition is the same as that of the previous ones, the intention of the authors being "to give to students and practitioners of medicine, first, the knowledge necessary for the making of autopsies, the preservation of tissues and their preparation for microscopic study, and to outline the methods of study of pathogenic micro-organisms; second, to describe concisely, with such illustrations as seem necessary, the lesions of the acute infectious diseases and, so far as they are known, the micro-organisms concerned in their causation, the various phases of degeneration and inflammation, the character of tumors, the special lesions of different parts

of the body, of the general diseases, of poisoning, and of violent deaths." There is little to add to this description except to say that the promise has been more than realized in the execution. This new edition contains many changes which have been made in order to bring it thoroughly up to date, and several new illustrations have been added. The section on the blood has been rewritten by Dr. James Ewing.

Society Reports.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Ninth Annual Meeting, Held in Nashville, Tenn., November 10, 11, and 12, 1896.

E. S. LEWIS, M.D., OF NEW ORLEANS, LA.,
PRESIDENT.

Second Day—Morning Session.

Uterine Drainage as a Factor in the Prevention and Relief of Pelvic Inflammation.—DR. R. R. KIME, of Atlanta, Ga., drew the following conclusions: (1) A uterine tampon is not a true drain and even obstructs drainage in many cases. (2) Capillary drainage is secured by carrying a strip of gauze up into the uterine cavity, not packing it, and then it drains for a few hours only. (3) Gauze cannot even act as a capillary drain when either end or centre is constricted, or when coated with mucus. (4) Gauze when saturated with serum, unless it contains an antiseptic, forms a hotbed for germ development. (5) Never tampon the uterus in puerperal septic infection, except to check hemorrhage. (6) The good effect of a gauze tampon in cases of endometritis and after abortion is not due to drainage, but to its effects as a tampon, *i.e.*, checking hemorrhage, stimulating uterine contractions, prolonging medication to the endometrium, and acting as a surgical dressing. (7) The uterine drainage tube is the most essential factor in the treatment of puerperal infection and the best means of securing drainage when demanded in other diseased conditions of the uterus. (8) It will save more lives, prevent or relieve more pelvic complications than any other one factor at our command.

Gunshot Wounds of the Abdomen.—DR. W. E. PARKER, of New Orleans, read a paper on this subject, and reported thirteen cases with six recoveries. In his paper he made the statement that he believed that in the hands of men skilled in abdominal work seventy-five per cent. of cases of wounds of the small intestine should recover if they were seen early, the prognosis being better in this class of cases than in any other. He advised an early and rapid operation in all cases.

In conclusion he made the following general statements: The diagnosis is generally easy, but when there is doubt he would advise enlarging the wound or probing. In doubtful cases he is inclined to attach much importance to pain referred to the umbilicus as a symptom. He stated that he had never seen a case in which this symptom was not present. There is frequently but little shock when grave symptoms are present, and when symptoms of it are present the trouble is generally hemorrhage and not shock. Senn's gas test was not used in any of these cases, and he spoke of it as being unnecessary in at least a majority of cases, uncertain in the hands of those not skilled in its use, and making it more difficult to replace the intestines after sewing the wounds.

As to the technique he said that (1) unless the wound is well to one side it is best to make a median incision, and it should be long enough to enable the operator to make a thorough examination of the ab-

dominal contents. (2) The whole intestinal canal should, as a rule, be examined. (3) All peritoneal wounds should be sutured with silk Lembert sutures. Intestinal wounds should, other things being equal, be sewn in the long axis of the bowel. (4) If the liver is wounded, better results are obtained from packing than from suturing it. (5) If the kidney has been wounded it is best to suture the peritoneal wound and treat the kidney extraperitoneally if necessary. Of course, he did not refer to those cases in which the laceration and hemorrhage are so great that it is necessary to remove the kidney at once. (6) Drainage, except in late cases, is not necessary if all hemorrhage has been stopped. (7) Cases in which the intestines cannot be sutured without great risk of obstruction should be resected. (8) While enough time should be taken to do the work thoroughly, no time should be wasted. (9) Unless the bullet can be felt, search should not be made for it, as it causes unnecessary delay. (10) The superficial wound should be closed with silkworm gut or silver wire, and the author believes that a single suture should include the skin, abdominal walls, and peritoneum.

Prognosis: (1) The sooner the patient is operated upon the better the prognosis. (2) Those cases that have been reported in a series including all cases have shown a mortality of about sixty-two per cent. The prognosis is best in cases of wounds of the small intestine, and he believes that seventy-five per cent. of the cases will recover if seen early. By early is meant in the first two or three hours. (3) Every one knows that alcoholics stood all surgical work badly, and yet most of these patients have been drinking before they come under care. The prognosis in non-alcoholics will be better than in alcoholics. (4) If the stomach and intestines are empty the prognosis is usually improved by this fact.

After-treatment: While not favoring drugging these patients, strychnine and other stimulants, he thought, should be given hypodermatically if necessary. Especially should strychnine and alcohol in some form be given to alcoholics. Much depends on starting these patients well. If they are restless after the operation or suffering, small doses of morphine should be given. If the stomach is quiet and has not been injured, small amounts of water and Duero's elixir can safely be given at the end of twenty-four hours and also small quantities of milk or some light broth. If the stomach has been injured, the feeding should be per rectum. The diet should be liquid for at least two weeks. If there is shock, with the clammy sweat that is sometimes seen, atropine, one-sixtieth of a grain, should be given every three hours as may be necessary. When shall we give a purgative? This is one of the most important questions that we shall be called upon to decide. If we give a purgative too soon our stitches may pull out, and if we wait adhesions may form and give us trouble. The bowels of these patients will usually act by themselves about the end of the fifth or beginning of the sixth day. If they do not, a mild purgative assisted by an enema should be given about the end of the sixth day, or on the morning of the seventh. As a rule, these patients should be kept in bed for at least two and a half weeks.

Discussion.—DR. JAMES MCFADDEN GASTON was not able to corroborate, either from his reading or experience, the favorable percentage of recoveries which the essayist had given in gunshot wounds of the abdomen. The fact that the bullet entered the abdominal cavity, if it did not wound the intestinal tract, was not necessarily a very serious matter, although wounding of the mesentery with hemorrhage was sufficient reason for exploration. As to the Senn gas test for determining perforation of the bowel, it was not used

by very many surgeons to-day. Dr. Gaston was very positive in his conviction of the propriety of laparotomy after gunshot wounds of the abdomen, and the sooner the better.

DR. N. P. DANDRIDGE, of Cincinnati, called attention to the importance of making a distinction between penetrating gunshot wounds and penetrating stab wounds of the abdomen. The latter were much less dangerous. In fact, a very large proportion of these cases, in which it seemed as though the intestines must necessarily have been wounded, get well without operation. In gunshot wounds, however, an exploration should be made in every case in which there is reasonable supposition that the abdominal cavity had been entered. Gunshot wounds were much more serious than stab wounds. He could not agree with the essayist as to the percentage of recoveries likely to take place. Personally, he had never succeeded in saving a case of gunshot wound of the intestine.

DR. A. M. CARTLEDGE said that Dr. Parker's results were the best he had seen mentioned in literature, particularly in penetrating wounds involving the intestines. He had operated on five subjects with gunshot wounds of the abdomen, three of them hopeless from hemorrhage from the beginning, one dying within an hour and a half from a short operation, simply from the enormous amount of blood lost from a wound in the mesenteric vessel. He had never saved a case of gunshot wound with intestinal perforation.

DR. A. V. L. BROKAW, of St. Louis, considered every case of gunshot wound of the abdomen a law unto itself, and that the surgeon had to meet the emergency as it occurred. He agreed with the essayist that a quick operation was absolutely necessary.

DR. W. E. B. DAVIS emphasized the importance of early operation and called attention to the almost hopeless condition that was found if the surgeon operated after twenty-four or forty-eight hours. At the Charleston meeting of the association he said he was criticised for making the statement that at the end of twenty-four or forty-eight hours usually a general peritonitis would develop after a gunshot wound with intestinal perforation. If the surgeon had this condition to contend with, an operation would offer scarcely any hope of recovery, unless done very early.

DR. B. R. RHETT happened to have had three cases of gunshot wounds of the abdomen during the past year. In one case, that of a little boy, there were several intestinal perforations. He was operated on, but died within three hours thereafter. Case II. died eleven hours after the closure of the perforations. Case III. was that of a negro boy, who had six perforations. He was operated on, the perforations were closed, and he made a good recovery.

DR. H. M. HUNTER, of Union Springs, Ala., laid stress on the importance of early operative interference. He held that very few patients would recover after twelve hours if not operated on, no matter how expert the surgeon might be. He had operated on a man, thirty-six hours after the receipt of the injury, who had two perforations of the colon, the ileum being just touched. The man died in three or four hours thereafter of general peritonitis.

DR. JOHN D. S. DAVIS did not believe it was possible to obtain in private practice seventy-five per cent. of recoveries from early operations in injuries of the small intestine. The patients saved by Dr. Parker were operated on two hours after they were shot, hence early operation was the keynote to success. While he was not prepared to agree fully with Dr. Hunter that none of the subjects could be saved after twelve hours, still the majority of them would die if not operated on within twelve hours. The most serious injuries to the belly from gunshot wounds were seldom followed by symptoms.

DR. F. W. McRAE had seen and known of several cases of penetrating wounds of the abdomen in Atlanta, all of which had terminated fatally, with one exception, and this patient was operated on by the late Dr. Armstrong, who found several perforations. A foot and a half of the small intestine was resected and the man recovered. The speaker would have some hesitancy in opening the abdomen when there was apt to be some medico-legal complication.

DR. HOWARD A. KELLY offered the following resolution, which was unanimously adopted:

"*Resolved*, That it is the sense of all the members of the Southern Surgical and Gynecological Association that in gunshot wounds penetrating the abdominal cavity, the proper routine procedure is to make an immediate exploratory incision."

DR. PARKER said, in closing, that the late Dr. Miles in his first series of cases reported thirteen, the percentage of recovery being nearly forty. He had operated on probably twenty additional cases before his death, and the percentage of recoveries was very much better than in the first series. As to the medico-legal aspects of this subject, all surgeons should advocate the early opening of the abdomen, and, if some fellow practitioner should get into trouble as a result of it, the profession should stand together and support him.

The Evolution and Perfection of the Aseptic Surgical Technique.—DR. L. S. McMURTRY, of Louisville, read a paper on "The Evolution and Perfection of the Aseptic Surgical Technique." The author cited cases in which surgeons of world-wide reputation had infected their patients, through some imperfection in the aseptic surgical technique, and said the subject deserved much more study and attention at the hands of operative surgeons than had heretofore been given to it. So far as instruments, dressings, etc., were concerned, surgeons had an absolute guarantee against sepsis; but when it came to the operative field, the hands of the operator and his assistants, they were reduced to mechanical and chemical methods of asepsis, which were certainly far less efficacious and reliable than sterilization by heat. Everything that comes in contact with the field of operation in the form of instruments and dressings was exposed to heat at a boiling temperature; hence the patient was safe against septic infection from this source: but so much could not be said for the hands of the surgeon and those of his assistants nor of the field of operation.

Second Day—Afternoon Session.

The President's Address.—This was delivered by DR. E. S. LEWIS, of New Orleans. Reference was made to the brilliant achievements of the masters of the art of surgery who had passed away and of the galaxy of shining lights who had followed after, who had created an era in the medical history of this century for all future time. How could we wonder that the "magnificent records obtained by experts have proved alluring temptations to the inexperienced and ambitious," and led to abuses which have left a blot on the fair page of abdominal surgery. As a representative body of the surgeons and gynecologists of the South, the society should condemn the reckless and thoughtless plunging in this delicate and difficult work, without knowledge, fitness, or preparation. The statistics of the skilled, who had learned to minimize risk and cope with difficulties, should not serve as an argument with the inexperienced to secure subjects. The responsibility of human life should not be ignored in the craving and struggle for notoriety or fame.

With regard to the relative merits of the abdominal and vaginal operations for the removal of the ovaries and tubes, or of the uterus with the appendages, Presi-

dent Lewis said that divergent opinions are entertained and heated discussions have arisen. For the vaginal method it is claimed less shock is produced, better drainage is obtained, the abdominal walls are not weakened, and the extirpation of the uterus removes a menacing source of infection and of physical and nervous disturbance. For the abdominal operation rapidity of execution is contended, with increased security to adjacent organs and facility of repair when injured, as the structures are always in view. The removal of the uterus is also condemned as complicating and unwarrantable unless justified by the state of the organ. In the modified vaginal method, as practised by Doyen and others, the uterus is not necessarily sacrificed, nor are a sound ovary and tube. It is in touch with the conservative movement of the day, and is in marked contrast with the ultra-radical operation of Péan.

Memorial Address on Dr. Paul F. Eve.—This was delivered by DR. RICHARD DOUGLASS, of Nashville, in which he said a retrospect of the lives of great men inspired us with the spirit of emulation and indicated to the ambitious mind the paths to fame. Prof. Paul F. Eve had three distinguishing characteristics—energy, consistency of purpose, and extreme modesty, and upon them he built for himself an everlasting reputation and secured an imperishable place in the temple of fame. It is not alone as surgeon and teacher that his reputation rests. As a contributor to current medical literature he was a conspicuous authority. In military surgery he was without a peer. His experience in Poland had engrafted a taste for the work, which unfortunately in later years, as one of the chief surgeons of the Confederacy, he had more than ample opportunity to gratify. As the result of his observation and work during the war of secession he recorded many valuable facts which the surgeons of to-day would do well to ponder. As a lithotomist Dr. Eve was pre-eminent. While his preference was for the bilateral method, yet he was not wedded to it, and appreciated the many advantages of the suprapubic operation and often practised it, not, however, with the same success that he achieved by perineal section. Thoroughness characterized every undertaking of his life. When the great and good life of Dr. Eve came to an end, suddenly but peacefully on November 3, 1877, he had reached more than his three-score years and ten, and, dying, left behind him a name that was destined to live on in surgery through many generations.

The Relations of the Tuberculous Diathesis to its Local Manifestations.—A paper on "The Relations of the Tuberculous Diathesis to its Local Manifestations" was read by DR. J. McFADDEN GASTON, of Atlanta. He said that in considering the various forms in which tuberculosis shows itself in different structures, there must be an underlying element pervading the whole organism, which results from a general deterioration of the secretions. Whether there is a predisposition to the development of tuberculosis in certain parts or organs in advance of any constitutional disease or not, this change occurs in connection with the general impairment of the vital forces which characterizes the tuberculous diathesis. While most recent authorities do not make a distinction between scrofula and tuberculosis, there is a fundamental difference in their general and local development. We have different characteristics of tuberculosis when it involves separate organs and structures of the body in a distinctly circumscribed form, or is defined as miliary tubercle in different structures, and yet the dyscrasia which marks the lymphatics under the designation of scrofula differs materially from any of the varieties of tuberculosis heretofore recognized. Dr. Gaston touched briefly on the causes of tuberculosis, and reference was made to the papers that were pre-

sented before the last meeting of the American Surgical Association on important tuberculous lesions. The presence of a condition recognized as a tuberculous diathesis corresponds in some respects with the cachexia of carcinomatous tumors, and is held by many to be hereditary. There has been quite a revolution in the opinions of those best versed in the pathology of tuberculosis as to the transmission of this disease from parent to child, and also in regard to the communicability from one individual to another by ordinary contact in social relations. It is fair to conclude that great caution should be observed in putting restraints upon the marriage of those suffering with pulmonary consumption, and the association of those laboring under this disease should be limited as far as practicable. Finally, the predisposition to tuberculosis cannot be relieved by a surgical operation upon the diseased structures, but must be corrected by remedial agencies acting through the absorbent and secretory organs.

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Second Day—Evening Session.

The Rational Treatment of the Diseased Appendix by Operation.—DR. A. V. L. BROKAW, of St. Louis, read a paper with this title. He said the question had been vigorously discussed, Is appendicitis a surgical disease at all times, or surgical only at times? He wished to be put on record as favoring the first proposition. He was aware that some ultra so-called conservative practitioners claimed that the surgeon who advocated the removal of the appendix in every case when diseased was a dangerous faddist, an extreme sufferer from an inoculation of the bacillus operativus. He earnestly advocated early operation as soon as the diagnosis was made. He would always operate when there was even a slight chance of saving a life, regardless of damage to statistics. Invariably operation should be insisted upon in the recurrent cases. With the knowledge of this dread disease evolved from the mortuary chambers and the treacherous clinical course in a considerable percentage of cases, why should the rational treatment of all cases be other than by prompt surgery?

Report of Cases of Appendicitis.—DR. JAMES A. GOGGANS, of Alexander City, Ala., followed with a paper on this subject. The fact that physicians generally took the stand that operative interference in appendicitis was called for only in exceptional instances, when the disease advanced to suppuration, gangrene, and perforation, made the treatment of appendicitis a never ceasing controversy; hence his excuse for reporting a few illustrative cases that had come under his observation, hoping thereby to add what he could to harmonize the difference between the physician and the surgeon on this, the most frequent and important intra-abdominal lesion, in his opinion, of the present day. The main point at issue between the physician and the surgeon in the treatment of appendicitis depended much on a perfect diagnosis. This, too, accounted in a measure for their differences of opinion as to when the medical treatment should end and when the surgical treatment should begin. According to his experience in the management of this affection, there was only one course to pursue, namely, to remove the appendix just as soon as the diagnosis had been made. Usually he deferred the operation until the bowels had been evacuated by first administering a few small doses of calomel, followed by a saline purge.

DR. JOSEPH TABER JOHNSON looked upon appendicitis as a surgical disease, and believed it should be so treated. He deprecated the use of opium and considered it the patient's greatest enemy, in that it masks the symptoms and rendered diagnosis exceedingly diffi-

cult. If opium were not given in some cases a diagnosis could be easily made, surgical interference resorted to, and the patient's life saved.

DR. JAMES MCFADDEN GASTON spoke of the importance of making a distinction between cases that have foreign bodies in the appendix and those of a catarrhal nature leading to a general inflammatory condition around the caput coli. Until we had inflammatory conditions which led to an exudate around the caput coli, it was difficult to definitely determine the exact condition which existed in supposed appendicitis. He was becoming more and more impressed with the fact that there were cases of appendicitis that were unattended with perforation, and that these were curable without operative measures. An illustrative case was cited.

DR. F. W. MCRAE did not believe every case of appendicitis was a surgical one from the outset. A disease which showed so large a percentage of recoveries was not always an operative one. Treves and other English surgeons had shown that eighty per cent. of patients with appendicitis got well without operation. While demonstrator of anatomy he examined every appendix which came upon the dissecting-table, kept an accurate record of each case, and found that about thirty-three and one-third per cent. showed evidences of previous inflammatory trouble around the appendix. The individuals, most of them convicts, had died of other diseases.

DR. HOWARD A. KELLY favored early operation, alluded to the difficulty sometimes of distinguishing appendicitis from tubal and ovarian disease of the right side, and related a case in point. In the case of a woman with very high temperature and distended belly he opened the abdomen, evacuated a quart of pus, washed out, and found a gangrenous tube and ovary, as well as a gangrenous appendix. The patient recovered nicely from the immediate effects of the operation, but died on the thirtieth day thereafter from abscess of the liver.

DR. CHARLES P. NOBLE said the safest general rule was to operate as soon as a diagnosis of appendicitis was made. It was impossible to differentiate the patients who would recover from a primary attack from those who would die.

DR. M. C. MCGANNON, of Nashville, recalled one case of appendicitis, that of a boy, in which the temperature rose to 105° F. The patient was delirious. The abdomen being opened the appendix was found to be black but not perforated. It was easily removed, and the boy made a prompt recovery. He believed that in many cases, if the physician should wait and watch for distinct symptoms before operating, patients would die.

DR. A. J. COLEY had met with six cases of appendicitis, and made a strong argument in favor of early operative interference.

DR. A. M. CARTLEDGE said the diagnosis was the only problem that practitioners were especially concerned with, together with the proper technique in the execution of the operation. The more he operated, the more he was inclined to believe we should operate on every operable case as soon as the diagnosis had been made. Mistakes were made by waiting and watching for symptoms to manifest themselves. Very few, if any, surgeons could tell when an appendix had ruptured.

DR. GEORGE BEN JOHNSTON said that for the sake of statistics operations for appendicitis should be divided into two classes. First, those which are performed for recurrent attacks of the disease, and those which are employed for the relief of the severer varieties in which perforation has occurred, or will take place when there is pus present. If the surgeon was to operate upon recurrent cases, it was better for him

to do so between the attacks, in order that he might choose his time for operation. While there were cases of the disease that recovered without treatment, the best results were obtained by surgical interference.

DR. N. P. DANDRIDGE said that with increasing experience he was more and more favorably disposed toward early operation; at the same time cases presented themselves in which he did not advise operative measures. He believed that some of the desperately bad cases were and could be saved by operation.

DR. R. B. RHETT said he had operated twenty times for this disease. He cited some interesting cases illustrating the importance of early operation.

DR. W. D. HAGGARD, JR., called attention to the method of Gerster to prevent contamination of the peritoneal cavity in opening appendicular abscesses that are not adherent to the abdominal wall or are not walled off. It consists in introducing thick layers of iodoform gauze through the abdominal incision and packing it between the walls of the abdomen and the abscess sac itself, so that in the subsequent steps of enucleation there is no possibility of soiling the peritoneal cavity.

DR. D. FORD, of Augusta, Ga., spoke in favor of early operation, believing that if patients were not operated on, sooner or later perforation would occur, followed by general peritonitis and death.

DR. W. E. B. DAVIS thought there were few cases of appendicitis that gave rise to general peritonitis in which the surgeon was called and could do any good. Frequently the surgeon was called too late. Even though the family physician recognized the condition, it was not an easy matter to persuade the patient to be operated on within the first twenty-four hours, and unless these cases were treated surgically within twenty-four or thirty-six hours very few of them could be saved. All cases of severe attacks of the disease, in which pain was intense, if seen the first day and consent was obtained, should be operated on. In all cases in which there was a second attack, operative measures should be resorted to.

DR. GEORGE A. BAXTER spoke of obliterating appendicitis and asked the essayists to give their opinion of it in their closing remarks.

DR. BROKAW replied that obliterating appendicitis was nothing more nor less than the relapsing form of the disease, as a rule, or what had been termed "growling" appendicitis.

DR. GOGGANS said, in closing, that he could no better present his views on early operation than to say, that if he had the disease, or peritonitis supervening upon it, he should demand operation. If he was so low that he could not stand a general anæsthetic, he would take a local one, and would ask the surgeon to open his abdomen and remove the appendix.

Compound Comminuted Fracture of the Wrist.—DR. H. M. HUNTER, of Union Springs, Ala., reported an interesting case of compound comminuted fracture of the radius and ulna, near the wrist-joint. He had been unable to find a similar case on record in the literature of fractures. There were three points with regard to this case. First, that he was unaware of a similar fracture being reported; second, he had never read nor heard of the method he had described to reduce the fracture of the forearm. Third, he had never seen nor read of such perfect results as were obtained in this case, the wrist having perfect motion and there being absolutely no interference with supination and pronation.

DR. N. P. DANDRIDGE, of Cincinnati, reported a case of transperitoneal ligature of the external iliac artery for inguinal aneurism, in which he removed the aneurismal sac.

In the discussion, DR. W. E. B. DAVIS also reported a case of ligation of the common iliac for aneurism of

the external iliac, which was followed by an excellent result.

Officers Elected.—The following officers were elected: *President*, Dr. George Ben Johnston, of Richmond, Va.; *First Vice-President*, Dr. F. W. McRae, of Atlanta, Ga.; *Second Vice-President*, Dr. W. E. Parker, of New Orleans, La.; *Secretary*, Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*, Dr. A. M. Cartledge, of Louisville, Ky.

DR. E. S. LEWIS, of New Orleans, was elected a member of the judicial council, to supply the place of Dr. Hunter McGuire, whose term had expired.

The association then adjourned to meet in St. Louis, Mo., the second Tuesday in November, 1897.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING OF MEDICAL COUNCIL—THE ELECTIONS—THE DUBLIN HALL CASE—PRELIMINARY EDUCATION, ETC.—THE LATE DR. FRASER, SIR B. W. RICHARDSON—SURGEON-MAJOR FOAKER AND SURGEON-GENERAL MARKEY—OPERATION ON SIR W. MACCORMACK—ABORTION MONGERS.

LONDON, November 27, 1896.

THE General Medical Council met on Tuesday. It seems a pity that the session began while the election of the direct representatives is pending, as two of them are not candidates for re-election, and other changes are possible—in fact, generally anticipated. The subject of the election came up in the council, Dr. Glover as a candidate asking to be furnished with a list of recent registrations. We are flooded with election circulars and post cards, and in some cases ladies have been canvassing. Some vexation has been expressed at this, but if all the arts of parliamentary electioneering are to be tolerated—and this seems to be the case—why not this? With such an educated constituency, I should have liked to see the addresses of all candidates forwarded with the proxy papers, and the rest left to the journals and the good sense of the voters. But all the candidates are incurring heavy expenses, and in some cases the hat is already going round for their assistance.

The proceedings were once more opened with the president's address. I should think Sir R. Quain must be getting tired of preparing these discourses, which are of no practical use; and, as the time of the council is estimated to cost a guinea a minute, something would be saved by dispensing with them. To sketch out the course of business in this way is wasteful. The executive should furnish the *agenda*, and the council go to work in a business-like fashion.

The Dublin Apothecaries' Hall case was taken up on Wednesday and Thursday. The council refused to appoint examiners, as requested by the hall, and that body will now apply to the privy council. What course "my lords" will take remains to be seen. They have expressed a willingness to assist the corporations in obtaining new charters to enable them to exercise discipline, after the manner of Cambridge universities; but some of the bodies are by no means anxious to obtain such powers. Edinburgh University has resolved to take no action in this direction, and other "authorities" will follow the example, until the profession insists or Parliament intervenes.

It was decided to improve the preliminary examinations. This is to be done by pointing out deficiencies to certain bodies, whose examinations are recognized. At first it was proposed that the changes should come into force in 1900, but an amendment to carry them

out at once was adopted. It is a question whether this system of recommendations is a good one, and there are not wanting those who would like to see the list of recognized preliminary examinations considerably abridged.

The procedure in penal cases was discussed on a proposal of the executive committee, which was referred back to that committee for further consideration.

Death continues his severe demands on our ranks. Dr. Patrick Fraser died on November 12th, "full of days," having been born in 1805. In younger days he served as surgeon in the flagship under Admirals Sartorius and Napier. In 1845 he became physician to the London Hospital, and retained that office until 1866. During that period the Crimean war broke out, and in 1854 Dr. Fraser and the late Mr. Wordsworth offered their services to the government. The hospital authorities kept their appointments open for them. How well I remember them both at that time, and the esteem in which they were held was enhanced by their patriotism. It is now some twenty years since Dr. Fraser retired from practice altogether, and a generation has grown up to which his is a name in ancient history. Those who knew him remember his sterling character, his intelligence, kindness, and skill. You may remember his book on "Wounds of the Chest."

Sir Benjamin Ward Richardson died early on Saturday morning, after a very brief illness—so brief that, although I knew him well, I did not hear of it until Sunday morning. He was at a City meeting on Wednesday. In the evening his son, going to his consulting-room, found him on the couch in an unconscious state from an apoplectic seizure. At first some hope was entertained by the medical friends hastily summoned, but he did not regain consciousness, and on Saturday breathed his last. He leaves a widow and two sons. He took the M.D. of St. Andrews in 1854, in which year he gained the Fothergillian medal of the Medical Society of London. He had been physician to the Metropolitan Dispensary and some other institutions. He was elected F.R.C.P. in 1865, and the following year gave the *materia medica* lecture at the college. One year more and he obtained the coveted F.R.S. Other honors and distinctions fell to his lot, and in 1893 he was made a knight. Sir B. Richardson took an interest in many branches of science and medicine, as well as in numerous public questions. His physiological researches are pretty well known; some of them were outlived, so to say; others awaited revision. His work on "Coagulation of the Blood" is an example of how quickly in these times theories are superseded. But Richardson was a practical physician, as evidenced by his "Clinical Essays," his "Discourses on Practical Physic," and the ten volumes of *The Asclepiad*. He was also an enthusiastic sanitarian. You will remember his "Hygeia, a Model City," which appeared in 1875, and was much talked of by the public. Among other works in this branch were "National Health" (1889), and "Chadwick's Health of Nations" (1887). How great was his activity and how widespread his interest may be judged from his numerous contributions to various journals and societies. He was also the author of three plays, and in 1888 issued "The Son of a Star," a romance, though at that time he was engaged in the temperance campaign, with which of late years he has been so identified. That work may be dated from 1876, when he delivered the Cantor lectures of the Society of Arts, taking as his subject, "Alcohol." For some time previously he had been investigating the properties of this substance, and I suspect some of the temperance leaders heard a rumor of his results, and used influence to get him appointed lecturer and to induce him to take that opportunity of publishing his researches. Be that as it may, the lectures proved to

be a valuable support, from the scientific aspect, to the advocates of abstinence from alcoholic beverages. Later on the author threw all the force of his energies into this scale, and his loss to the temperance cause is irreparable. He has been for several years physician to the Temperance Hospital, which has taken an important place among our charities. His adaptation of the ether spray was the outcome of his researches on anæsthesia, and largely contributed to the success of the testimonial of £1,000 and a microscope, presented to him in 1868. Methylene bichloride as a general anæsthetic was another outcome of his researches. He designed the lethal chamber now in use for the painless extinction of lost and starving dogs, etc. He was also interested in an equal or greater degree in making our slaughterhouses less terrible, by adopting painless methods of killing. Cycling, too, attracted the early attention of this versatile physician, and he became an expert wheelman.

Surgeon-Major Foaker, who died on November 12th, in his eighty-sixth year, joined the army in 1838, was in the principal battles of the Crimean war, and retired in 1860.

Another distinguished army surgeon died last week, suddenly, while still on active service, and fifty-nine years old. This was Surgeon-Major-General Markey, C.B. He joined the medical staff in 1859, and had seen much service in India, Afghanistan, and Egypt.

Sir William MacCormack is better. A local empyema developed, which has been drained. The temperature fell then and the appetite returned. I am assured he is now doing well.

A criminal abortion case has excited some attention. A qualified doctor was tried for murder, with his assistant. The jury found manslaughter. The doctor was condemned to penal servitude for life; the assistant gets off with five years.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE SCHOOL OF THE SALPÊTRIÈRE—CHARCOT AND RAYMOND—RAYMOND AND CHARCOT—ITS FOUNDER AND PROPAGATOR—ITS CHIEF TO-DAY—RAYMOND'S LABORS—HIS GREAT AND VALUABLE WORK JUST PUBLISHED—JEAN CHARCOT—VIGOUROUX—ELECTROTHERAPY, ETC.

PARIS, December 14, 1896.

Two names are indelibly written in the history of the Salpêtrière; two names will shine forever over the domain of neurology—Charcot and Raymond.

The old hospice situated in a remote quarter of Paris at an angle of the Boulevard de l'Hôpital, was installed as early as the year 1653 in the buildings of a small arsenal as an asylum for poor, aged, and infirm women. The name Salpêtrière was given to it perhaps for want of a better, perhaps because until then the buildings had served for the manufacture of saltpetre. In 1684 in the centre of the hospital was constructed the workhouse or prison for lost women. It was, however, not until 1791 that patients having incurable mental affections, who had been up to that time treated at the Hôtel Dieu, were transported to the Salpêtrière. A few years later, in 1795, the workhouse or prison was abolished and given up to the infirm, the building named Saint Vincent de Paul becoming an important service in the hospital. Other buildings were added from time to time until the completion of the vast pile with its parks and gardens that one now sees. The Salpêtrière of to-day, surrounded on all sides by its high walls, the lofty dome of the church towering majestically above its numerous and immense buildings, the architecture of which belongs

to different epochs, like old Gothic cathedrals or palaces, gives one the impression of a smaller city within the great one—a city not devoted to pleasure but to the care of the aged, the infirm, the insane, and those suffering from every imaginable form and variety of nervous disease.

Already in 1862 the population of this little city of the diseased numbered five thousand souls, the total number in 1896 being about seven thousand. What a field for neurological study and clinical work—the largest and greatest in the world. It was Charcot aided by Raymond who founded the school of the Salpêtrière, properly and scientifically speaking. It is left to Raymond, in every particular the equal of his dead colleague and friend, to carry on the great work, and the title of “chef d'école,” left by his predecessor, has fallen upon him who deserved it most. Professor Raymond's Tuesday's and Friday's lessons or clinics, which he began two years ago, are frequented by hundreds of physicians and students from every quarter of the globe, who come to familiarize themselves with the diagnosis, prognosis, and treatment of diseases of the nervous system. Professor Raymond's written contributions to science have been many and valuable, the most important of which, serving as a text-book to students and works of reference to practitioners, is “Diseases of the Nervous System,” in two volumes, the first being devoted to muscular atrophies and amyotrophic diseases, the second to systematic sclerosis of the spinal cord and a study of diseases of the nervous system in Russia.

His last and greatest work has just appeared under the title “Clinic of Diseases of the Nervous System.” These are the clinical lessons that Professor Raymond has held at the Salpêtrière during the first of the two years that are now expiring since his succession to the chair of neuro-pathology. They were given in the vast auditorium, forming with the reception rooms and electrical hall, of which more anon, an entire building in the grounds of the Salpêtrière. This auditorium cannot properly be called an amphitheatre, being rather a hall or theatre, capable of seating and accommodating many hundreds. At one end is an elevated platform or stage and at the back of this is a beautiful oil painting of colossal size in a handsome gold frame, covering the whole end of the edifice, painted by Robert Fleury and representing Pinel breaking the irons from the wrists and ankles of the insane as he renders to them liberty and daylight, in conformity to his famous words: “The insane are to be treated, not punished”—an appropriate background for the great work that is going on there year after year without interruption. This picture was presented to the Salpêtrière by the government. It is here that Professor Raymond demonstrates in the brilliant and majestic style that characterizes him and lectures upon the different cases of nervous disease that are brought to him for diagnosis and treatment; sometimes there are several different types of a given pathological process presented at the same *séance*, besides many and various others, so that he finds it no easy task to get through with them all in the two hours allotted to his clinical work. Professor Raymond is a man above the medium height in stature, with a broad expansive brow and quick intellectual eye; he speaks smoothly and not too rapidly, but without a hitch; never at loss for the right word, he has the power of riveting the attention of his hearers from the beginning to the end of his lessons. He confides to others the care of taking down what he says. This has been admirably done by Drs. E. Ricklin and A. Souquer, who have done Professor Raymond and themselves much credit in compiling and editing a work that is destined to be the greatest epitome of neurology, neuro-pathology, and neuro-therapeutics of

our time. We apply the word “destined” to what already really exists, simply because this is the first series, 1894-95. Others are to follow.

The book in question is a handsome octavo, printed on thick paper with large type, from the press of Octave Doin, Paris. The colored plates are by Jean Charcot. After the first chapter, which is devoted to Professor Raymond's inaugural lesson, being really a eulogium of the departed Charcot, follow in succession three others, headed “The Work of a Man.” In these Charcot is considered as a physician, and, above all, as a neuro-pathologist, with especial reference to his study and researches on hysteria, hypnotism, and treatment by metallo-therapy, suggestion, and transport.

“The Work of an Epoch” now claims the five succeeding chapters. This epoch is divided into four periods, the first of which, beginning with Charles Bell and his works in the year 1814, sets forth the erroneous opinions of Walker, Bellingeri, and Valentin, upon the respective functions of the anterior and posterior roots of the spinal cord. He pays *en passant* a tribute to Magendie, who in 1839 discovered the recurrent sensibility of the anterior roots, and continues by referring briefly to the work of Stilling and Wagner in 1842 to 1850, until which time it was thought that the two varieties of nervous fibres, sensitive and motor, ascended the entire length of the spinal cord to unite and accord in the brain. In his recapitulation of the anatomical and physiological discoveries during the first half of this century, he dwells at some length upon the rudimentary state of nervous pathology during that period.

The end of the fourth period brings us down to the present day. This period is marked by a revolution in our conception of the fine structure of the nervous system, which we owe to the perfections in histological technique as it now exists.

Professor Raymond after demonstrating the ectodermic origin of the neuroglia, passes on to the application of new notions and ideas to nervous physiology and pathological anatomy. He says: “The procedure of Golgi furnishes us the means of studying the exterior form of nervous units and their connections. The theory of neurons is the most important result that it has furnished up to the present time.”

The procedure of Golgi he believes will shortly elucidate many anatomo-pathological questions. “Thus, the nitration of the peripheral nerves will permit us to see much more distinctly the fibres without myelin and to distinguish those fibres from empty sheaths.”

The remaining of the thirty-two sections are a record of daily work done at the Salpêtrière, embracing the study with cases of bilateral paralysis of the deltoid muscle by elongation of the two circumflex nerves—hemorrhagic compression and radical paralyzes of the brachial plexus, etc.

Considerable space is occupied by the lesions of the cauda equina, about the pathology of which comparatively little is known, being barely sketched, often omitted altogether from classical books on neurology. Two cases, both of women, are presented as different types of disease of the cauda equina. The first type begins with lancinating pains in the left leg and around the waist, hyperæsthesia of the left thigh and gluteus, cutaneous anæsthesia of the perineum, with hyperæsthesia of the internal face of the left gluteus, and of the external border of the corresponding foot: anæsthesia of the mucous membranes of the urethra, bladder, rectum, and left half of the vulva; vesico-rectal troubles; disturbed motility of the left inferior limb accompanied by atrophy of the same; stepping and exaggeration of the patellar and plantar reflexes, with a sacral left unilateral eschar, these completing the group of symptoms thus briefly summarized.

The contrast with the second clinical type is highly interesting. This begins with pains in the lower limb on the right side, cutaneous hyperæsthesia, incontinence of the sphincters, anæsthesia of the perineum, of the vulva, of the right gluteus, of the fibular region, as well as of the internal border of the right foot.

The differential diagnosis of cases of this nature must be made from dorso-lumbar rheumatic arthritis, lumbago, sciatica, and Pott's disease; also from the cerebral, spinal, neuritic, and hysterical monoplegias.

The lessons on lateral amyotrophic sclerosis and labio-glosso-laryngeal paralysis of bulbar and cerebral origins are followed by practical essays on Jacksonian epilepsy. The eminent author lays particular stress on the chapters dealing with heredity in nervous disease; heredity and predisposition dominate nervous pathology. Nervous heredity and its result, a state of degenerescence, are prime factors in the etiology of true psychoses and neuroses, such as hysteria, epilepsy, exophthalmic goitre, Huntington's chorea, tics, certain tremblings, Parkinson's disease, etc. Not the least interesting are the closing chapters on the myoclonias and ambulatory deliria with fugues and hysterical somnambulism.

As regards the therapeutic side of this comprehensive work, Professor Raymond seems to have in mind in general two principal plans of treatment—the one dealing with the symptomatic, the other with the causal indications. Surgical intervention is at times to be resorted to, for instance, in deformation of the rachis with compression fracture and certain tumors—trepanation for epilepsy, etc. In Jacksonian epilepsy he counsels revulsives, preferably *pointes de feu* (ignipuncture) on the parietal region and the bromides. He is a staunch advocate of electricity in all its forms, a treatment indicated perhaps more frequently than any other in the different forms of paralysis. This is true of the galvanic and faradic currents, static electricity being more efficacious in hysteria and neurasthenia. Injections of strychnine also find favor with him in symptomatic paralysis of the bladder and large intestine, but are administered always with extreme prudence.

Antipyrin and the subcutaneous injection of morphine are his typical mild and heroic calmatives in pain. In many cases, of course, only palliative treatment is advised. Hypnotism and suggestion are reserved for hysterical subjects.

Professor Raymond pays a well-merited compliment to American surgeons when he writes on page 112: "The works of the American surgeons, to which I made allusion a moment ago, had been worth to us documents of great value relative to traumatic neuritis." We close the book fully convinced that this is the first series of the greatest and most important work of our day on diseases of the nervous system.

No physician passing through Paris should fail to pay a visit to the Salpêtrière; if he cannot attend Raymond's clinic he can at least see the hospital, the wards, buildings, etc., with the grounds, lawns, flower beds, squares, and streets. He will certainly find there Dr. Jean Charcot, the efficient chief of clinic, who has inherited his distinguished father's amiability of temperament and will take great pleasure in showing him what is most interesting in this neurological world. He should not fail to see the electrical hall, where every modern electric appliance is used in the treatment of diseases of the nervous system. Patients are treated here several days in the week. This department is under the direct charge of Professor Vigouroux, to whom it really owes its existence. Professor Vigouroux has been for years chief of the electrical department of the Salpêtrière and his writings on electricity and the treatment of neurasthenia

by Franklinism are classical text-books. The two static machines used are Wimshurst's and by connecting the isolating benches together by means of small chains eighteen patients are treated at once. This hall is connected by a very short passageway with the waiting-rooms and Professor Raymond's clinic. Beyond, a new electrical building has been erected within the last year or two, under the direction of Dr. Huet, and provided also with a Wimshurst static machine, from which the current is given to twelve patients at once, thus making a total of twenty-eight that can receive treatment every ten or fifteen minutes. The new installation is also provided with apparatus for giving complete faradic and galvanic baths.

Nor should the visitor omit spending a half-hour in the museum of the Salpêtrière. The collection of casts of brains and the heads out of which they came will alone repay him. Especially worthy of study are the cerebral depressions. In the centre of the museum is a full-length figure in wax, representing a case of ataxic atrophy, given by Charcot and illustrating the degree of muscular atrophy attained with the ataxic dislocation of joints which characterize tabes dorsalis when the disease has lasted many years.

Another building is occupied by the pharmacy, one of the largest and best appointed in Paris; still another by the autopsy amphitheatre, and so on. But we must stop. To do full justice to the subject a large volume would be necessary: but this sketch, brief as it is, will give some idea of the great school of the Salpêtrière and of the work done by Charcot and by its chief to-day, Raymond.

THE TREATMENT OF TYPHOID FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with much interest Dr. Nammack's letter in your issue of November 28th, in reference to the Woodbridge treatment of typhoid fever. It is a very curious thing that one may read all sorts of reports upon the results of this treatment—some highly commendatory, others quite the reverse, and still others which award to the treatment certain advantages but deny the somewhat sweeping claims of Dr. Woodbridge for it. What Dr. Nammack says about the ideal treatment of the poor man afflicted with typhoid fever well expresses what many of us have long felt. An easy and simple treatment, which can be carried out without the expense for attendance and paraphernalia called for by the Brandt treatment, would be a blessing of inestimable value to suffering humanity, and one, let us hope, not unattainable. Whether a serum treatment shall be found, as Dr. Nammack seems to expect, seems quite problematical for several reasons, which need not concern us here.

What has led me to take up your valuable space with these few remarks are the enormous importance of the subject and the belief that after much deliberation I can offer some suggestions in the treatment of typhoid which will prove of undoubted value. In the present state of our knowledge, the following plan seems to be the most likely to give satisfactory results when for any reason the Brandt treatment may be inapplicable. Just as soon as the patient comes under observation and is found to have a continued fever which cannot be controlled by quinine, whether the serum-diagnosis test of Widal shall indicate typhoid or not (and I am informed that the value of this test is not as yet by any means determined), let him be put upon small frequently-repeated doses of calomel, and let these be continued until the constitutional effects of the drug have manifested themselves—to wit, the mercurial fetor in the breath, some sponginess and swelling of the gums, and the characteristic

stools. To accomplish this with one-twentieth-grain doses of calomel every one-quarter to one-half hour may take two, three, or four days, or perhaps longer, since individuals differ so markedly in susceptibility to the action of the drug. In the mean time, let elimination and depuration be increased by copious draughts of pure water. After the system has once been brought under the influence of calomel, it seems quite probable that Dr. Delafield's suggestion (made in the recent discussion of typhoid before the section on general medicine in the New York Academy of Medicine), that no mercurial will do any more good, is a valuable and timely one, and that gentle catharsis can be better maintained by Epsom salts (or by other salines or mineral waters).

I might suggest in passing that it seems probable that the shortening of the mild cases of typhoid, which Dr. Delafield noted among the thirty cases which he had treated with the Woodbridge treatment, and which he reported in the discussion just alluded to, was due to the early use of calomel in these cases. It might be safe to go a step further, and claim that these cases were mild because the use of calomel had made them so, although, if such was Dr. Delafield's opinion, he did not express it. So far as I know, no one has ever maintained that calomel will abort every case of typhoid nor will quinine control every case of malaria. Yet, from *a-priori* reasoning, it seems probable that a drug with the eliminative and antiseptic action which calomel institutes in the intestine may and in some cases does sweep out from the intestinal tract the specific micro-organism whose presence and action there is undoubtedly the cause of the group of lesions which we know as typhoid fever. The assertions of Wunderlich and other eminent Germans (Ziemssen's Encyclopædia, etc.) to this effect cannot in my opinion be justly disregarded.

Following Dr. Delafield's suggestion, I would discontinue the calomel just as soon as the system has been brought under its influence, and would maintain gentle catharsis by Epsom or other salts or mineral waters, aided by copious draughts of pure water, and would put the patient upon the chlorine-water treatment of Burney Yeo,¹ and keep him on that and on liquid diet until convalescence is well established.

In all the recent discussions of the treatment of typhoid fever which have met my eye, I cannot now recall a single allusion to the method so ably advocated by the distinguished Englishman,² who not only prefers it to the Brandt treatment but claims for it a much more favorable mortality rate.

Nor have I seen a recent paper upon this treatment except one by Dr. Reynold Wilcox,³ who reported the successful use of chlorine-water treatment in a limited number of desperate cases of typhoid, and who has recently informed me that he is still in favor of the method.

The treatment is mentioned without comment in Allbutt's "System of Medicine," and Wilson's "American Text-Book of Applied Therapeutics," 1896.

My own experience with it is limited to about a dozen patients, all of whom recovered except one hospital patient, who was moribund when the treatment was begun.

As to the Woodbridge treatment, like Dr. Nammack, I hoped for great things from it, having convinced myself, after having gone through an epidemic of sixty cases while in the army, that the preliminary use of calomel or other mercurial until the system shall be mildly mercurialized, as directed by Dr. John Harley (Reynold's "System of Medicine"), does tend to abort typhoid fever and does render its subsequent course

milder and safer than when no mercurial is used. Knowing this about the mercurial part of the treatment, I had hoped that the so-called antiseptic and eliminative treatment, which Dr. Woodbridge seeks to carry out with his guaiacol, menthol, etc., would prove equally efficacious; and that, in short, the ideal treatment had at last been found. As the matter now stands, it would seem to be our safest course to use the combination which I have above outlined. We shall thus combine valuable methods of treatment advocated by various authorities, of whom I might mention Wunderlich, Harley, Delafield, Thistle, Burney Yeo, Wilcox, Woodbridge, and a number of others.

I hope that I have not made this letter too long. I feel that Dr. Burney Yeo's chlorine-water treatment of typhoid has not received the attention, in this country at least, that its importance and, I might add, its harmlessness and the ease with which it can be administered demand.

And I hope, further, that Dr. Nammack (if he has not already tried it) will give this method a trial; and if he does I believe that he will not despair of getting hold of a treatment of typhoid which is admirably adapted to the poor man's case, as it does not require any expensive appliances nor a high degree of intelligence in the nurse.

RICHARD C. NEWTON, M.D.

MONTCLAIR, N. J., November 28, 1896.

THE INTUBATION TUBE AND ITS MODIFICATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An article on intubation by Dr. Thomas J. Hillis, which was published in the MEDICAL RECORD of November 28th, calls for a few remarks. The only part of the article which I wish to criticise is that advocating the use of an intubation tube having an appliance designed to facilitate extraction, to the exclusion of all other considerations. This appliance, which destroys the function of the epiglottis by preventing its closure during the act of swallowing, consists of a semicircular wire which passes around and is raised a little above the posterior portion of the head of the tube; that portion of the latter corresponding to the interarytenoid notch is scooped out, leaving quite a little gutter for the entrance of food or vomited matter, which the epiglottis cannot possibly prevent because it is held up by this wire prop.

To exclude foreign material from the lower air passages the entrance thereto is doubly guarded by the epiglottis and the constrictor muscles of the larynx. Should the smallest particle of extraneous matter pass the first guard there is a violent contraction of the second which tends to arrest its further progress. Now when we place a tube in the larynx we destroy one of these guards and the whole duty of protecting this vital passage devolves upon the other, the epiglottis. During the evolution of intubation, with the single exception of devising a simple means of making the tube self-retaining, the greatest amount of experimentation was directed to overcoming the difficulty of swallowing under these circumstances. These experiments were continued long after the tubes were in every other respect as perfect as they could be made. It was soon demonstrated that no form of tube, however small the head, would permit the larynx to contract on itself as in the normal condition during the act of swallowing, and all further experiments were therefore directed to devising some means of aiding the epiglottis to perform the double work now imposed upon it. The best of the many devices tried is that now in general use, in which the shoulder of the tube is higher behind than in front, the object of

¹ See Amer. Journ. Med. Sci., June, 1894.

² Op. cit.

³ Amer. Journ. Med. Sci., September, 1895.

this arrangement being to meet the epiglottis half way, so to speak, thus utilizing to the greatest advantage its intrinsic power of contraction as well as the still greater power exerted by the base of the tongue, as the latter is drawn backward while the larynx is lifted upward and forward in the act of swallowing.

It is not claimed that liquids are thus completely excluded because the syringe-like action of deglutition forces some of them under the epiglottis, no matter how closely it may cover the mouth of the tube. But it is claimed that with rare exceptions the protection against the admission of vomited matter is absolute because there is no impediment to the escape of the contents of the stomach from the pharynx, such as exists in swallowing. A properly constructed tube in the larynx, therefore, does not contraindicate the use of emetics if called for.

Those who advocate the employment of this easy-to-get-out modification, if they think at all on the subject, must defend its use on the ground either that the epiglottis plays no part whatever in excluding food and the contents of the stomach from the air passages, and consequently that there is no objection to placing a prop under it, or that the entrance of these substances does no harm.

Every one of the numerous modifications of the intubation tubes that have from time to time appeared has been simply a greater or less degree of mutilation of the perfect instrument. No improvement has ever been made and it requires no prophetic knowledge to say that none ever will be made, except possibly in the material of which the tubes are constructed. Let those, therefore, who have inventive genius lying idle and who will not seek other fields for its investment try to discover some such material that will take the place of metal, and if they fail no one will be injured thereby. Intubation can never be made easy except by a large amount of practice, and it is consequently the operation of all others that should be confined to the hands of the few who have had or can have such practice.

A score of intubationists in this city, where they are now numbered by hundreds, could do all the intubations and do them skilfully, without much interference with other work and with very little increase in their incomes. Whatever be the motives that induce so many to bungle this operation they are certainly not mercenary, because diphtheria is essentially a disease of the poor, and, in the vast majority of cases, of the very poor, so that compensation bearing any relation to the nature of the work done is the rare exception.

J. O'DWYER, M.D.

"MOUNTAIN FEVER."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 7th Dr. Newton, of Montclair, N. J., is reported to have said before the New York Academy of Medicine at its meeting on October 20th, that "in the army he had seen many cases of so-called mountain fever, which autopsy proved to be typhoid with intestinal lesion." To us physicians practising in the mountainous regions of West Virginia anything in literature touching the question of mountain fevers is of great interest. We have a form of continued fever prevailing in this State epidemically all the year around. Its symptoms collectively form a picture not unlike that generally called typhoid, as seen at the bedside, which of course materially differs from that given in our text-books. In quite a number of these cases, however, the diagnosis of typhoid can be made only by exclusion and in some it seems altogether unwarrantable. It is surprising, however, to find what a great diversity of

opinion is held by local physicians as to the nature of this affection. Thus you hear a good deal about remittent fever, bilious fever, simple continued fever, mountain fever, gastric fever, and "the" fever. The absurd term "typhoid malaria" is still in common use among physicians here, and has almost become a household expression, to designate the severer forms of this type of fever with perhaps a fatal outcome, in spite of the fact that during the last war, when this term was first coined, "the mortality from typho-malarial fever was very much less than from typhoid fever" and seems to have been applied to the milder forms of enteric fever. The mortality from this fever was very great in former years but is now very small, probably not exceeding ten per cent., and no doubt due largely to the immigration of a better class of physicians along with the general development of the country. Aconite, quinine, and acetanilid have thus been replaced by care, judgment, and discretion. It thus happens that autopsies are scarce and hence the interest of Dr. Newton's remarks. I believe Dr. Newton could write some very interesting pages if he chose to tell us of his experience with this "mountain fever," from a clinical or, what would be more interesting, from a pathological point of view. Would not somebody else volunteer?

WILLIAM W. GOLDEN, M.D.,
Vice-President West Virginia Medical Society.
ELKINS, W. VA.

A COMMENT ON DR. MORRIS' PAPER ON APPENDICITIS, AS READ AT THE COUNTY MEDICAL SOCIETY, NOVEMBER 23, 1896.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Morris said: "Between trusting appendicitis cases to the surgeon or to the bacteria the decision must be a histological one. Some surgeons are more dangerous than some bacteria, and some bacteria are more dangerous than other surgeons. . . . Discussion as to the treatment—medical or surgical—in medical societies is farcical; it is a matter of individual art. . . . My statistics in the cited series of one hundred cases show a mortality of two per cent." The ergo is obvious. We all concede Dr. Morris' great skill.

Dr. Morris said: "Medical treatment will show a mortality of twenty-five per cent. in appendicitis. I should not like such a mortality in my family, although I could select families in which I would rather have it than in my own." There is an ergo here to be obvious later.

Dr. Morris discussed a series of one hundred cases operated upon by him with two per cent. mortality. It was conclusively proven that, on account of obstruction, abscesses, bands of adhesion, etc., the majority of these one hundred patients would have died under medical treatment. Where is the missing ergo?

It is here. The physicians who would have lost twenty-five per cent. of their cases of appendicitis under medical treatment managed, with great discrimination, to get this twenty-five per cent. to Dr. Morris' operating-table, thereby saving ninety-eight per cent. of the otherwise lost quarter. There can be no other explanation, considering the findings in the series of cases.

This missing ergo seems to the writer the vital point which the debaters miss, namely, how to weed out accurately for the knife this imminent twenty-five per cent. We hear of preconceived notions about operating as routine in all appendicitis cases, and about operating as routine in no appendicitis cases, and we can choose our consultant to suit our personal predi-

¹ Sternberg: "Reference Handbook of the Medical Sciences," vol. iii., p. 94.

lection; but would not the welfare of the patient be better conserved by a half-way meeting on this point between physician and surgeon?

The writer, in common doubtless with many other practitioners, has cases of appendicitis under observation which seem safe in the medical seventy-five per cent. category. He has had others which he has put in some skilful surgeon's ninety-eight per cent. Those in the seventy-five-per-cent. category have not yet met the two-per-cent. surgical risk.

EUGENE COLEMAN SAVIDGE, M.D.

66 WEST FIFTIETH STREET.

"CATARRHAL SALPINGITIS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 21, 1896, Dr. Vineberg, of New York, has an article upon catarrhal salpingitis, in which he reports several cases to illustrate this condition. I fail to see that he proves Case III. to be one of catarrhal salpingitis. Did the woman live because of the operation or in spite of it? I saw nothing alarming in her condition was reported. If she had received the same treatment before the operation as she did when her life was despaired of, would she not have escaped both the operation and the premature birth of her child? What benefit did she receive from the operation? Is it not a better illustration of the mania for operating than of catarrhal salpingitis?

ADELAIDE LAMBERT, M.D.

263 ORANGE STREET, NEW HAVEN, CONN.,
November 23, 1896.

A WOMAN PHYSICIAN IN TURKEY IN ASIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of October 17th, received here by me yesterday, you copy a paragraph from *The Hospital*, stating that the "sultan of Turkey has forbidden women physicians to attend upon his subjects." Dr. Grace Kimball, who has been a physician four, not fourteen years, at Van, to whom you refer, returned to America to take the post of physician in a woman's college in the East.

It is exactly three years ago to-day since I received from the Imperial Council of Medicine at Constantinople a diploma authorizing me to practise in all parts of the Turkish empire—this after presentation of my American diplomas and taking the usual "colloquium" examination required from all foreign applicants. Ever since I have travelled in many parts of the empire, never being required to show this diploma, nor even being asked for my tezkéré, or passport, by any official except upon landing at seaport cities. I have been able to render aid to every grade of the official families, and have from every class in the empire received only courtesy, appreciation, and gratitude. That I am the only woman who has the right to practise in the empire is true, but throughout this country many others without molestation are rendering valuable services in caring for the sick and suffering.

The opportunities afforded are unlimited—skin diseases among the Bedouin Arabs, malarial fever in the valley of the Jordan, leprosy in certain villages, and every variety of diseases of the eye in every place. On one tour lasting three weeks I saw twenty-three cataract patients; at a place where I remained a few days patients flocked from nineteen villages and I had nineteen strabismus operations. I remain in each place from three to seven weeks, according to the needs of the place and the number of operations to be per-

formed. I take a full supply of medical and surgical supplies and appliances with me, and two Syrian assistants share my labors.

MARY PIERSON EDDY.

AMERICAN PRESBYTERIAN MISSION, SIDON, SYRIA.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 12, 1896:

	Cases.	Deaths.
Tuberculosis.....	99	104
Typhoid fever.....	30	13
Scarlet fever.....	134	9
Cerebro-spinal meningitis.....	1	3
Measles.....	131	4
Diphtheria.....	276	38
Small-pox.....	0	0

A Step Lower.—St. Louis is the proud possessor of two hospitals, each owned by a stock company and run for the profits in the business. People are solicited to become members by paying fifty cents a week, for which, in case of sickness, they receive hospital care. This is the lowest stage yet reached by the hospital abuse.—*Cleveland Journal*.

Ohio Doctors.—The *Columbus Medical Journal* says that, according to statistics there are 7,579 physicians in the State of Ohio, of whom 4,030 belong to the regular school, 1,199 are eclectics, 678 homeopaths, 155 physio-medics, and 757 unclassified. It is estimated that the new law regulating the practice of medicine has driven out between 1,500 and 2,000 irregular practitioners from the State of Ohio, and it is quite likely that others will find the climate entirely too warm for comfort.

Precocious Mothers.—The *American Journal of Surgery and Gynecology* notes that a girl ten years and two months of age had been delivered of a healthy child. In the *Atlanta Medical and Surgical Journal* of April, 1896, Dr. T. J. Mitchell, of Locust Grove, Ga., has an almost equally young mother, one who at the age of thirteen years was already the mother of three children. She first became a mother at the age of eleven years, three months, and twenty-three days, and gave birth to twins at the age of thirteen years, one month, and fifteen days.

The Nomenclature of the Brain shows how ideas may influence language. Our anatomical fathers believed that in the encephalon the homologues of all the parts of the body, both male and female, could be found in miniature; and if you turn to your text-book on anatomy to the description of the brain you will find arms, brachia; legs, crura; knees, corpora geniculata; breasts, corpora mammillaria; five stomachs, ventriculi, one of which was anciently called the womb, utriculus; a vulva cerebri; buttocks, nates; testicles, testes; a penis, clava; a vulgar name for the pubic hair, flocculus; a veil, velum interpositum; and a marriage bed, thalamus. With all this procreative apparatus before us, we are not surprised to find a union (fornix) and numerous offspring, quadruplets (corpora quadrigemina).—*The Language of Medicine*, by F. R. CAMPBELL, A.M., M.D. (pp. 47-48).

Crotte's New Method of Treatment in Consumption.—The French Academy of Sciences has recently appointed a committee—composed of M. Chauveau,

the physiologist; M. d'Arsonval, biologist and electrician, and Professor Bouchard—to make a thorough investigation of the alleged new cure for phthisis. Dr. Crotte's patients have been poor persons whom he has treated gratuitously, and it is said that he has greatly improved the condition of six hundred consumptives who had passed beyond the early stages of the disease. The antiseptic known as formaldehyde is inhaled in a gaseous form, and static electricity is at the same time applied to the chest. Dr. Crotte's theory is that the electricity opens the way for the germ-killing antiseptic and permits it to reach the bacilli in the cavities of lung tissue. This is not the first time that attempts have been made to apply germicides directly to the embedded bacilli of tuberculosis, but it has been said that an application of sufficient strength to kill the germs in the lungs would also kill the patient. Experiments with injections of carbolic acid have been made in this country and in Japan.

Presenility.—An infant of eight months is reported to have died in St. Louis, whose development, features, and general appearance were those of old age. The texture of the hair was coarse, like that of the adult, and hair grew upon the face.

Reading-Matter at Advertising Rates.—We regret to see in a Western exchange the names of two New York physicians of good standing attached to reading-matter in the advertisement columns. These articles were evidently written in their original form with proper intent and purpose. As they deal, however, in each instance with proprietary remedies, it has evidently seemed to the advantage of the manufacturing firms to reproduce them. They stand, however, side by side with bold laudation of nostrums, and the reflection is not creditable.

Sand Filters.—Allen Hazen (*The Sanitarian*, November) concludes: "The city of Philadelphia is now using water in a most wasteful and extravagant manner, and immediate measures should be taken to check such waste, and to reduce the consumption to a reasonable amount. It is possible to construct sand filters similar to those in use at London, Hamburg, and many other European cities in connection with the existing pumping stations, of sufficient capacity to furnish water for all reasonable requirements, for the present population, and for that which may be expected in the near future."

Laparotomy on a New-Born Infant.—Dr. Marjantschik reports the case of a full-term child, normal in every respect except for an apple-shaped tumor in the middle of the abdominal wall, extending from the ensiform process to the navel. Operation was done by Dr. Tschernow, about thirty hours after birth. The tumor was found to contain part of the liver, omentum, and intestines; these were carefully replaced, the edges of the abdominal wall freshened and then brought together, the sutures passing through all the tissues from peritoneum to skin. The infant died on the fifth day after the operation, autopsy showing the cause of death to be peritonitis and acute gastro-colitis. The writer reviews the thirty-one cases previously reported, in which seven of the patients died. He concludes that operation should be done in all cases if the child seems capable of life, and that it must be undertaken as early as possible. The method of operation must depend upon the size of the defect in the abdominal wall and the number of adhesions; but the most correct method is laparotomy.—*Centralblatt für Gynäkologie*.

When May Gonorrhœics Marry?—Dr. Lowenhardt (*Journal des Connaissances Médicales*) gives the following rules to be observed by physicians consulted

by blennorrhagics to gain medical consent to marry: As the virulence of the urethral discharge depends upon the presence of the gonococcus, the candidate should be subjected to numerous bacteriological examinations, carried out separately on the secretion of the anterior and posterior urethra. A slight secretion is not sufficient, but the urethral mucosa must be irritated in such manner as to place it in analogous conditions to those (excess in *Baccho et Venere*) which light up an indolent process. This result may be obtained by injecting a few drops of a five-per-cent. solution of silver nitrate into the urethra; if the discharge thus set up contains no gonococci, but is entirely made up of epithelial cells, marriage can be permitted. Another rather popular method of provoking a urethral discharge in order to establish the verity of a cure is to give an injection of 1 to 1000 bichloride solution, and to instruct the patient to drink a quart or more of beer. This would seem to be more heroic than circumstances would warrant. The presence of the numerous pus corpuscles necessitates renewed examinations and energetic treatment of this pseudogonorrhœa. In spite of failure to find gonococci after repeated examinations, it is better to wait until the discharge has ceased entirely, and to withhold consent to marry until there can be no peradventure of contagion. The extreme views of Noeggerath and Tait on the incurability of gonorrhœa in the male are too often and too clearly refuted by practical experience to merit serious consideration. Latent gonorrhœa, in the etymological restriction of the adjective to "lying hidden," has no existence. If the disease exists, it can always be discovered.

Specialism.—Wife: "Isn't that the celebrated dermatologist, Dr. X—, who cured you?" Husband: "No; I got his bill yesterday. He's a skin specialist."

Time of Rupturing the Amniotic Sac in Labor.—The *Atlanta Medical and Surgical Journal* gives the following rules: 1. In multiparæ, rupture when the os is fully dilated. 2. In primiparæ, delay until the soft parts are also dilated. 3. In cases of face and breech presentation, delay in rupturing the sac is best. 4. When the pelvis is small and the fœtus large, delay rupturing. 5. In premature labor, with a dead fœtus, rupture early. 6. Rupture the sac early when the membranes are unusually thick, tough, and unyielding. 7. When speedy delivery is demanded, rupture early and dilate with the fingers. 8. Rupture the sac when an excessive amount of amniotic fluid retards labor. 9. When version is necessary, and can be accomplished by bimanual manipulation, perform this operation before rupturing. 10. Remember that a dry labor is always to be deprecated; hence do not rupture at all, unless for good reasons and the case demands it.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

THE PHYSICIAN'S VISITING LIST FOR 1897. P. Blakiston, Son & Co., Philadelphia, Pa.

PREMATURE BURIAL, AND HOW IT MAY BE PREVENTED. By William Tebb and Col. Edward Perry Vollum, M.D. 12mo, 400 pages. Swan, Sonnenschein & Co., London.

A MONOGRAPH OF DISEASES OF THE NOSE AND THROAT. By George H. Quay, M.D. 12mo, 214 pages. Illustrated. Boericke & Tafel, Philadelphia, Pa. Price, \$1.25.

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Original Articles.

THE TREATMENT OF PUERPERAL ECLAMPSIA.¹

By J. CLIFTON EDGAR, M.D.,

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It is necessary to preface our remarks upon the preventive and curative treatment of puerperal eclampsia with the statement that the real cause of the condition in the human female is still an unknown quantity. As far as we are aware, no new light has been thrown upon the pathology and etiology of the condition.

That the pre-eclamptic condition and the subsequent eclamptic seizure are due to (1) uræmia, (2) hydræmia, (3) ammoniæmia, (4) reflex irritation, (5) microbic influences, or (6) to the influence upon the system of some toxic material, modern scientific investigation does not permit us to state. Most observers are agreed that the last mentioned approaches the true explanation, and that the condition is one of toxæmia, of auto-infection, of an accumulation in the blood of some toxic material—biliary, urinary, fætal, or all three, but just what this material is has not up to the present time been determined. It appears probable, moreover, that the condition has not one but many causes. Further, modern clinical research and study would seem to prove that the pre-eclamptic state, or what some have been pleased to term "the toxæmia of pregnancy," has certain well-marked symptoms and signs to guide us to a diagnosis of this condition, and that in the majority, if not in all instances, this state extends over a period of days, if not weeks or months.

The limits of the present paper do not permit us to enlarge further upon the clinical picture of this pre-eclamptic condition, other than to state that it resembles closely the clinical picture seen in slow or rapid poisoning by some mineral or narcotic poison, and that the condition is always accompanied by failure of the eliminative organs to do their duty, notably on the part of the kidneys. If these premises are correct, then of the two treatments of eclampsia, the preventive and the curative, the former is by far the most important, especially so when we come to find that in the majority, if not in all instances, the eclamptic seizure is a preventable accident.

(a) **The Preventive Treatment.**—What symptom or sign, or what combination of symptoms or signs, have we then, that will enable us to recognize this pre-eclamptic state, in order that we may be warned in time to prevent the subsequent eclamptic convulsions?

The symptoms of the state preceding an eclamptic attack include a rapid pulse, accompanied usually by high arterial tension, loss of appetite, gastric and intestinal disturbances, headache, lassitude mental and physical, a gradual or rapid diminution of all the excretions, both liquid and solid—in a word, what one

would expect to observe from the introduction or retention in the blood of some toxic material.

Aside from the direct examination of the blood itself, the condition of the urinary secretion offers us the most convenient physical sign or clinical index of this pre-eclamptic state. The amount of urine passed in twenty-four hours is not always a reliable guide of kidney failure. Albuminuria, as is well known, may be absent before, during, and even after an eclamptic seizure. The amount of urea excreted is a far better guide, as has been shown by Bouchard, of Paris, in the non-pregnant condition, and recently by Dr. E. P. Davis, of Philadelphia, in pregnancy; for the latter found that when urea fell to 1.5 per cent., stimulation of the excreting processes resulted in distinctly favorable results, in all cases in which toxic symptoms were previously present. It is not to be inferred from this that urea causes the convulsions, for large quantities of urea may be injected into rabbits without producing toxic symptoms. Indeed, Bouchard found that bile had nine times the toxic power of urea. It is generally accepted that the diminution in the amount of the urea excreted indicates kidney inadequacy, but it is not always a reliable guide. There are other substances in the urine with as great or greater poisonous qualities. Urea may be found in sufficient quantity and an eclamptic attack occur. Bouchard determined the toxicity of the urine by injections of the same into the circulation of rabbits. His experiments show that normal healthy urine is toxic in the proportion of a certain unit per kilo by weight of the rabbit. In kidney insufficiency, when some poison or poisons are retained in the circulation, the toxic properties of the urine diminish, and it requires more of the urine to the kilo by weight of the rabbit to produce toxic symptoms in the animal. This gives us a delicate test for determining kidney inadequacy in doubtful cases. Bouchard's experiments further show that in renal insufficiency the poisons retained in the patient's blood arise from:

1. Food, especially nitrogenous food, as muscle, and food containing the salts of potassium.
2. Bile.
3. Putrefaction in the intestines, and absorption of its products.
4. Toxic materials constantly being produced by the metabolism of all the cells of the body.

To this last we add the metabolism of the fætal tissues, as this greatly increases the toxic material in the mother's blood, for, clinically, we are familiar with the fact that when the fætus dies *in utero*, or is delivered in the case of a living child, the eclamptic seizures usually cease.

Again, Winckel's observation that in twin and triplet pregnancies there is a greater predisposition to eclampsia has been verified by others. Moreover, the tendency to eclampsia becomes greater proportionately with the advance of gestation and the consequent increase of fætal metabolism.

Further, we know that the maternal mortality diminishes progressively from the ante-partum to the post-partum states; namely, that it is greatest when eclampsia sets in during pregnancy, is less during labor, and lowest of all when the attack occurs for the first time

¹ Read before the New York Academy of Medicine, at a special meeting, November 27, 1896.

after the birth of the child. Thus, the mortality during eight years at the Boston Lying-in Hospital, as has been shown by Green,¹ was: Ante-partum eclampsia, maternal mortality, 46 per cent.; foetal mortality, 69 per cent. Intra-partum eclampsia, maternal mortality, 25 per cent.; foetal mortality, 25 per cent. Post-partum eclampsia, maternal mortality, 7 per cent.

Our present knowledge of the causation of puerperal eclampsia, meagre though it be, furnishes us, if not with the key to the successful preventive treatment of the condition, still with a working hypothesis, namely, the early recognition of the pre-eclamptic state. To accomplish this, something more than a perfunctory monthly or bimonthly examination of the urine for the presence of albumin is called for, since non-albuminuric eclampsia occurs in from nine to sixteen per cent. of cases, and it would appear to be quite as fatal, if not more so than an eclampsia accompanied by albuminuria. Something more is demanded than the late recognition of renal insufficiency, as it shows itself in a marked diminution in the quantity of urine, specific gravity of the same, and amount of urea excreted.

When we shall accustom ourselves to watch our cases of pregnancy, not only for the physical signs of pronounced renal inadequacy as an index of an approaching eclamptic attack, but also for the general symptoms of the overcharging of the blood with toxic material—as high arterial tension, headache, gastric disturbances, physical and mental lassitude, and further for failure of the bowels, liver, skin, and lungs properly to perform their functions, and intelligently treat the same, then, and then only shall we have done our whole duty by our patient, and done all in our power to correct the pre-eclamptic condition and avert an impending eclampsia.

We would formulate our line of treatment of this pre-eclamptic state somewhat in the following manner:

1. Reduce the amount of nitrogenous food to a minimum.
2. Limit the production and absorption of toxic materials in the intestines and tissues of the body, and assist in their elimination by improving the action of (1) the bowels, (2) the kidneys, (3) the liver, (4) the skin, and (5) the lungs.
3. If necessary, remove the source of foetal metabolism and of peripheral irritation in the uterus by the emptying of that organ.

Our first indication, the reduction of the amount of nitrogenous food to a minimum, can best be fulfilled in an exclusive milk diet, to which, as the symptoms subside or disappear, can be added fish and white meats. We have found it not only safer, but less trying to the patient, to commence with an absolute milk diet, than to compromise and afterward be compelled to cut off all but the milk. For our second indication—that of elimination—we must first secure an abundant supply of pure air and water. This may be assisted by moderate exercise or light calisthenics or massage, in certain instances. For the bowels we advocate daily doses of colocynth and aloes at bedtime, followed by a saline in the morning. For the liver an occasional dose of calomel and soda at bedtime, followed in the morning by one of the stronger sulphur waters, as Rubinat, Villacabras, or Birmenstorf. Increased diuresis is secured by maximum doses of glonoïn. The action of the skin is encouraged by enclosing the body in wool or flannel underclothing, by massage, by the warm bath, hot bath, hot pack, or hot-air bath, according to the urgency of the case.

We are accustomed in instances of eliminative insufficiency to give at bedtime twice weekly, or more

frequently if necessary, a tablet composed of calomel, digitalis, and squill, each one grain, and muriate of pilocarpine, one-twentieth of a grain. This is followed in the morning by a full dose of Villacabras water. We have found a decided diaphoretic-diuretic action follow the administration of such a combination, with the additional prompt action upon the liver and intestines as well. So of our five eliminative processes four are stimulated to more energetic action by its use.

Because jaborandi has been practically abandoned as a diaphoretic in the presence of an eclamptic attack, we know of no good reason contraindicating its use in this, the pre-eclamptic state, in the absence of pronounced cardiac disease, and we advocate its use for its diaphoretic and diuretic actions.

Finally, when exercise cannot be taken and an abundant supply of fresh air is wanting, oxygen inhalations will prove of service. Some preparation of iron will also be called for, as the tincture of the chloride, or Basham's mixture.

This, then, is the general hygienic and medicinal treatment of the pre-eclamptic state. No hard and fast rule can be laid down. Every case must be treated on its merits. In one a restricted diet and mild stimulation of the renal and intestinal functions is sufficient, and the patient may be allowed to be about and even exercise in the open air, her skin being protected from sudden changes by being incased in wool or flannel. Other more pronounced cases of eliminative insufficiency must be kept absolutely quiet in bed upon an exclusive milk diet, and the stimulation of all the eliminative organs must be resorted to, to remove the symptoms of impending eclampsia.

But it must be kept ever before us that the hygienic and medicinal treatment is only of secondary importance to the milk diet, and that the latter is the foundation of the preventive treatment of puerperal eclampsia. Given a case in which, in spite of an exclusive milk diet and the vigorous stimulation of the five excretory outlets already mentioned, the symptoms and signs of the pre-eclamptic condition continue or at any time become urgent, the indication is to induce artificially abortion or premature labor.

We cannot understand the position of those authorities (notably of the British school of midwifery) who advise against inducing labor in the presence of urgent symptoms of the pre-eclamptic state.

The arguments that by the methods usually in vogue induced labor increases reflex excitability and precipitates convulsions; that by the same methods, because of the time necessary to remove the barrier of the cervix, the patient's fate is sealed before the delivery is effected; and, moreover, that the onset of labor increases the danger to the patient, are good ones and must demand our attention.

In answer, we would state that our methods of terminating the pregnancy need not increase reflex excitability, and if perchance they do, the excitability is readily controlled for the time necessary to accomplish our ends: that the time necessary is, in most cases, very short; and, finally, that to-day the onset of labor and the termination of pregnancy may be practically brought about at one and the same time, and we have no prolonged or tedious labor to react unfavorably upon the patient.

The objection raised by Byers at the last (second) International Congress of Obstetrics and Gynecology, held at Geneva, in September, 1896, that induced labor, because of the necessary manipulation, increases the risk of sepsis, will not deter us from performing the operation when we know we are surgically clean.

Charles, of the Liège Maternity, reported, at the last International Congress of Obstetrics and Gynecology, in favor of induced labor, when treatment fails or the symptoms become urgent in the pre-eclamptic

¹Green: "Puerperal Eclampsia. Experience of the Boston Lying-in Hospital in the Last Eight Years," *American Journal of Obstetrics*, 1893, xxviii, 18-44.

state. His statistical table shows that every mother recovered and seventy-five per cent. of the children were saved.

We believe in a rapid manual dilatation of the os in these cases, but only after the cervical canal is in a condition favorable for its safe performance. Moreover, we would insist upon a complete dilatation of the os before delivery is undertaken.

(b) **The Curative Treatment.**—In the presence of an eclamptic attack we face a desperate condition. The latest statistics from various parts of the world still place the maternal mortality at from twenty-five to thirty-five per cent. As long as the pathology of eclampsia remains obscure there can be no rational curative treatment of the condition. Our experience does not permit of our recommending any single treatment. Many subjects recover, no matter what the treatment, many die in spite of treatment, and others do well without any treatment at all. No single treatment can be recommended; each case must be managed according to the indications present. Our experience has taught us that not a single but a combined treatment promises best for saving the lives of mother and child in the event of an eclamptic seizure. We would offer for this combined treatment three indications, as follows:

I. Control the convulsions.

II. Empty the uterus under deep anæsthesia, by some method that is rapid and that will cause as little injury to the patient as possible.

III. Eliminate the poison or poisons which we presume cause the convulsions.

Although we have named these indications in the order of their importance, still we often carry them all out at one and the same time. In another class of cases we fulfil the first and third, and wait for a suitable moment to carry out the second. The third indication—elimination—should really go hand in hand with the first two and be put into action at one and the same time with them.

(I.) *Control the convulsions.* There is to-day a wide range of opinion regarding the relative value of the various medicinal means employed to control eclamptic convulsions. That eclamptic attacks must be controlled, that the danger to mother and child is in direct proportion to the number of convulsions occurring before the emptying of the uterus, most observers are agreed. The four medicinal means most certain and safe as antieclampsics are chloroform, morphine (hypodermatically), veratrum viride, and chloral hydrate, the latter alone or combined with sodium bromide. It would appear from the Transactions of the last International Congress of Obstetrics and Gynecology that of these drugs morphine is most frequently relied upon.

We cannot altogether subscribe to the teachings of the Rotunda Hospital, that morphine and chloral when given in eclampsia "act just like the poison which causes the eclampsia and increase the tendency to death;" still we believe we are too prone to resort to the purely symptomatic treatment with narcotics and anæsthetics, forgetting the more important eliminative treatment. At the Rotunda chloroform is now given only when operative interference is required. For the convulsions at this hospital morphine would seem to have given much better results than chloroform for years past. Our preference is for chloroform, veratrum viride, and chloral, in the order named. Until three years ago we used morphine freely in eclampsia, but since have abandoned its use almost entirely, as we believe it prolongs the post-eclamptic stupor and increases the tendency to death during coma by interfering with the eliminative processes.

Second only to chloroform in value is veratrum viride. Provided the pulse be strong as well as rapid,

it is the most certain means at our command for temporarily and even permanently controlling the convulsions. When the pulse is weak we rely upon morphine hypodermatically, chloroform by inhalation, and chloral by rectum, with stimulation if necessary. As a temporary measure in ante-partum and intra-partum and even as a curative means in post-partum eclampsia, veratrum viride will, we believe, accomplish all that has been claimed for it.

(1) Veratrum viride reduces the pulse rate, and convulsions are practically unknown with a pulse rate of 60 or under; (2) it reduces the temperature; (3) it relaxes and renders more yielding the rigidity of the cervical rings; (4) it causes prompt diaphoresis and (5) diuresis, so that it aids not only in the fulfilment of our first indication, the control of the convulsions, but in the third, the elimination of an unknown poison as well. Our practice has been to rely upon chloroform, veratrum viride, and morphine or chloral as temporary measures, and the prompt emptying of the uterus permanently to control the convulsions.

(II.) *Empty the uterus under deep anæsthesia by some method that is rapid and that will cause as little injury to the woman as possible.*

Those who follow the teachings of Charpentier, of France, and Winckel, of Germany, namely, that the uterus in eclampsia should be left alone, except after full dilatation of the os, as the irritation of inducing labor or artificially dilating a cervix precipitates convulsive attacks, will, we believe, see many cases lost that could be by prompt and intelligent measures be saved. It would appear from careful observation that the danger is practically over in some ninety per cent. of cases the moment the uterus is emptied, if accomplished early in the attack. Not that by this means the convulsions always cease, but they become less dangerous, and the case becomes one of post-partum eclampsia, in which the mortality, as we have stated, is only seven per cent.

Although one can scarcely find an authority to-day, as shown by the reports of the last international congress, who absolutely rejects local interference in the presence of ante-partum or intra-partum eclampsia, still authorities differ widely as to the extent to which such interference shall be carried out. Charpentier, in 1892, as the result of an exhaustive analysis of four hundred and fifty-four cases of eclampsia, and again in the present year (1896) as the result of further observation, practically arrives at the same conclusions, namely:

1. That labor should be waited for and terminated naturally whenever possible.

2. That induced labor should be reserved for exceptional cases in which medical treatment has entirely failed.

3. That interference should be delayed until the cervix is dilated or dilatable, so as to avoid danger to the mother; that in eclampsia Cæsarean section, manual dilatation of the cervix, and especially deep incisions of the cervix are absolutely unjustifiable.

Charpentier, in this statistical analysis of the different methods of treating eclampsia and of the method known as Dührssen's deep incisions of the cervix, arraigns the latter in very forcible language, characterizing the operation as brutal and unjustifiable. He places himself in "resolute opposition to forced labor, . . . and even to induced labor, which he reserves for exceptional cases where medical treatment fails." He rejects absolutely forced labor by deep incisions of the cervix. From his analysis of the 454 cases, which included all known methods of treatment of eclampsia, he has constructed the following table: Mortality from spontaneous labor, 13.93 per cent.; from artificial labor, 29.13 per cent.; from Cæsarean section, 36.26 per cent.; from forced labor, 40.75 per

cent. The infant mortality in the 454 cases was 16.4, or 36.12 per cent. Charpentier concludes that the best treatment in eclampsia is to wait until labor begins, and let it alone unless absolutely necessary to interfere. In the mean time he administers chloroform and bleeds if the patient be robust.

On the other hand, it would appear from the literature of the last five years and from the reports of the last international congress (Geneva, September, 1896) that the weight of medical opinion is in favor of emptying the uterus in as short a time as possible in instances of eclampsia, whether the attack occurs before or during labor, although there is a wide range of opinion as to the means to be employed. In the second stage of labor, after dilatation has been secured, all authorities are agreed that the immediate emptying of the uterus is indicated and is to be performed promptly; the indication under such circumstances is readily carried out without additional danger to mother or child. In pregnancy and the first stage of labor the undilated cervix is the barrier to immediate delivery, and it is here that obstetricians differ so widely as to the best method of procedure. An expectant or palliative treatment means almost certain loss of the child, and something like one-third of the mothers are lost. On the other hand, the child is saved and the mother is practically safe, as far as the eclampsia is concerned, if the uterus is immediately emptied by appropriate surgical means.

During pregnancy and the early part of labor four procedures are offered for rapidly emptying the uterus, viz.:

1. Cæsarean section.
2. Mechanical dilatation of the cervix (various methods).
3. Deep incisions which at once completely remove the barrier of the cervix.
4. Combined mechanical dilatation and deep cervical incision.

The first method, Cæsarean section, for the relief of eclampsia still carries with it a high mortality (36.26 per cent. according to Charpentier's figures); moreover, there are many objections to its employment, as the uterine atony and hemorrhage, the irritation of the uterine and abdominal scars, and of the curative peritonitis about the uterine sutures, all of which are to be avoided as exciting causes of subsequent eclamptic seizures.

The second method, the mechanical dilatation of

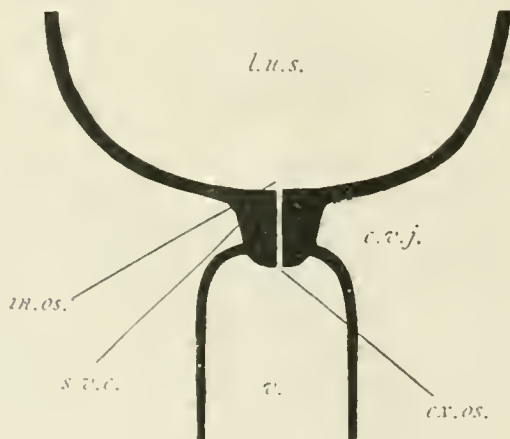


FIG. 1.—Cervix in Latter Part of Gestation or at Beginning of Labor. Vaginal and supravaginal portions of cervix unchanged. *v.*, Cuff of vagina; *ex.os.*, external os and infravaginal portion of the cervix; *c.v.j.*, cervico-vaginal junction; *s.v.c.*, supravaginal portion of cervix; *in.os.*, internal os; *l.u.s.*, lower uterine segment.

the cervix and the immediate extraction of the fœtus, appears to be the popular method of the day. Properly performed the method is safe and efficient. Before dilatation is well advanced, however, from forty minutes to an hour and a half is necessary safely to

carry it out, and certain conditions of the cervix, even in this time, refuse to yield to manual dilatation or result in lacerations into the lower uterine segment. The third method of delivery, by deep cervical incision, offers us a surgical means for emptying the uterus

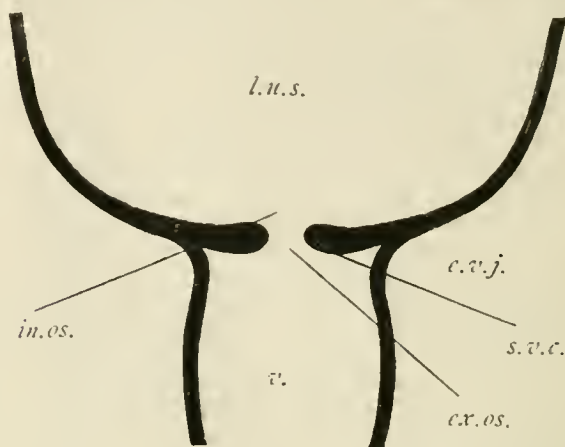


FIG. 2.—Lower Uterine Segment During Labor. *v.*, Cuff of vagina; *ex.os.*, external os, infravaginal portion of cervix has disappeared; *c.v.j.*, cervico-vaginal junction; *s.v.c.*, supravaginal cervix, small portion only remaining; *in.os.*, internal os; *l.u.s.*, lower uterine segment.

in from five to ten minutes, provided the supravaginal portion of the cervix has disappeared or is made to disappear by appropriate means. The fourth or combined method is a combination of the second and third methods, and is applicable to cases in which the supravaginal portion of the cervix is still present and rapid emptying of the uterus is demanded. Here mechanical dilatation of the os until the internal os has been caused to disappear is made use of, and the dilatation then in an instant completed by the incisions. The third method and its modification, the fourth, are comparatively new, and we have few statistics as to the results of the operation. We believe a rapid manual dilatation of the os and subsequent extraction of the fœtus will fulfil the indications in most cases, but unless this can be intelligently carried out, with a due appreciation of the mechanism of dilatation, especially in primiparæ, a purely expectant treatment will give better results. Unfortunately puerperal eclampsia is four times more frequent in primiparæ than in multiparæ, although, on the other hand, the mortality is greater in the latter.

The cervix uteri is composed of constricting and dilating muscle, and, while it is true that the first convulsions usually induce labor, still the resulting asphyxia exerts a marked constricting action upon the body of the uterus and cervix, which is especially marked at the internal ring of the os. Therefore, any method of rapid manual dilatation of the os that is undertaken before the internal os has been made, partially at least, to disappear is attended with great danger of uterine rupture (Figs. 1, 2). This is especially true in primiparæ, in whom the supravaginal portion of the cervix obtains late in pregnancy and even up to the beginning of labor (Fig. 1). We believe a warning should be sounded against the careless undertaking of rapid manual dilations of the os, particularly in eclampsia. Uterine rupture and death have, we know, been the outcome. Moreover, undue shock has resulted from the dragging of a fœtus through an imperfectly dilated os, to say nothing of the loss of the child.

In placenta prævia the hemorrhage and the resulting anæmia of the lower uterine segment and cervix render these parts more readily dilatable. In eclampsia the reverse obtains, as we have already hinted. Hence it is that in eclampsia in instances in which the internal ring of the os has been drawn up into the body of the uterus (Figs. 2, 3), and the external ring

remains rigid and tense, particularly in primipara, and there is urgent need of rapidly terminating the labor, we prefer four clean incisions extending from the edge of the os to the utero-vaginal junction, in

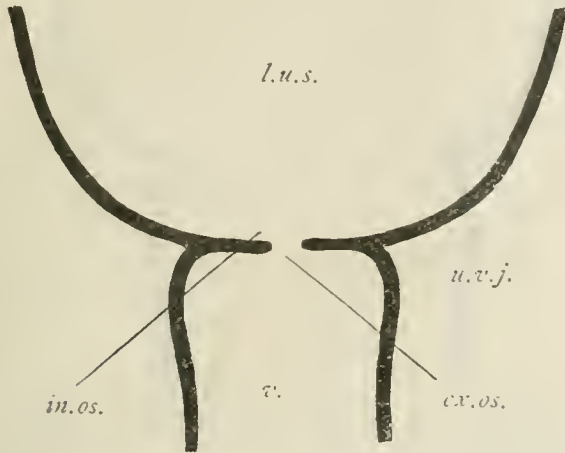


FIG. 3.—Lower Uterine Segment During Labor. Os uteri in progress of dilatation. Supravaginal and intravaginal portions of the cervix have disappeared. Os admits one finger. *v.*, Cuff of vagina; *ex.os.*, external os; *u.v.j.*, utero-vaginal junction; *l.u.s.*, lower uterine segment.

order to save the patient from the greater dangers of rapid manual dilatation.

In the second place, we believe a warning is not out of place against the premature extraction of the fœtus before full dilatation has been secured and the external ring of the os paralyzed. Premature extraction, under such circumstances, we know has resulted in many unnecessary and dangerous lacerations of the lower uterine segment, and an increase of the mortality for the child and mother.

(III.) *Elimination of the poison or poisons which we presume cause the convulsions.*

For the elimination of the toxic materials from the blood and tissues we have nothing new to offer. We believe it essential, however, to rely not upon one but upon all the eliminative organs of the body, and, moreover, that the fulfilment of this third indication in the treatment of eclampsia should go hand in hand with the first two already mentioned. To this end we secure catharsis as early and as promptly as possible by the administration of croton oil, compound jalap powder, or calomel, followed by salines and high enemas of sulphate of magnesium. In the coma or post-eclamptic stupor of the condition, we have relied mainly upon the repeated administration of concentrated solutions of sulphate of magnesium or Villacabras water, by means of a long rectal tube high up in the descending colon. The hypodermatic administration of magnesium sulphate we have found too slow and uncertain to be of any use. Diuresis we obtain by dry or wet cups over the kidneys, followed by hot fomentations. The value of glonoin as a diuretic and antieclamptic, the latter by reducing the arterial tension, we believe, cannot be overestimated. Second only in value to glonoin we consider veratrum viride. We give it at this time for the same reasons and looking for the same results as when we administer it in the pre-eclamptic condition. Diaphoresis we encourage by means of the hot-air bath or the hot pack, our preference being for the former. Pilocarpine as a diaphoretic in the presence of an eclamptic attack we utterly reject, because of the danger of œdema of the lungs and glottis which it may produce. We have seen these conditions follow promptly upon its administration. The drawing off of large quantities of toxic liquids in the form of blood or serum, by means of venesection, catharsis, diaphoresis, diuresis, followed by the replacement of the same, by intravenous, stomachic, rectal, or hypoder-

matic means, causing a washing or disintoxication of the blood and tissues, as it were, has thus far proved of doubtful value. In instances of collapse, however, with the small compressible pulse, the introduction into the blood of a normal saline solution is of the same value here as in collapse under other circumstances. As a general stimulant, to assist in the elimination from the lungs and to prolong life in the post-eclamptic stupor or coma, we have found the free administration of oxygen of the greatest value. Further, alcohol will often be needed as a stimulant during and after an eclamptic attack, and strychnine in the post-partum state and in the face of threatened collapse—although for physiological reasons it would seem to be contraindicated—has served us well.

Finally, although no one has been or is a firmer believer than the writer in the efficacy of a prompt removal of fetal metabolism and of irritation for not only the control but the cure of the eclamptic condition, still we beg to enter a protest, first against the careless use of the term *accouchement forcé* as applied to the rapid, scientific, and intelligent emptying of the uterus; and, secondly, to the easy confidence with which this *accouchement forcé* has been recommended as the best if not the only means at our command for the control of eclamptic seizures, without attaching sufficient importance to the condition of the cervical barrier. By *accouchement forcé*, we understand to-day three operations, namely, (1) the complete instrumental or manual dilatation of the cervical canal, followed by (2) either combined or direct version, or the application of the forceps, and (3) the immediate extraction of the child.

The *accouchement forcé* of the older writers upon obstetrics was often quite another and more serious operation, for the condition of the cervical canal was frequently lost sight of, and it too frequently meant (1) the plunging of the hand or the application of the forceps through a cervical canal imperfectly dilated,

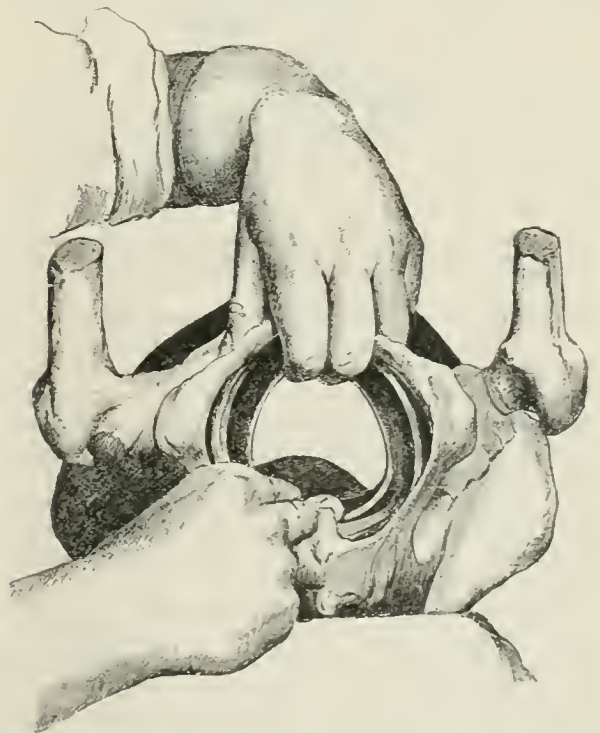


FIG. 4.—Bimanual Dilatation of the Parturient Os. Os two-thirds dilated. Entire effacement of the internal os. Compare Fig. 3. From a photograph.)

and (2) the immediate extraction of the fœtus through this constricted os. That the latter definition of the term still obtains, seems proven by the frequency of accidents in the extraction of the fœtus that are con-

stantly being brought to our notice. Our maternity hospitals are repeatedly in receipt of ambulance or emergency cases due to the neglect on the part of the operator to fulfil the first condition of the operation, namely, complete dilatation. Within the past few days, while preparing this very portion of the paper, the writer was summoned by telephone to remove from the uterine cavity a foetal head decapitated by traction upon the trunk, in the presence of an imperfectly dilated os. The retained head resulted in post-partum hemorrhage, and the additional shock of its subsequent extraction. It is no uncommon event for emergency cases to be brought to our hospitals with a podalic version or extraction partially completed because of the operations being attempted in the presence of a partially dilated os (Figs. 4, 5); moreover, for uterine rupture to occur, due to the same cause.

In Fig. 5 we have represented the outcome of a premature extraction through an imperfectly dilated os. With such a complication—a rigid, imperfectly dilated external os, grasping the foetus tightly under



FIG. 5.—Dangers of a Rapid Breech Extraction through an Imperfectly Dilated Os. External os not fully dilated or paralyzed. Traction on the legs results in extension of the head and both arms.

the armpits—the loosening of the arms, the dragging of these, and subsequently the head through the os will take considerable time, and not only forfeit the child's life but subject the lower uterine segment to dangerous if not fatal rupture. Our plea in these cases is not alone for complete dilatation or disappearance of the external ring, as seen in Fig. 6, but further, for a paralysis of the ring as we see it performed in Fig. 7, so that the dangers of the extraction, whether by forceps or version, may be reduced to a minimum for both mother and child.

The limits of the present paper forbid our entering upon the arguments for or against any particular variety of rapid manual or instrumental dilatation of the parturient os, further than to state that our preference is for a rapid bimanual method, as shown in the illustrations, since we have given this method an abundant trial over a period of several years, and it has proved most satisfactory.

The bimanual method is to be preferred to other digital and instrumental methods, because (1) the membranes are preserved throughout the operation or until full dilatation is obtained: (2) there is no interference with the original presentation and position;

(3) the sense of touch of the operator's fingers is unimpaired; (4) there is no constriction of the operator's hands; (5) the amount of force exerted upon the

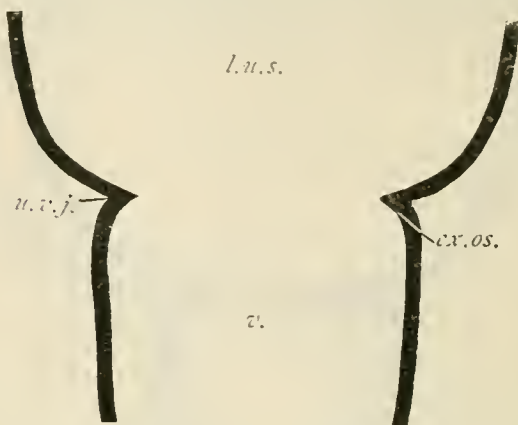


FIG. 6.—Lower Uterine Segment at Completion of First Stage of Labor. Os uteri completely dilated. *v.*, Cuff of vagina; *ex. os.*, border of external os, scarcely perceptible; *u. v. j.*, utero-vaginal junction.

external ring can be better estimated, and hence there is less likelihood of lacerations occurring; (6) in placenta prævia there is less preliminary separation of the placenta by this method than by any other; (7) by no method with which we are acquainted, can not only complete dilatation but complete paralysis of the parturient os be so quickly and safely obtained (Figs. 4, 7).

Again, we beg leave to protest against the undertaking of a rapid manual dilatation of the os (namely, the entire dilatation completed within an hour) before the cervix has become, at least slightly, relaxed by uterine action and is already somewhat yielding. A rigid cervix, in the condition as we see it in Fig. 1, should, we believe, receive a preliminary treatment, a cervical dilator of gauze or hydrostatic bag, that will set up some uterine action and render the rings of the os yielding enough to make a rapid dilatation a safe

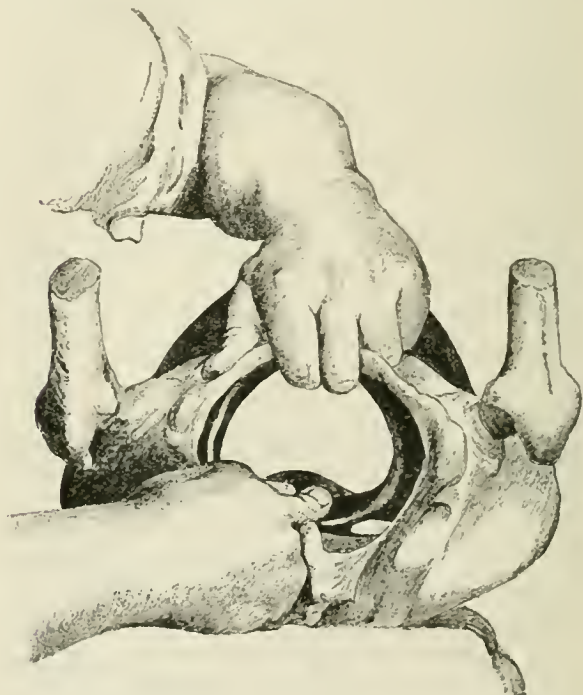


FIG. 7.—Bimanual Dilatation of the Parturient Os. The os is fully dilated and is being stretched and paralyzed, to prevent subsequent accidents to the after-coming head during the extraction of the fetus. Compare Fig. 6. (From a photograph.)

operation. In the presence of even a minimum amount of uterine action, or with a softening, yielding, and relaxing os, although the anatomical conditions may

obtain as in Fig. 1, we may still undertake the rapid manual dilatation and produce complete paralysis of the cervix within an hour, as seen in Fig. 7. Far better a purely expectant treatment, as regards emptying the uterus, than the attempt rapidly to overcome a rigid os by manual methods, the supravaginal portion of the cervix being present. We have known complete uterine rupture to result from such an undertaking, the maternal intestines prolapsing between the fingers of the operator. Fortunately for the eclamptic woman, the frequency of the attack increases proportionately with the progress of gestation, and, we may add, with the increase of fetal metabolism. Hence, the attack is more frequent in the latter part of pregnancy and in labor, when we can more readily and safely apply our surgical principle of treatment, namely, an early and rapid evacuation of the uterus.

Unfortunately, the attack is four times more frequent in primiparæ than in multiparæ, and in the former the presence of the supravaginal portion of the cervix late in pregnancy and of an unyielding and unrelaxed os compel us to make use of preliminary and temporizing means before we can safely perform a rapid dilatation of the os and subsequent extraction of the fetus. It is in such cases, and at such a critical time, when we are waiting for the measures preparatory to a rapid dilatation and emptying of the uterus to act, and to give us at least a yielding and relaxed cervical canal, if not a partial disappearance of the internal os, that we have found *veratrum viride* most valuable and life-saving, by reason of the various actions of the drug already mentioned.

50 EAST THIRTY-FOURTH STREET, NEW YORK,
November 27, 1896.

THE TREATMENT OF DIPHTHERIA: AN INQUIRY INTO MODERN METHODS EMPLOYED AT BERLIN IN THE SUMMER OF 1896.¹

By LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLIKLINIC, TO THE MESSIAH HOME FOR CHILDREN, TO THE WEST SIDE GERMAN DISPENSARY, ETC.

It was my good fortune to have the opportunity of carefully observing the treatment of diphtheria at Berlin last summer, through the courtesy of Professor Baginsky. Indeed, I was rather anxious to see what changes, if any, had been made since orrhoterapy was generally introduced, and to compare the results with what I saw in the summer of 1894. To one inexperienced with the brilliant results of antitoxin treatment, it would have been a surprise to see the majority of patients when they were admitted to the diphtheria pavilion, and then to note the changes in these patients in the following two or three days. For what on one day would ordinarily be considered a very malignant case and one in which a grave prognosis could be given, would frequently be so transformed by the treatment pursued that the day following one would almost be willing to guarantee a good prognosis.

Professor Baginsky pointed with great pride to this pavilion, and showed me mild cases and convalescent cases. Among the number I saw two cases in which tracheotomy had been performed for urgent laryngeal dyspnoea after an ineffectual intubation. His rule had been, after a proper clinical diagnosis aided by a bacteriological culture had been made, to remove the patient from the quarantine to the diphtheria pavilion, and inject about one thousand, or at times fifteen hundred or even two thou-

sand units of antitoxin. If a concentrated antitoxin of five or ten cubic centimetres contained this number, he preferred it rather than to inject larger quantities of the remedy. If stenosis existed, the patient was quickly intubated, the American (O'Dwyer) method being used; if, however, stenosis persisted and no great relief was afforded in a given time, then and then only was tracheotomy performed; so the cases which I saw were of the worst type.

Whoever has had a large experience in the treatment of mild diphtheria in children will agree with me that a certain class of patients will recover if iron is used locally or internally, bichloride internally, or Loeffler's solution locally; or, in some instances, even with gargling with a strong salt-water solution. In these children, however, we have a strong constitution and the disease is distinctly localized, and with them any form of treatment will succeed, be it hot poultices or ice externally. We frequently have a small patch of pseudo-membrane on a tonsil or in the pharynx, in which a bacteriological examination will show Klebs-Loeffler bacilli, and the disease disappears in two or three days—I might say by itself, or really without any special treatment. Frequently there is hardly any fever, no swelling of the submaxillary glands—nothing save pain on swallowing, and possibly the child may complain of being tired. In my experience these children recover with any form of mild local antiseptic treatment, if we pay great care to hygienic and dietetic treatment, using possibly nasal irrigation and isolation. Indeed, this latter is about the only thing that needs careful attention, for just because these children feel comparatively comfortable their parents neglect them and permit them to roam about, and then we have a great source of mischief, dissemination of the Klebs-Loeffler bacilli and resulting infection.

I wish, however, to take up your time this evening with the consideration of malignant diphtheria. There are three possibly fatal forms, viz.:

1. Laryngeal diphtheria.
2. Nasal diphtheria.

3. Septic diphtheria, which results from prolonged absorption of toxic elements, generated in either the laryngeal, nasal, or even tonsillar type of the disease. Any form of diphtheria can in time develop septic symptoms, so that in this type we are really called upon to deal with a diphtheritic septicaemia rather than with an ordinary form of diphtheria.

Diphtheritic Croup.—Baginsky maintains that laryngeal croup is always a secondary lesion, and is the result of the extension of the diphtheritic process from the nose, velum palatinum, and tonsils.

Viewing it from a practical standpoint, we are summoned, let us say, to a case of urgent dyspnoea, in which laryngeal stenosis due to diphtheritic deposits exists. The voice is hoarse, accompanied by a ringing cough and prolonged inspiration and expiration; the respiration is becoming slower and slower; the auxiliary muscles of respiration are brought into play, and the thorax appears to be considerably enlarged. Still, it is impossible to give the lungs enough air. The intercostal spaces, the jugulum, and scrobiculus cordis at the lower portion of the sternum are deeply drawn in with each respiratory act. The accessory muscles of respiration brought into play are in the neck and thorax—the scaleni, omohyoid, pectoralis, serrati, and sterno-cleido-mastoid muscles. The child appears livid and cyanotic, and is usually covered with a cold, clammy perspiration. If a piece of membrane is coughed out, there may be a temporary relief of these urgent symptoms, but it rarely lasts more than a few hours. Then the symptoms usually reappear, and are more severe than before. Unless mechanical relief—i.e., intubation—is rapidly af-

¹ Read before the section on pediatrics of the New York Academy of Medicine, December 10, 1896.

forded, carbonic-acid poisoning will set in, and our patient will die of asphyxia.

Nasal Diphtheria.—Diphtheritic rhinitis is frequently ushered in by a simple catarrhal rhinitis, in which there is an excess of mucus or muco-purulent secretion. The secretion is of a yellowish or grayish color, and can be removed by syringing the nose or with a small forceps. At times bleeding follows this method: the mucous membrane of the nose appears of a deep reddish hue and is intensely congested. If we examine the membrane we find that it appears under the microscope to be made up of fibrin, in which round cells are embedded, and the bacteriological culture rarely fails to give either Klebs-Loeffler bacilli or streptococci, or both together. At times diphtheritic rhinitis occurs secondarily to the pharyngeal process, and as a result of the extension of this inflammatory condition through the choana: narium or the posterior nares.

The symptoms of occlusion of the nasal passages by these exudations, be they pseudo-membranous or otherwise, the excoriations at the entrance to the air passages (*alæ nasi*), the stinking breath (*fætor ex ore*), the snoring and open-mouth breathing—all point to interference with natural breathing and obstruction in the nasal passages.

It is, therefore, a good plan, knowing as we do that almost all cases of membranous rhinitis contain Klebs-Loeffler bacilli and that they are infectious, to isolate. This would be especially called for in a given case of rhinitis in a family in which a case of diphtheria had already existed, and wherein we might have reason to believe that the simple rhinitis was the result of a new infection and the first symptom of a diphtheritic process. The constitutional symptoms of all forms of diphtheria are alike. The patient has fever, appears somnolent, usually has enlarged submaxillary glands, manifests anorexia, appears intensely anæmic, at times has excessive perspiration, and shows general evidence of a severe illness; if old enough, children complain of intense headaches.

It is not the purpose of this paper to inquire into the physiological effects of antitoxin, or into the manner in which it produces its effects, nor do I care to tire you with the results of its effect on the blood in particular; but I desire to remind you that, knowing as we do that antitoxin has no direct effect on the Klebs-Loeffler bacilli, the bacilli can be demonstrated days after an injection of antitoxin has been given, at the site of infection or where the diphtheria was first seen. This point must not be lost sight of in the treatment, and particularly it must be borne in mind in the question of isolation.

Toxins.—The classification of toxins by Sidney Martin is worth repeating. Martin states that there are two kinds of toxins: 1, that produced in the diphtheritic membrane; 2, that produced in the tissues of the body. The poison of the membrane causes the local as well as the constitutional symptoms of diphtheria, and here antitoxin is most effectual, for it has a specific effect and can control the clinical manifestations which are peculiar to the toxin of diphtheria. If large quantities of this so-called membrane toxin are allowed to enter the system through neglected or delayed treatment, these toxins transform the albuminoid bodies of the tissues and cause tissue poisons or tissue toxins. Martin finds that these tissue toxins can be classified into: 1, those that belong to digested proteids; 2, those that are not proteid substances. The first is an albumose: the second is an organic acid. Albumoses have a specific action on the human organism; when present in small quantity they produce fever, and if allowed to act for any length of time on the human organism they produce paralysis. In very large quantity they produce great exhaustion,

and also fatty degeneration of the heart and kidneys. It is in these cases that antitoxin at times fails, owing to the presence of poisons other than those peculiar to the membrane toxins, and which are by-products produced by degenerative changes in the tissues. That the so-called mixed infections, Klebs-Loeffler bacilli and streptococcus cases, cannot all be cured by injecting antitoxin and antistreptococcic serum, has been repeatedly shown. Monti believes that we shall have to produce artificial mixed infections in animals, infections which shall combine the toxins of Klebs-Loeffler bacilli and of streptococci, and thus probably yield a modified serum.

Emmerich gave the name of immune proteids to the hypothetic bodies formed from body albumin, or, rather, from transformed cells in the human organism, during the transformation or action which follows when specific antitoxin is introduced and reaches the human Antikörper or antibodies of the blood.

If the body becomes gradually habituated to alcohol, no antialcoholin is formed: if to morphine, then when morphine is introduced, no antimorphinin is formed; and still a certain toleration of these poisons is and can be produced by virtue of the living cells, so that heroic or otherwise toxic doses can be taken without killing the individual.

Serum Statistics.—In the fifth annual report of the Emperor and Empress Frederick Children's Hospital, from January 1, 1895, to January 1, 1896, we find among the detailed reports that the greatest success of the year comes from the diphtheria wards since the introduction of the serum treatment. The number of new cases admitted was 538, as against 583 in the preceding year—probably because serum treatment was more extensively used in private practice by physicians. Mortality from diphtheria, first year, 36.56 per cent.; second year, 35.57 per cent.; third year, 41.78 per cent. Average, 37.63 per cent.

In 1894, the first year antitoxin was used, the mortality fell to 27.8 per cent., including cases wherein other forms of treatment were used; in cases wherein serum treatment alone was used, the mortality sank to 16.6 per cent. In 1895 the mortality fell to 11.2 per cent. The number of diphtheria cases examined in the polyclinic was 574, of which 516 were admitted to the diphtheria pavilion; 460 children were treated with immunizing doses of antitoxin, of whom 18 contracted diphtheria rather late, and of a very mild type. Not one single death occurred among the latter.

Prof. C. Fraenkel, in a paper read before the German Hygienic Society at Kiel on September 11, 1896, gave the following statistics: From 1875 until 1886, in all twelve years, there were 529,901 deaths from diphtheria in Prussia, or about 45,000 yearly, or 165 to every 100,000 souls. In 1892 there were 55,746, which is 118 to every 100,000 souls. In 1893 there were 75,322, which is 158 to every 100,000 souls. In 1892 there were 320 deaths in every 100,000 cases of intestinal disorder, 259 deaths from tuberculosis, and next follows diphtheria; but, if we exclude the nursing period or the first year of infancy, and also the years from fifteen to sixty, in which most deaths occur from tuberculosis, then we find that diphtheria causes 98 per cent. of the deaths from all causes beginning with the second and ending with the fifteenth year.

According to a report in the *Wiener medizinische Wochenschrift*, 2,039, September 19, 1896, 1,103 patients were injected, of whom 970 were cured, 133 died, or 12.5 per cent. In 68 cases death occurred during the first twenty-four hours; deducting these, there were 1,035 cases, with 68 deaths, or 5.3 per cent. mortality. The same journal reports that all children treated without serum died, whereas all treated with serum—16 in all—recovered. Of these 16, 3 had laryngeal diphtheria.

The *Wiener klinische Wochenschrift*, 1896, No. 13, reports a series of 229 cases treated by Blumenfeld, with 20 deaths—a mortality of 8.7 per cent.; 60 cases were of the severest character, with laryngeal involvement. During the same period, 48 cases treated without antitoxin gave 11 deaths, or 23 per cent.

Dr. Ladanyi¹ says: "Diphtheria exists continuously with us in Europe since 1870. It is never extinct; now and then only mild forms are seen, and at the same time the most malignant," so that he believes we can exclude the "genus epidemicus."

We must consider what formerly existed when the disease was treated without serum. Under former methods of treatment the course of a mild case of diphtheria without complications showed at the end of the first week, usually at the beginning of the second week, a fall in the temperature and the throat cleared—this in treatment without serum.

If we inject serum, what follows?

In from twenty-four to thirty-six hours, sometimes twenty-four to forty-eight hours later, we have a distinct line of demarcation; rarely do we see a second formation of pseudo-membrane; the temperature falls. The disease is virtually arrested in from twenty-four to forty-eight hours.

The septic cases, those in which, in spite of antitoxin injection, anuria and other nephritic symptoms appear, were known long before antitoxin was discovered, and might be the result of the severer activity of the toxins in the system—affecting already weakened organs. So, for example, feeble children—who prior to infection were anæmic, or tuberculous, or scrofulous, or rachitic, with previous organic disease, or those infected during a convalescence from measles or other disease—are more prone to develop laryngeal stenosis, gangrene, etc., than children previously healthy. We must throw aside all theoretical, statistical, and bacteriological ideas, and be guided wholly by empiric experience and observation. The serum causes, *de facto*, a beneficial influence on the diphtheritic process, and modifies it to the benefit of the patient; and this and this only is a factor which can explain the lower mortality.

The cause of the decreased number of cases can and should be looked for in the number of prophylactic injections given to those probably exposed to diphtheria, and the consequent smothering of the sparks of the disease and resulting immunity.

Virneisel City Hospital at Coblenz² reports 158 cases of diphtheria. Of 150 of these treated with antitoxin, 131 were cured—87.3 per cent.—and 19 died—12.7 per cent. The mortality was zero for those injected on the first day, 31.6 per cent. for those injected on the third day, 68.4 per cent. for those injected after the third day of illness. Six of these patients were moribund at the time of treatment.

Kossel reports in Paris, during 1886, 1,524 deaths from diphtheria. In 1895, 411 deaths, one-third of the former death rate.

Lenharts³ had 137 cases; mortality, 12.4 per cent., and 3 relapses.

König and Mexter⁴ injected an infant, five days old, with 150 units. The child recovered without any unpleasant after-effects.

St. Joseph's Children's Hospital in Vienna:⁵ 138 males, 129 females, in all 267, treated for diphtheria and croup. Discharged cured, 188; improved, 2; died, 61; mortality, 22.84 per cent. Deducting 19 children brought in in a moribund condition, a mortality of 15.73 per cent. would result. Seventy-four

cases required tracheotomy or intubation, some secondary tracheotomy. Of these 74 subjects, 35 were discharged cured and 39 died. The year previous to the serum therapy, the mortality was 50.5 per cent. The mortality in 1895 was, therefore, 27.7 per cent. less than in 1894.

Kinder-Abtheilung des Spitäles der allgemeinen Poliklinik in Wien:¹ In all 108 cases were injected—73 fibrinous, 25 phlegmonous, 10 gangrenous; 27 patients died; 4 moribund were not injected; mortality, 25 per cent.

Paser,² City Hospital of Ulleveld by Christiania, from January till November, 1895, had 392 cases of diphtheria. Bacillus cultures were obtained in each. In 140 mild cases not injected there were no deaths: 212 very malignant cases injected gave a mortality of 21, or 9.9 per cent. Before the serum period, in 883 cases coming under treatment on the first and second day, the mortality was 153, or 17.3 per cent.; in 713 cases admitted from the fourth to the seventh day of illness, 224, or 30 per cent.; in 418 cases admitted from the fifth to the sixth day of illness, 128, or 30 per cent. Sixty-nine patients had stenosis of the larynx; of these 41 were operated upon. In 40 intubations or tracheotomies secondarily there died 10 per cent. Before serum therapy the mortality in operated cases was 78.4 per cent. The epidemic during the serum period was a serious one.

Professor Monti gives a series of 72 cases. Of these 29 had laryngeal symptoms, with 6 deaths, or 8 per cent.³ He gives large doses, or from 2,000 to 5,000 antitoxin units.

Vadova⁴ reports 240 cases of prophylactic injections resulting very favorably.

Abba⁵ reports a series of cases, with a mortality of 4 per cent.; cured, 96 per cent.

Dr. Ramelle uses injections of serum per rectum, having cleansed the parts previously. My own experience is decidedly against the use of antitoxin per rectum, for in each case it produced no effect whatsoever.

Ewing James, in an article on "Leucocytosis in Serum Therapy," states that one-half hour after an injection of serum the white corpuscles increase quite rapidly in number. Those increased are chiefly mononuclear cells. Polynuclear cells stain easily with gentian violet after serum injection. If, however, this latter reaction of staining does not occur, then the prognosis is very bad.

In our country John S. Billings⁶ has also studied this leucocytosis, and found the condition to be similar to that seen in scarlet fever and pneumonia, the increase noted by his investigation being in the polynuclear forms.

The literature of favorable antitoxin reports is so overwhelmingly large, that I hope to be pardoned if I do not quote all. In our country Louis Fischer, H. Biggs, A. Campbell White, Paul Gibier, and, later, A. Caille, and Edwin Rosenthal, of Philadelphia, are worthy of notice. A. Seibert and F. Schwyzer⁷ report a series of experiments to prove the toxicity or non-toxicity of antitoxin. The authors found, 1st, that antitoxin was innocuous; 2d, that carbolic acid contained therein as a preservative was non-toxic; and 3d, that there was great danger of injecting air.

Adamkiewics⁸ experimented on guinea-pigs with carbolic acid, air, etc. His conclusions are that air can be injected into a vein and taken up by the veins

¹ Wien. med. Presse, No. 38, 1896.

² Munch. med. Wochenschrift, No. 19, 1896.

³ Centralbl. für Kinderheilkunde, No. 1, 1896.

⁴ Zeitschrift f. pract. Aerzte, No. 1, 1896.

⁵ Fifty-fourth Annual Report for year 1895.

¹ Third Annual Report for 1895.

² All. med. Zeit., No. 16, 1896.

³ Archiv für Kinderheilkunde, vol. xxi., 1896.

⁴ Gaz. degli Osped., 1896, p. 8, 77.

⁵ Turin Riforma Medica, 1896, p. 590.

⁶ MEDICAL RECORD, April 25, 1896.

⁷ N. Y. Med. Journ., May.

⁸ Wien. med. Presse, May 3d.

if injected slowly, and that it will be eliminated without having done harm. Thus, 10 c.c. produced no ill effects when injected slowly, whereas 2 c.c. injected forcibly and at one operation proved instantly fatal. He believes the virulence increases with the force used.

In our country great credit is certainly due Dr. Biggs for his activity in generalizing the antitoxin treatment after it was introduced. While I have used large quantities of Schering's serum, and while I am willing to stand by every word that I have published in regard to its efficacy, I have recently used domestic antitoxin and was pleased with its effects.

The American Pediatric Society's collective report for 1896 contains 3,384 cases, of which 1,256 were laryngeal, or 37.5 per cent. Operations were done in 565 cases, as follows: intubation in 533 cases, with a mortality of 25.9 per cent.; secondary tracheotomy in 9 cases, with 7 deaths; tracheotomy alone in 32 cases, with 12 deaths, or a mortality of 37.4 per cent.

Rosenthal, of Philadelphia, is quoted with 18 operations and 16 recoveries.

Booker, of Baltimore, had 17 operations and 17 recoveries.

O'Dwyer says: "In my last 100 cases, 70 without serum, the mortality was 73 per cent.; in my last 30, with serum, the mortality was 33.3 per cent."

The report of the American Pediatric Society is certainly incomplete, for I sent a record of fifty cases, most if not all of which were seen in consultation in this city with some very eminent gentlemen, and these have been omitted. In a paper read by me before the German Society of this city in April, 1895,¹ my mortality in a series of 225 cases injected was stated as equivalent to 15½ per cent. Since that time 100 carefully recorded cases, mostly in private practice, still give me a mortality of 7 per cent. These, however, were septic and moribund cases.

The report of the London *Lancet* special commission, published July 18, 1896, is worth reading.

A large number of specimens of antitoxin, from Schering's laboratory, from Behring's, and from Burroughs & Wellcome's in England, also some from French laboratories, were tested to determine the real merits of the various brands, and the German specimens were found the best of all.

As there are various forms of diphtheria so must there be different methods of treating them, and we accordingly have, first, a treatment for mild forms, in which I believe no antitoxin is required, and in which the disease is localized and there is no apparent general systemic infection. In such cases we can confine ourselves to local treatment.

Local Treatment of Mild Forms.—We know that tearing off pseudo-membrane is always followed by bad results; so also is cauterization of necrotic membranes, whether by acids, by Paquelin cautery, or otherwise, and that these heroic measures are usually rewarded by a spreading of the disease, *i.e.*, an increase in the pseudo-membranes. Baginsky warns against this method of treatment: so also have Jacobi and many other authorities. Loeffler, however, recommends that his mixture of alcohol (60), toluol (36), and liquor ferri sesquichloridi (4) be applied locally at the site of infection. After going into all manner of local applications, Baginsky returns to sublimate, which he still uses for local antiseptics and cleansing. For the cleansing of the nose and throat, Professor Baginsky uses a lukewarm table-salt solution (0.5 to 1 per cent.). This is to be used with care, owing to the risk of entering the Eustachian tube and producing disagreeable otitis media. The only precaution I take is not to exert too great hydrostatic pressure during irrigation: I usually tilt the tip

of the syringe toward the centre of the nose. It is in this class of cases that bichloride of mercury in one-half-per-cent. solution, applied hourly on cotton, can be used to advantage; or tincture of chloride of iron may be applied on cotton hourly, besides stimulating the body with tonics, fresh air, and concentrated food. Should, however, any complications arise, then the disease must be treated on general principles. Great stress should be laid on the necessity for immediate burning in the fire of all swabs used.

Serum Treatment of Malignant Forms.—The moment we see that we are dealing with a general infection, with fever, enlarged cervical glands—in fact, that the whole system participates, then no time should be lost. Antitoxin should be at once injected. Children up to two years of age, with pseudo-membranes in the pharynx, who have not yet assumed a necrotic tendency and who do not show laryngeal stenosis, should receive 500 antitoxin units; but if any laryngeal stenosis exists, or if necrosis in the pharynx exists, then from 1,000 to 4,000 units must be injected at once. In children in whom the disease has already existed a long time, and in whom there are enlarged lymphatic glands, hoarseness, and laryngeal stenosis, 2,000 antitoxin units should be injected at the commencement of the treatment and the result carefully noted. If no improvement is visible in twenty-four hours, it is wise to follow the first injection by a second one, of either 1,000 or 2,000 units. In older children it is wise, in very malignant cases, to commence treatment by injecting 3,000 antitoxin units. The symptoms of improvement which should guide us as to the necessity of repeating the injection of antitoxin are a rapid decline of the fever, throwing off of the false membrane, or an apparent loosening of this otherwise firmly adherent pseudo-membrane, with general constitutional improvement and limitation of the pseudo-membranous patches.

Baginsky states that although he has seen urticaria, erythema, and at times inflammation of joints following injection, the patients all improved in time. Albuminuria, heart lesions, and nephritis he does not consider the results of antitoxin injections when they occur during orrhoterapy, for he says these complications existed long before antitoxin was known.

Besides the injections of antitoxin, active local treatment is required, and Baginsky believes an ice collar should be applied and small pills of ice or ice cream taken internally whenever possible, *i.e.*, if the child is old enough. The internal medication consists chiefly of cinchona and iron, or the ethereal tincture of iron, in conjunction with a strengthening diet. As a local application the following may be used with a brush every hour or two:

R Ammonie sulfo-ichthyolic.	.	.	.	10.0
Hydrag. bichl. corros.	.	.	.	0.1
Aque. dest.	.	.	.	100.0

For infiltrated cervical glands, mercurial inunctions or an ichthyol-lanoline salve, 10 to 20 per cent., several times a day, are of decided advantage in some cases.

Treatment of Septic Forms.—Having given the required amount of antitoxin, which in some cases is as much as 3,000 or 4,000 antitoxin units at the first injection,¹ we must attend to local treatment as given above and watch for cardiac adynamia, which manifests itself by feeble pulse, muffled heart sounds, and

¹ In diphtheritic laryngeal stenosis, when septic symptoms exist and when a large quantity of antitoxin is required, it is advisable to inject as small a quantity as possible, highly concentrated. For this purpose potent and extrapotent antitoxin have recently been made, each cubic centimetre containing 300 and 400 antitoxin units respectively, so that 5 c.c. would be in the last instance equal to 2,000 a. u. and 10 c.c. would be equal to 4,000 a. u.

arrhythmic cardiac action. If we are called upon to treat this condition, then tincture of strophanthus, one drop for each year of age, may be given three times a day or oftener; digitalis, Squibb's fluid extract, cautiously used in one-drop doses, is advantageous. It should be remembered, however, that the use of digitalis must not be prolonged, for it disturbs the stomach, and also that its action is cumulative. It is in this condition that wine, champagne, or whiskey is so urgently called for, and as much as half a pint of whiskey may be given daily, preferably by giving milk and whiskey; or eggs and wine or eggs and brandy may be used instead. We must also think of the value of caffeine, camphor by hypodermic injection, nitroglycerin, and mustard baths when indicated.

Oxygen is a most valuable adjunct in this condition, especially so if dyspnea due to a complicating pneumonia exists, and even when no pneumonia existed I have seen great benefit following its use. Such valuable remedies should not be entrusted to inexperienced parents or to persons not familiar with their use, and therefore it is always wise to have a trained nurse in charge of these cases. Whether we give oxygen by the mouth or the nose is immaterial, providing we give it; I certainly prefer to have it administered through the nose than to have a struggling child bite and break the glass mouthpiece through a parent's ignorance in forcing the glass tube between its teeth, as recently I saw done while entering a room in a case in which I was called in consultation.

Method of Using Antitoxin.—As illustrating my method of using the antitoxin, permit me to cite the following cases:

Samuel Roberts, two years and nine months old, 193 Myrtle Avenue, Brooklyn, was seen by Dr. Bienenstock at 2:30 A.M., September 1st. The child had a croupy cough, and the throat showed yellowish deposits on the pharynx and tonsils, so that the clinical diagnosis of diphtheria and laryngeal croup was made. The child was placed on caffeine and benzoate of sodium, which seemed to reduce the temperature, but at 8 A.M. the stenosis of the larynx was so increased that I was called in consultation. I saw the child on the morning of September 2d, and met Dr. O'Connell, of Brooklyn, besides Dr. Bienenstock. After consultation we decided that the main point was to give mechanical relief for the stenosis, and I intubated about noon. Besides putting an ice collar around the child's neck and leaving the mouth alone, we agreed to use rectal feeding. No antitoxin was given at this first consultation. We left the tube *in situ* for about six days. The temperature having gone down to almost normal and the child being in a fair condition, the stenosis having entirely disappeared, we decided to extubate. I extubated on September 6th, at 9:30 A.M., waited a short time, and found no audible stenosis. We still ordered cold to the neck and continued the expectant plan of treatment. When I got to New York, about an hour later, I was summoned as urgently as possible to reintubate. Meanwhile, Dr. S. P. Truax, of Brooklyn, had been called, besides also the attending physician, Dr. Bienenstock, and the child received a little warm sweet oil in its mouth to relieve the collapsed condition. At 1 P.M. I reintubated, when the stenosis at once disappeared and the child's condition again improved. It was then that on talking over the treatment with the attending physician I decided to use antitoxin. I injected 5 c.c. of Aronson's double antitoxin, of the strength of 1,000 units, in a careful aseptic manner in the interscapular region. Besides rectal feeding, using concentrated meat and egg emulsion plus some stimulation of brandy, we decided to leave the mouth alone. It was the rule to order a saline enema of the ordinary warm salt solution to cleanse the rectum of any accumulated

fecal matter prior to each nutrient enema. On September 14th I extubated; the temperature remained normal, and on September 20th the attending physician informed me that the child had been taken into the park, that the voice had returned, that there had been very little emaciation, and that the urine was normal. The patient was discharged as cured.

A child, M—, about five years of age, was seen by me in consultation with Dr. Martin Goldberger, of this city, on Tuesday, October 13th. I found that the child, according to the attending physician, had been ill two or three days. When he first saw the case he diagnosed diphtheria and, recognizing it to be malignant, gave an injection of 1,000 units of antitoxin. The child did not improve enough to satisfy the doctor, and he found on careful examination that he was dealing with a septic type of the disease. Large membranes filled the alae nasi; the temperature was 102.4° F.; pulse, 110; respiration rapid; general appearance good. The child was a mouth-breather, evidently from the presence of adenoids. A very distressing labored breathing with dyspnea was noticeable, and to all appearances the child was suffocating. On holding the nose tightly shut with my fingers, the breathing by mouth appeared easier, and it was evident that the noise during respiration was due to the obstruction of the current of air by pseudo-membranes in the nose and naso-pharynx. The examination of the throat revealed enormous hypertrophied tonsils. There were loss of appetite, slight constipation, no vomiting, some thirst, and intense headache. On considering all points in this case, besides the somnolent condition, I decided to inject a large quantity of antitoxin and gave 2,000 units of Aronson's. The temperature at my first visit was 102.4° F., and gradually crept up to 105° F. on the second day. The temperature was always taken in the rectum. Both Dr. Goldberger and myself suspected pneumonia, but a careful physical examination of both lungs proved negative. Remembering, however, the possibility of a pneumonia centralis, we cautiously used stimulants, ordered the expectant plan of treatment, and gave oxygen. In this case it required from thirty-six to forty-eight hours for the temperature to fall, and then it fell by lysis, *i.e.*, gradually. The swelling of the submaxillary glands was not very marked. The mechanical treatment of forcing a permanganate-of-potassium douche, 1 to 1,000, through the nose was rewarded by bringing away large masses of tenacious membrane, and it was ordered several times a day. In this child the constant drowsiness and sleeping, the large pseudo-membranes in the pharynx and tonsils, and rhinitis, besides no food being taken, made the prognosis very grave. The treatment was followed up by careful stimulation and nutrition. The patient was discharged cured five or six days after my first visit. The urine was examined several times and showed nothing abnormal, save the usual manifestations of slight albuminuria, which subsided without further treatment. A little earache developed about ten days after the treatment was first commenced, which we attributed to possible entrance of fluid from the nose through the Eustachian tube during the mechanical irrigation. Dr. Goldberger informed me that the child had completely recovered and was again out of doors.

In a paper read before the Medical Society of Pennsylvania, May 21, 1896, Edwin Rosenthal, of Philadelphia, gave a series of interesting reports of reduced period of intubation consequent upon the serum treatment of laryngeal diphtheria. His conclusions are: 1. The duration of intubation varies. Some cases were extubated after one-half hour; others after forty-eight hours; but his average was one hundred and twenty hours. European observers—Bokai, Von Ranke, Heubner, and American observers—

O'Dwyer, Fischer, Rosenthal, all agree as to the considerable saving in the length of time the tube is required now with the use of serum, as compared with the time that was formerly required. 2. The operation of tracheotomy is avoided, and intubation, when used in conjunction with antitoxin, may be considered to effect a cure even in long-continued cases (five days and over). The use of serum has placed intubation on a definite basis by: (a) lowering the mortality; (b) shortening the period of intubation; (c) avoiding the major operation of tracheotomy.

Dr. Jacobi, speaking of antitoxin, says: "Nor is there a practitioner but has at present the right or rather the duty to give it a place among his most reliable remedies. If present experience is confirmed by many more similar facts, it will be entitled to be claimed as a specific, though it have not the power to cure every case of diphtheria, any more than quinine cures every case of malaria, or mercury of syphilis. Paralysis is no less frequent in antitoxin cases than it was formerly; it may be that many cases which survive with antitoxin and develop paralysis would not have lived to become paralyzed under a less satisfactory treatment. At all events, there are but few left who maltreat both the child and the throat by the former cruel methods of local applications and cauterization." He quotes Baginsky, Fischer, and others.

Dr. A. Campbell White, while physician at the Willard Parker Hospital, made some very interesting experiments, in which he tried to find the most useful antiseptic to be used in local irrigation, and speaks highly of the salt-water solution. He says: "We have found no antiseptic solution which has so materially shortened the duration of the diphtheritic membrane or the necessary period of isolation of the patient." His interesting report is contained in the New York health department bulletin No. 1. This I can fully endorse, as a result of careful personal observation.

After-Treatment. By this I mean that following antitoxin the matters to be especially considered are: 1. Supporting diet. 2. Careful cardiac tonics. 3. Stimulants only when called for. 4. Nasal irrigation. 5. Local antiseptics, rarely called for. 6. Attention to bowels and urine. 7. Treatment of complications as required. 8. Strictest attention to hygienic measures, insuring fresh air, bathing when required, absolute cleanliness as to clothes and linen. 9. Immediate disinfection, or, preferably, the total destruction by burning or steaming of everything used in contact with the patient, especially swabs, etc. 10. Isolation until all bacilli have disappeared, blood-serum culture to determine this point. 11. If it is a laryngeal case, then my plan is to feed per rectum whenever possible, especially when nurses are handy, by means of peptonized foods, such as milk and eggs, avoiding stimulants per rectum.

I regard strychnine as a most valuable adjunct in the cardiac feebleness, and I believe it will increase the muscular tone of the heart better than any other drug.

Feeding in Diphtheria.—I make quite a distinction in feeding with and feeding without intubation. My success is greatest and my complications are fewest when I have those children that are intubated fed per rectum and per rectum only. The so-called Schluck-pneumonia is in most instances really only a mechanical pneumonia, due to fluids entering the trachea and alveoli through the tube while *in situ* during intubation, and the question of leaving the tube in the larynx is to-day not to be considered as formerly or in the pre-antitoxin days. I rarely find it necessary to leave the tube in the larynx more than from three to five days, and during this time we can safely use the rectum for absorption. It is important to remember that the rectum merely absorbs and does not digest. Hence we must peptonize foods. On the other hand,

if we are not dealing with an intubated case, we can safely feed per mouth. I use concentrated foods, some of which are beef, veal, and chicken broths, chicken jelly, clam or oyster soup, expressed beef-steak juice, yolk of egg with milk and brandy or whiskey if indicated. I feed every two or three hours, using small quantities, one, two, or three ounces at a time.

Nasal feeding: In obstinate children we frequently have great difficulty in feeding per mouth, and rather than exhaust a child by using force, and knowing that we must sustain life, it is frequently advisable to feed through the nose in the following manner: Lay the child flat on its back, and have the nurse hold its arms and head; pass a small rubber catheter well lubricated (I use glycerin for this purpose) into the nose, and by pushing it we can easily enter the pharynx, œsophagus, and stomach. I attach a glass funnel to a piece of rubber tubing, such as we ordinarily use for lavage, and, having entered the stomach, allow the peptonized milk, which has previously been prepared and put into the funnel, slowly to enter the stomach. Nasal feeding I have used only when the rectum showed irritation from rectal feeding, giving symptoms of tenesmus, etc., and when I wished to give the parts rest. It is distinctly understood that I do not advise nasal feeding in nasal diphtheria.

If a cathartic is called for, I give either calomel or, if the child is old enough, a few tablespoonfuls of liquor of citrate of magnesium or a few spoonfuls of Villacabras water. Locally, ice-cold cloths or an ice collar are exceedingly valuable. I do not use sprays or gargles of any kind, as a thorough nasal irrigation suffices to gargle the vault of the pharynx.

While describing medicinal treatment and orrhotomy, it is, I believe, proper to mention mechanical treatment; but this is most urgently called for in laryngeal stenosis, and it is hardly in the province of this paper to give the details of intubation, the uses of which are so well understood by most of us.

187 SECOND AVENUE.

NOTES ON APPENDICITIS.¹

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Frequency of Occurrence of Appendicitis.—In order to make an estimate of the number of appendicitis cases that develop annually in the United States, I wrote to several general practitioners who are in the habit of diagnosing appendicitis, and asked them to report upon the new cases that had come to them in one year, between the dates of July 1, 1895, and July 1, 1896. Eight physicians have answered my query, and the average number of cases for each one during that period was four. In order to make an estimate of the number of appendicitis patients who die under medical treatment, I analyzed the findings in one hundred consecutive operative cases of my own, and found that the death rate in that particular series would have been about twenty-eight per cent. eventually, but not necessarily in the first or second or tenth attack. The estimate was based upon these findings:

100 Consecutive Operative Appendicitis Cases.	Estimated Deaths under Medical Treatment.
7 cases of tuberculosis and cancer.....	5
1 case of strangulation of bowel by appendix adhesion band.....	1
38 abscess cases.....	15
8 cases with hard incarcerated concretions.....	2
12 cases of occluding stricture dams.....	5
34 cases in common interval stages or in acute stages before advent of pus.....	0

¹ A paper read at the meeting of the New York County Medical Society, November 23, 1896.

This estimate, I presume, is low enough to please the most conservative.

Incidentally, it may be interesting to know that the surgical death rate in this series of one hundred cases was two per cent. A fair criticism will be made that only the worst cases get to the surgeon. To this I answer that the list contains practically all of the cases of any sort of severity that occurred in the practice of some physicians of my acquaintance, and consequently an average medical death rate of twenty-five per cent. would be low enough, remembering always that this refers to eventual death rate, and not to the rate in first, second, or tenth attacks.

According to Polk's "Medical and Surgical Reporter of the United States for 1896," there are rather more than 103,000 physicians in this country. Instead of allowing four new cases of appendicitis annually for each one, let us put the number at two, which gives 206,000 new cases of appendicitis annually in the practice of physicians in the United States. Twenty-five per cent. death rate for causes given in my stated analysis would show 51,500 deaths from appendicitis annually, at an estimate which is probably too low. It is my plan to obtain statistics from a much larger number of physicians, but it is necessary for me to know personally that the physicians to whom application is made are in the habit of recognizing the cases. For instance, one physician of my acquaintance who has a deservedly large practice because of his fine general qualifications, is reported to say that he has never seen a case of appendicitis. I have operated upon two cases of appendicitis which had been under his treatment in previous attacks, and I know of two other cases that terminated fatally under his treatment, which had been diagnosed as appendicitis by other physicians. He is certainly not one of the men from whom I can obtain statistics, although he is the sort of man whom the best class of people depend upon for trustworthy information in regard to the subject. With a stubbornness which has won for him success in overcoming obstacles in life, he maintains that appendicitis is a fad, and his cases of that disease do not appear as such in the vital statistics reports.

Etiology.—Appendicitis begins at an infection atrium. The infection atrium is produced in the mucosa or in the serosa of the appendix. An infection atrium is apparently produced in the mucosa of the appendix by traumatism inflicted by the right psoas muscle commonly, by traumatism inflicted by a concretion frequently, by traumatism inflicted by entozoa occasionally.

An infection atrium is also produced in the mucosa of the appendix by bacterial inflammation of any sort which injures the protecting epithelial layer.

An infection atrium is produced in the serosa of the appendix when destructive inflammation extends from the serosa of some neighboring structure to the serosa of the appendix.

When an infection atrium has allowed the entrance of bacteria or toxins or both into the tissues of the appendix, the results are in character similar to the results of similar invasion of the colon, but they are different in degree. The reasons why they are different in degree are not more than two or three, but these are of determining importance.

First reason: The narrow outer tube of the appendix will not allow the lymphoid layer and the connective tissues of the inner tube to swell quickly and freely, and the inner tube is therefore subjected to compression anæmia within the confining outer tube. Compression anæmia so disables the compressed tissues that they readily fall a prey to bacteria.

Second reason: The blood supply of the appendix is principally from a solitary terminal artery. Branches of this artery are occluded by infective in-

flammation. Bacteria attack tissues which are deprived of their blood supply when arterial branches of the solitary appendix artery are occluded by endarteritis.

The two reasons above given do not apply to the colon, and that explains why the colon so often escapes the common destructive inflammation to which the appendix is subjected.

In appendicitis it is not necessary to have "anything in the appendix" excepting bacteria, for that is all that we have in the bowel in cholera infantum. The biggest thing that ever gets into the bowel is the colon bacillus, when that bacillus is favored by conditions for its development at the expense of structures which cannot defend themselves. The reasons why the appendix is a target for the colon bacillus are the ones that I have given. We see why it cannot defend itself as the colon does.

The principal reason why appendicitis occurs less frequently in women than in men seems to have been explained by Robinson, of Chicago, who has shown that the appendix in women much more frequently hangs over into the pelvis, out of the way of psoas traumatism.

Diagnosis.—The diagnosis of appendicitis is made principally by expert palpation, and secondarily from the testimony of the subjective symptoms and vital signs. The most important thing to bear in mind in this connection is the fact that the temperature of the patient is a matter of no consequence as giving any clue to the condition of the appendix.

Palpation.—Some physicians say that they cannot palpate a normal appendix; other physicians fear that no one can do it. Gynecologists, who are in the habit of palpating ureters and Fallopian tubes, find it an easy matter to palpate normal appendices after they have adopted a correct method of procedure. Some surgeons palpate most of their interval appendices in the presence of an audience, and state their findings before operating. It is all a question of acquired skill and method.

In attempting to palpate the appendix in an acute progressive case, we have to deal with a board belly so rigid that deep palpation is difficult and dangerous; but when board belly makes palpation difficult palpation is unnecessary, because we already have testimony enough. Board belly is the principal differential sign between acute appendicitis and salpingitis.

Pathology.—When a physician is uncertain whether he shall turn an appendicitis case over to the surgeon or over to the bacteria, he must be informed upon the relative dangers from the two entities, and the question is decided upon the known pathology of appendicitis and the known qualifications of the surgeons in any locality. The physician cannot avoid making a study of these two real factors in the problem, because it is absolutely a question of life or death for some of his patients—perhaps for a member of his own family.

The pathology of appendicitis which I offered to the profession at Washington in 1893 has been pretty generally accepted, or corroborated since that time, in this country and in Europe. It is all contained in my book upon the subject, so I shall this evening simply give object lessons in the known pathology, by passing about a series of type specimens illustrating the various stages of appendicitis, from early infection to rhexis and complete gangrene, and from early infection to complete connective-tissue replacement of all structures of the appendix excepting its peritoneum—an ending reached by the largest proportion of all appendicitis cases after passing through the dangers of acute infection. There is no occasion for the display of any speculative philosophy or any personal feeling in discussions upon the subject of appendi-

eritis. It is all a question of knowing the pathology or not knowing it.

Catarrhal Appendicitis.—There is no specimen of catarrhal appendicitis in the group, because I have not as yet operated upon any case in that stage. There is no doubt that catarrh of the mucosa occurs in the incipency of infective appendicitis, and it must occur simultaneously with catarrh of the colon and cæcum; but apparently it causes no symptoms which would lead me to make a diagnosis of appendicitis. When we have symptoms of appendicitis sufficient to lead me to advise operation, the case has passed beyond the catarrhal stage. If any one can make up his mind that it is right to operate in the catarrhal stage in any given case, and if he will present me with the specimen, I shall be very thankful for it, as such a specimen is very much needed for the completion of my series. The diagnosis of catarrhal appendicitis is constantly being made by physicians who have not obtained a series of specimens. Those of us who are in the habit of getting the specimens find that the cases diagnosticated at the bedside as catarrhal appendicitis are cases with big or little concretions, cases with walled-in sloughs and perforations, cases with big or little ragged ulcerations of the inner tube, cases with stricture dams and empyema and tuberculosis. These are the things that we find when we really look to see what is the matter with the appendix.

The term "catarrhal appendicitis" is a narcotic term, which dances before the eyes of consultants and pleases them. We must use persistent effort to eradicate it from the consulting-room. It is almost as vicious a narcotic term as "malaria" in post-partum infection cases, and both terms leave a black train of deaths in their wake. They are more deadly in their effects than the narcotic word "exhaustion," which is made to take the place of the painful word "septicæmia" in descriptions of fatal cases following operation. The word "exhaustion" painlessly shifts the responsibility from the live surgeon to the dead patient, and does little damage excepting to morals.

Medical Treatment.—The cases of acute infective appendicitis with big or little concretions, with walled-in sloughs and perforations, with big or little ragged ulcerations, with stricture dams closing off mucous cavities, may all subside one or many times under various kinds of medical treatment. The ice pack and catharsis are effective with some physicians. Morphine treatment and locking the bowels are effective with other physicians. Patients often die under any form of medical treatment in the first attack, or in the second attack, or in the tenth attack. Patients who do not die under any sort of medical treatment often lose much valuable time in bed. No one can foretell which patient will recover, which one will spend much or little time in bed, which one will die. That is always determined afterward. When we lose a bright boy whose case did not present "symptoms calling for an operation," we say: "There! that was a case for operation!" The diagnosis of the nature of any case of appendicitis is made afterward. The reason why no one can foretell the outcome in any case of appendicitis is because the abdominal wall is opaque.

Surgical Treatment.—The surgical death rate of two per cent. in the series of one hundred consecutive cases quoted this evening, could evidently have been avoided if the two cases could have had operation at a time which I would have chosen: but circumstances prevented, and so these two men were buried. If circumstances had prevented all of the one hundred cases from having operation, about twenty-eight of the patients would have been buried for reasons perfectly clear and evident, as shown by the findings at operation.

Immediate Operation.—In view of the fact that no one can describe the appearance of an infected appendix until he has looked at it, in view of the fact that each hour of progress in an advancing case allows wider infection of structures, in view of the fact that each subsequent attack leaves the patient a little farther away from safe and easy operation—I long ago stated the rule that we should isolate an infected appendix as soon as an accurate diagnosis could be made, provided that the case was in skilled hands and that the case was otherwise within surgical limitations. I was promptly misquoted. Opponents who were not quite familiar with the significance of the word "rule," made it appear that I was not wise enough to bend to justifiable exceptions. If a patient has diabetes or a dilated heart or sclerotic arteries, I see to it that a consultation is called, and I listen well to the opinions of physicians if they possess the judicial temperament and if they really know something about genuine surgery. I was widely misquoted on the subject of removal of "slightly infected or normal appendices." This began as good-natured banter on the part of friends, and ended as malignant quotation by men who found that they could make use of it. The idea of removing normal appendices I have always opposed in speaking and in writing. The reason for my opposition is because a perforating wound of the bowel is made by removing a normal appendix. The danger is small in skilled hands, and yet it is enough to forbid us from subjecting a patient to that risk until acute infective appendicitis makes the matter one of comparative dangers for the patient. Any one who has been led into believing that I have at any time advocated any other idea, is not familiar with the plane on which my surgical work is conducted. As to "slightly infected appendices," they are not sent to me. I have no patients of my own. There is no need for discussing the question.

The Nearest Surgeon.—Some physicians who have lately come to believe in the rule that cases of true infective appendicitis should have the infected appendix isolated, say that they send their cases to the nearest surgeon. The nearest doctor, or the nearest lawyer, or the nearest broker, or the nearest engineer are all lotteries. Some surgeons not previously famous have become famous through their results in appendicitis work. Other surgeons who had deservedly acquired a fine reputation, have suddenly sent it to smash on appendicitis cases, and some of them have told me that they were discouraged and that they did not want to operate upon another case. The nearest surgeon, then, is not sure to make surgical treatment any safer than medical treatment in appendicitis. Ambitious and successful surgeons from the smaller towns have sometimes gone to some great city to see a celebrated general surgeon do appendicitis work, and have returned to their homes with methods which blasted their reputations and stopped all operating for appendicitis in their vicinity. On the other hand, a Hartford surgeon, at the last meeting of the American Medical Association, reported on a series of one hundred consecutive appendicitis operations of his own, showing a mortality rate of two per cent.

Mistakes in Diagnosis.—Surgeons of proper experience do not make mistakes in diagnosticating appendicitis more often than they make mistakes in diagnosticating fractured bones.

The Short Incision.—In order to avoid scar marring and to reduce the liability to post-operative ventral hernia, I gradually shortened the length of the abdominal incision to one and one-half inches for most of the cases without abscess. This idea, carelessly repeated by surgeons who would not willingly do me a harm, was made to assume different forms. Some said that it was a hard-and-fast rule. Others

thought that the method was to be applied in pus cases. Others thought that I wished to have beginners do that sort of work. The rule is this: Every surgeon should work through as small an incision as he can use safely and well for the patient's best interests. If the surgeon feels that he needs an incision ten inches long, by all means let him use that incision. The blunt-dissection or "gridiron" method of entering the abdominal cavity, I feared would require too large an incision; but that was a preconceived notion. Dr. McBurney, in his admirable contribution to the subject in Dennis' "Surgery," says that in proper cases the incision through the deeper layers of the abdominal wall need not be more than two inches in length; and since reading that opinion I have employed the blunt-dissection method in nearly all of my interval cases with adhesions, making the incision one and one-half inches long through all structures of the abdominal wall.

Abscess Cases.—In cases of appendicitis with abscess, I have made it a rule to break up adhesions in a search for multiple abscesses and for the infected appendix, exposing the free peritoneal cavity without hesitation. Our resources to-day allow us to do that very safely indeed, but one must not attempt it unless he has confidence in his resources. Arguments pro and con before the medical societies are farcical. It is all a matter of individual art. Certain details of treatment in abscess cases have passed out of the realm of individual art and belong to science. I will refer briefly to two points.

Gauze Packing.—When we accidentally leave a gauze sponge in a patient's abdominal cavity and close the incision, the patient is likely to develop ileus. When we put gauze packing into a patient's abdominal cavity, leave one end protruding, and term it a drainage device, this patient is also likely to develop ileus, because as a layman he does not know the fine distinction in nomenclature between "accident" and "drainage device."

Iodoform Gauze.—When an operator has employed iodoform gauze in the abdominal cavity, he sometimes asks me to see the case a day or two later, and a conversation something like this follows: "I wanted to have you see the case, because the patient does not seem to be doing well. His temperature is only a little elevated, his tongue is pretty clean, but his pulse is altogether too rapid and he seems to wander a little in mind. The case was not a bad one at all, but the patient is not doing well." In reply I say: "Take out your iodoform gauze instantly. Remove iodoform from the wound with sterilized oil. Examine the urine for free iodine." A few days later we again meet. The doctor says: "By George! you were right about that iodoform poisoning, and I remember now that I lost a boy with similar symptoms a year ago. But why does Dr. X—not lose cases from iodoform poisoning? I learned the method from him."

In fighting for reform against some of our earlier errors in appendicitis work—late operation, counter-incisions, large incisions, inaccurate suturing, gauze packing, incomplete work, ligation of the appendix like an artery—I seemed to be working against the consensus of opinion in surgical circles; but now that the contest is about over, many surgeons inform me that they were working along the same lines, but so quietly that their popularity was not endangered.

I have not allowed any consideration for popularity, any influence of friends, or any attacks of antagonists to interfere with my work. I saw patients dying, and patients developing post-operative ventral hernias, and patients subjected to two or three operations—and that was stimulation enough to carry on reform work. The atmosphere has been pretty thick with smoke at times, and at one meeting of the surgical section of

the Academy of Medicine the section got itself into the curious predicament of putting the stamp of disapproval upon methods which had given the best statistics at that time. One of the most eminent surgeons, whom we would all like to revere, so far forgot his dignity as to call into question the integrity of my statistics, instead of leaving that sort of thing to a class of men who could do it without injury to the academy. The spirit of scientific investigation was not abroad that night, and the meeting was dominated by quite ordinary motives. The profession at large understood.

Medical Statistics.—At the present time we are much in need of medical statistics of appendicitis. None have been given to us in a scientific way. There have been a number of reports of treatment of series of single attacks, some very favorable and some very unfavorable. What we need is a report upon one hundred consecutive cases of appendicitis treated medically for a period of two years, with full notes on recurrent attacks, loss-of-time rate, interval palpation findings, interval complications, deaths, and post-mortem findings. The time that I have set is very short, but enough things happen to the average appendicitis case in two years to make an instructive report. The statistics must come from men who make the diagnoses accurately, and who make skilful palpation of appendices in the intervals between attacks. Physicians who take the patient's statement of the case without making careful painstaking examination, must not place their cases in the report, because there is a marked tendency on the part of patients who fear operation to say to their physicians that they feel perfectly well whenever a twinge of pain attracts their attention to the seat of the old trouble. The statistics for such a series as I propose cannot be collected in the cities where skilled surgical services are at hand, because we already know that the medical death rate from such unavoidable factors as concretions, stricture dams closing off mucous cavities, abscess, and tuberculosis, is so much larger than the surgical death rate that the medical treatment of one hundred cases carried to a finish would be experimentation of the most heartless kind. The statistics must be collected by some association of physicians who are so situated that one hundred of their appendicitis patients cannot have the benefits of the difference in a surgical death rate of two per cent. and a medical death rate of twenty-five per cent.

Vaginal Secretions.—Krönig, in about two hundred examinations, found that the vagina in pregnant women, aside from the gonococcus and the thrush fungus, contained no pathogenic micro-organisms. The streptococcus was not found in a single case. Moreover, Krönig found after inoculating the vagina with pure cultures of streptococcus, staphylococcus, and bacillus pyocyaneus that none of these micro-organisms could be discovered after eleven to twenty hours. Krönig attributes the germicidal powers of the vagina, which were demonstrated by these observations, to the outward flow of the vaginal secretions, and not to any special microbe having its normal habitat in the vagina. According to this observer, acid, neutral, and alkaline secretions all have germicidal power. Further, Krönig found that if an hour after the infection of the vagina an antiseptic douche of lysol were administered, not only were the infecting micro-organisms not destroyed by the douche, but also that it took the vaginal secretions from nineteen to thirty-six hours to destroy microbes that without the douche would disappear in eleven to twenty hours.—*Deutsche medicinische Wochenschrift*, October 24, 1894, p. 819.

Progress of Medical Science.

Successful Graft of the Spinal Cord of a Rabbit in the Median Nerve of a Man.—Robson (*British Medical Journal*, October 31, 1896, p. 1,312) has reported the case of a gardener, twenty-nine years of age, who sustained a deep incision on the lower and inner part of the right upper arm, with division of the brachial artery, by falling on a scythe. The artery was ligated and the two ends of a divided nerve sutured. The wound healed slowly by granulation, but finally closed, leaving the muscles of the wrist and hand supplied by the ulnar and median nerves paralyzed, while those supplied by the musculo-spiral retained their motility. Sensibility was lost in the same distribution and also in that of the internal cutaneous nerve. An operation was undertaken, an incision being made along the line of the cicatrix and prolonged some distance upward and downward, and supplemented by a transverse incision about an inch above the elbow. The lower end of the upper segment of the ulnar nerve, which was bulbous, was connected by fibrous tissue with the upper end of the lower segment. A small nerve was found at the upper part of the wound, which proved to be the internal cutaneous. The lower end of the same nerve was found subsequently and united to the upper with a catgut suture. After considerable search the bulbous lower end of the upper segment of the median nerve was discovered at about the middle of the upper arm, concealed by the belly of the biceps; and the upper end of the lower segment, expanded and sending ramifications into the cicatrix, was found subsequently just above the bend of the elbow. The fibrous tissue between the ends of the ulnar nerve was excised and the two healthy portions were united by grafting strands of the sciatic nerve of a rabbit so as to fill up the gap and establish continuity. It was not possible to bring the divided ends of the median nerve closer together than two and a half inches. In the absence of more suitable tissue the spinal cord of a rabbit just killed was used as a graft to connect the ends of the median nerve, the inserted cord lying loose and quite free from tension when finally placed in position. Fine catgut sutures were used throughout. The edges of the wound were brought together, the usual dressings applied, and the arm was fixed upon a rectangular splint. Union took place by first intention, with a total absence of fever and pain. Eleven days after the operation the patient could feel the scratch of a pin on the flexor aspect of the first phalanx of the thumb, as well as at the root of the index finger. He could tell when the hairs on the back of the first phalanges of the ring and little fingers were touched, but could not feel the scratch of a pin in that situation. Seven days later sensation had returned over the whole of the palmar surface of the thumb and the proximate phalanx of the index finger. After a further interval of sixteen days sensation seemed to be creeping slowly along the first finger and to be present over the whole of the palmar area supplied by the median nerve and extending down as far as the web of the fingers and a short distance along the middle finger. The muscles presented evidences of gradual development and the general nutrition of the hand improved. Slight power of grasp and some power of flexion of the wrist returned, with slight power of adduction of the thumb and flexion of the fingers. Sensation was present all over the thumb and index finger and in the second finger up to the first phalanx on the palmar aspect, also in the third finger, though less distinct. In the course of several weeks more sharp shooting pains began to be felt in the distribution of the ulnar nerve and the flexors of the fore-

arm began to react to galvanism. Improvement thus continued, when the patient was lost to observation, and then was not seen again until after the lapse of six years. The man had continued the use of galvanism for a time and did not resume his work until more than a year after his accident. During the subsequent five years he had not missed a day's employment, attending to all of his duties, from wheeling a well-laden barrow to using a scythe. On examination the right arm was found scarcely smaller than the left and power had returned to all of the muscles except the abductor of the thumb. Sensibility also had been restored and the electric reactions were normal except in the muscle named.

The Diagnostic and Prognostic Value of Angina in Variola.—Dr. Chassy (*L'Indépendance Médicale*, October 7, 1896, p. 328) says that angina in variola always manifests itself at the same time as the cutaneous eruption (ordinarily at the end of the third day). It is often evident before the cutaneous eruption. Like it, the elements pass through the same phases, macules, papules, vesicles, and pustules. Peri-amygdaloid and submaxillary œdema are frequently observed in the confluent forms. It is a benign œdema, which may be confounded with parotiditis. Angina of variola presents little gravity if uncomplicated. It does not leave cicatrices after healing. Its coincident appearance with cutaneous eruption is an element of differential diagnosis that is highly important. Slight hemorrhage, at an early stage, in the papules of the palatine vault (resembling tobacco seeds), announces the early, hemorrhagic, deadly form. The presence of streptococcus pyogenes appears to be an aggravating element in prognosis. Angina of variola is of great importance from a hygienic standpoint. It assures an early diagnosis, even in varioloid and in concealed forms. It proclaims and controls the intermittent outbreaks following in the course of the contagious disease. The treatment should be antiseptic—gargles and naso-pharyngeal washes with lukewarm boric-acid solution.

Infantile Scorbutus.—Dr. A. L. Vernhes (*L'Indépendance Médicale*, October 7, 1896) writes as follows: This malady, studied by many authors, results from the influence of insufficient nourishment or of over-feeding. It is often complicated with rickets, and its principal symptoms consist in hemorrhagic manifestations, which give it a marked analogy to scorbutus. Of the true nature of this disease but little is known; it is, however, generally attributed to defective nutrition followed by inanition. It often follows gastrointestinal affections or infectious diseases, such as scarlatina, whooping-cough, etc. This leads us to suppose that infection plays a rôle as the occasional cause of this affection.

Remarks on the Topography of Zona.—Dr. Dongradi (*L'Indépendance Médicale*, October 7, 1896) writes that most cases of zona called primary or essential have a spinal origin. The disagreement which exists as to the topography of the eruption and the distribution of cutaneous nerves; the concordance of the topography of this eruption with that of sensitive troubles of medullary origin; the possible coexistence of spinal anaesthesia with the eruptions; the character of the pains, which are vague and diffuse; the habitual absence of neuralgic points; the existence, sometimes verified, of symmetrical pains and of spinal hyperaesthesia; some instances of motor troubles associated with the zona—constitute the arguments in favor of the medullary theory. The infectious theory of Landouzy is easily reconcilable with the spinal origin of zona.

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THE SURGICAL TREATMENT OF GASTRIC PERFORATION AND HEMORRHAGE.

THE most certain, withal the most radical, method of preventing the disastrous consequences always likely to follow perforation of or hemorrhage from the stomach or intestines consists in direct exposure of the seat of lesion and suture of the opening or ligature of the bleeding vessel. It goes without saying that such measures may not always be necessary, but the decision in the individual case must depend upon the conditions present and the special indications to be met. Whenever doubt exists as to the course of action to be pursued, the principle will be a safe one to follow that the risks and dangers of operative interference are in general less than those of expectancy. The validity of this proposition has been amply demonstrated throughout the whole range of modern surgery. As illustrations we need but point out the control of intracranial hemorrhage by trephining and the application of a ligature to the bleeding vessel or the packing of the wound; the excision of the vermiform appendix in the event of suppurative, ulcerative, or perforative appendicitis; the performance of celiotomy for the relief of perforation or the control of hemorrhage in case of typhoid fever or gastric ulceration.

The difficulties under the several conditions named are always considerable, often apparently insurmountable and sometimes really so, but the results in every way justify the surgical procedure. In the event of perforation of the stomach, operation may be undertaken at once and should not be interfered with by any ordinary counterindication. Single or occasional hemorrhage in a case of gastric ulceration may be left to the usual therapeutic measures, but persistent, frequently repeated, or copious hæmatemesis, sufficient to portend a fatal issue, may be looked upon as an indication for abdominal section and exploration, together with such additional procedures as the conditions present in the given case may seem to justify.

A not inconsiderable number of operations have already been performed in cases of gastric ulceration, as a rule on account of the occurrence of perforation, but in at least one for the control of hemorrhage. In a very fair proportion the results were entirely successful. One of the earliest of the successful cases

has been reported by Barling.¹ Following symptoms of peritonitis due to perforation of an ulcer of the stomach, a swelling appeared in the left hypochondrium, which proved to be an abscess behind the stomach. Upon evacuation of this accumulation and the provision of drainage recovery ensued. Two other cases previously operated on by Barling terminated fatally. In one the site of perforation could not be discovered at the operation, although a perforating ulcer of the stomach was found after death. In the second case an ulcer was found and sutured, but after death a second area of ulceration, almost perforated, was found in a different situation. A successful result has also been reported by Gilford,² who excised the margins of a perforated gastric ulcer and approximated the edges with sutures. Atherton³ has reported one case in which death followed the evacuation through a small incision in the epigastrium of about two quarts of sour greenish fluid from the peritoneal cavity and the introduction of a drainage tube; and a second case in which recovery followed exposure of the perforation after celiotomy and suture of the margins. An exceedingly interesting group of cases of perforation of the stomach consequent upon ulceration was reported at a meeting of the Clinical Society of London⁴ during last year. Dunn reported one case in which suture of the perforation was followed by recovery, and a second in which perforation was not found at the operation, while a large area of gastric ulceration was found after death. Silcock related a case in which a perforation was successfully sutured, but death took place in consequence of septicæmia due to a purulent accumulation about the stomach, liver, and spleen. In a second case, in which a perforation was found in the midst of adhesions between the stomach and the liver, recovery followed the introduction of a drainage tube and closure of the wound. Lees reported one case in which the contents of a subphrenic abscess were evacuated through a trocar and several days later fatal hemorrhage took place; a second case, which terminated fatally, although operation was done within forty hours after rupture and the perforation was closed by suture; and a third case in which one perforation was sutured and death resulted from perforation of a second ulcer. Cheyne reported a case in which the perforation was found limited by adhesions; the wound was left open for a week, but two days later the patient died, and on post-mortem examination a large abscess was found above and behind the stomach. White related a case terminating fatally, in which operation failed to disclose the existence of ulceration and there was little evidence of peritonitis. In a second case temporary relief was afforded by washing out the stomach, but death occurred suddenly and post-mortem examination disclosed the presence of perforating gastric ulcer firmly adherent to the under surface of the liver. Bradford reported two cases, one of which was successfully operated upon, the other terminating fatally

¹ Birmingham Medical Review, vol. xxxiv., No. 181, p. 129.

² Lancet, No. 3,692, p. 1,369.

³ MEDICAL RECORD, No. 1,261, p. 2.

⁴ British Medical Journal, No. 5,742, p. 1,252.

some time after the evacuation of a considerable amount of fluid from the peritoneal cavity. Finally, in a case of gastric ulceration attended with copious hæmatemesis, Küster¹ performed cœliotomy for the purpose of controlling the hemorrhage and preventing secondary contraction. After exposure of the ulcer in the stomach the thermo-cautery was applied. The patient recovered satisfactorily from the operation and gained in weight and strength, and the hemorrhage did not recur. In the most recent contribution to the literature of this important subject, Hirsch² reports a case in which, although hæmatemesis was frequent and copious, ulceration of the stomach could not be found on surgical exploration; and a second case in which, on account of the profound degree of anæmia present and in view of the previous experience, an operation was not undertaken. Death ensuing in the latter, post-mortem examination disclosed the presence of a small ulcer on the anterior wall of the stomach near the pylorus, with the erosion of a large vessel. In view, therefore, of all of the circumstances, and guided by the experience that has already been gained, the conclusion seems justified that operative interference is indicated in cases of gastric ulceration when, notwithstanding regulation of the diet and enforcement of rest, hæmatemesis occurs with such frequency and in such a degree as to endanger life.

THE CLOSE OF VOLUME FIFTY.

THE completion of the fiftieth volume of the *MEDICAL RECORD*, in the present issue, is in some respects a matter for congratulation in connection with the fact that during all the period covered from its first publication until the present it has been under the same editorial management. Through all the continuous labors of the past thirty years the lives of editor and publisher have been spared to make this statement possible. When passing retrospection is thus invited, it is some comfort to believe the efforts to make this publication what it now is have not been altogether vain.

Probably no medical journal started under more unfortunate prognostications than did the *MEDICAL RECORD*. The leading medical men in this city at that time, while they cordially endorsed the project, were almost unanimous in their predictions that no medical journal could succeed, pecuniarily or otherwise, as none had yet done so, and that ultimate failure, much as it might be regretted, was a foregone conclusion. Still, by the very few who thought otherwise it was determined to take the chances of reversing the well-established rule. At this distance of time it is perhaps reasonably safe to conclude that the victory rightly belongs to such as can do and dare. It may not be uninteresting in this connection to say that the original policy of the journal has been consistently carried out in every particular. It has been a rare privilege, granted to few if any, to have worked so long and so continuously in one direction, and to have watched the encouraging progress of the journal during all these

years, as shown by its growth from the smallest beginnings to the present realization of the most extravagant expectations. In this consummation what changes have taken place! How many theories have risen and fallen, how many advocates of them are heard no more, how many, alas! who started in the early career of the *MEDICAL RECORD* have passed away! Comparatively few are now living who can rejoice with us in having placed the first volume on their shelf and in adding one to another until a jubilee number has been reached. To such as may recollect those earlier times we tender the kindly greeting which passes between old tried friends; to the new ones, many and unseen, we still strive to be close and true. Fifty volumes done—the *MEDICAL RECORD* landmark for a fresh start—with greetings of even better times to come and more work to do.

BODY SNATCHING.

How frequently one is led to reflect upon the similarity of events as they occur and are chronicled in the journals of the two English-speaking countries separated by the Atlantic. Coincidentally one reads of the disappearance of a body from the New York Morgue and of the wrong body being taken by mistake from the Queen's Hospital in London. The body of an unknown woman who has died in one of our hospitals is identified by a man as that of his mother-in-law; the insurance money is collected and spent in a funeral, while the real mother-in-law, in actual life, is engaged in the arduous duties of laundry work. Almost upon the same day an undertaker rushes into the dead-house of an English institution and carries away and buries one body, when he should have been in less haste and secured the one in which the friends were more interested.

It is a fact well known to many physicians that certain undertakers are affected with precipitation. Some of them have it in a severe form. It was only the other day that a well-known surgeon had the following disagreeable experience: Death had occurred in a most rare and scientifically interesting form. Permission to perform an autopsy had been granted. Upon reaching the house with one or two invited confrères, the surgeon found that an undertaker had removed the body, the friends thinking the physician had ordered it. Going to the undertaker's establishment, the gentlemen were surprised to find the object of their search embalmed and on the ice, the process having destroyed all possibility of scientific research in the case. Six hours had elapsed from the time of death.

Let us suppose these gentlemen had paid their last visit, not to dissect the patient in the interests of science, but to determine whether the patient were in a state of real death or pseudo-death, what chance would the undertaker have left them or the patient?

Friends, and especially physicians, are to blame for the worse than barbarous manner in which the dead and supposed dead are hurried away by undertakers to beds of ice which preclude any possibility of revival from states of suspended animation. William

¹ Archiv für klinische Chirurgie, B. xlviii., H. 4, p. 787.

² Berliner klinische Wochenschrift, September 21, 1896, p. 847.

Tebb and Edward Vollum have just written a work on "Premature Burial and How It may be Prevented." We do not know what arguments these authors advance, but the subject has received attention often enough in times past to make us ashamed of the manner in which in most civilized countries patients are treated just after they are thought to have expired.

A CRUEL DECEIT.

WE have of late derived much pleasure from the contemplation of sundry portraits of robust and handsome healers with which, in contrast to their word pictures of loathsome disease, some of our esteemed contemporaries adorn their pages. We see in one the round and rosy features of Sir Dyce Duckworth; in another the intellectual but somewhat austere countenance of Mr. Jonathan Hutchinson meets our admiring gaze; while a host of lesser lights, our own and Europe's, twinkle out and illumine this firmament of western journalism. We are grateful for this exhibition of manly beauty, but with the gratitude which is a lively anticipation of favors yet to come we make bold to ask that these portraits be correctly labelled. In one of our most esteemed of contemporaries there was recently a charming picture, labelled "Osler on Angina Pectoris;" but it was neither. It was pretty, but it resembled Dr. Osler no more than it did angina. We are glad that our old friend can claim neither one. And now we are in a most distressing state of incertitude, for we are sure of the identity of hardly one of these collected portraits which made up our gallery. We may perhaps have been engraving upon our heart the features of some unhung train robber, deluded by an unprincipled editor into the belief that they were those of Virchow, of Kitasato, or of N. Senn. The thought is intolerable, and until we have the assurance that the label editor has had a change of heart or really knows the celebrities of medicine, our portrait gallery shall be closed to our visitors.

X-RAYS AND SIGHTLESS EYES.

IN our editorial columns of a previous issue we deprecate the idea of holding out to the blind any strong hope of their being made to see by the x-rays. We have always had the greatest confidence in Mr. Edison's wondrous powers and magic-like achievements, but in the present case we did not feel that he was justified in calling forth hopes which could, in most instances at least, if not in all, result only in disappointment. In a recent number of the *Electrical Review*, Nikola Tesla found little ground for any claims of making the blind see. The rays have not been demonstrated to be transverse vibrations, and at best refraction would be necessary to project a sufficiently small image upon the retina. As it now is, only a shadow of a very small object can be so projected.

Dr. Thomas More Madden, of Dublin, has recently had conferred upon him the honorary degree of master of obstetrics by the Royal University of Ireland.

News of the Week.

Board of Education and Sanitary School Inspectors.—An appropriation of \$47,500 has been granted the board of education to pay medical inspectors for each school district of this city. The health board will appoint one hundred and fifty physicians at \$30 per month for the ten school months of the year. This is a move in the right direction, since most children's diseases of an infectious nature are largely spread through school intercourse. It is to be hoped that careful examination of the scalp will form part of the inspectors' duties and that the spread of favus, ringworm, and pediculosis will thus be materially lessened.

Epidemics in Various Places.—Small-pox is reported to be raging with exceptional severity in the principal sea towns of Japan. At Kobe two hundred cases and several deaths have been reported. Yokohama has declared a quarantine against Kobe, and the board of health of San Francisco has declared both Yokohama and Kobe infected and has established quarantine against all Japanese ports. Colon, on the Isthmus of Panama, is now declared to be free from small-pox, which has been epidemic there for some time. Yellow fever is reported to be slightly less at Havana and other Cuban ports, although the disease is constantly supplied with new material to work upon in the persons of the raw Spanish recruits. In Port au Prince, Hayti, the yellow-fever epidemic shows no signs of abatement. Dr. Terres is reported as saying that the present epidemic is the worst outbreak he has ever seen during his long residence on the island. Every unprotected foreigner who has landed at Port au Prince during the past six weeks has been stricken with the disease. The reports from Bombay concerning the plague are disquieting. The official statistics show that, up to the middle of December, there had been 1,551 cases known to the authorities, and 1,094 deaths. All who can get away are fleeing in terror from the city. Calcutta has become alarmed and recently appointed a sanitary board to make a survey of the city. The report of this board is far from reassuring. It says that the city area is terribly overcrowded, several wards having a population of more than one hundred thousand per square mile, one of them rising to nearly one hundred and forty-five thousand. Houses which should accommodate fifty persons only, if ordinary precautions regarding health were observed, contain five times that number, while the *bastis*, which are collections of mud huts, are densely packed. The environment of filth in which the residents of these huts live is described in terms which make it plain that if the plague or typhus fever should obtain a footing it would be almost impossible to stamp it out. In houses, too, which are outside these *bastis*, insanitary conditions exist which invite outbreaks of epidemic disease. The government has warned the municipal authorities of their neglect of duty and urged upon them the necessity of sanitary reforms in view of the imminent danger of an invasion by the plague.

Fined for Grave Robbery.—Two Dartmouth medical students were recently arrested for grave robbery. They pleaded guilty to the charge, and were heavily fined.

Diphtheria has been prevailing in epidemic form in several places in Northern New York. In Ogdensburg, out of seventy-three cases treated with antitoxin only two resulted fatally.

Bellevue Hospital Medical College.—Dr. T. M. Rotch, of Boston, lectured before the students of Bellevue Hospital Medical College, by invitation, December 15th. The subject of the lecture was differential diagnosis in the eruptive diseases of children, with especial reference to scarlet fever and its complications. The lecture was illustrated with colored lantern slides.

Too Much Study.—Charles Winlander, twenty-six years of age, a student at the Bellevue Medical College, committed suicide on December 14th. He was formerly a student at the Rush Medical College of Chicago and came to New York from Mount Carmel, Ill., some months ago to pursue his medical studies, bringing with him his wife, to whom he had been married but eight months. It is said that too close application to his studies affected his brain. He had complained of severe headaches for some time.

M. Roux Decorated by the German Emperor.—Emperor William has conferred a decoration on M. Roux, for his discoveries in relation to the antitoxin of diphtheria, and, contrary to the precedent in the matter of German decorations, M. Roux has accepted the honor. It was said last year that the German emperor had sounded Pasteur as to his acceptance of the German Order of Merit, and that he refused to accept the honor, declaring that he could never forget 1870.

Against Street Music.—The Brooklyn board of aldermen recently adopted by a vote of eighteen to six a resolution prohibiting the operations of itinerant bands in that city and restricting the use of hand organs to certain hours. A similar resolution passed about two years ago was vetoed by the then mayor, who apparently approved of street noises.

Objections to Canadian Nurses.—The question was raised some time ago as to whether the Canadian trained nurses who come to this country to work in hospitals do so in violation of the law. At that time it was held that they could not be interfered with, as they were semiprofessional persons. Now the secretary of the treasury has ruled that these nurses can be deported, and it is said that the new ruling will be carried out at once, and five Canadian nurses employed in a sanatorium in this State are to be deported accordingly.

The Practical School of Medical Specialties is the title of a post-graduate school recently opened in Madrid. The specialties there taught are obstetrics, gynecology, pædiatrics, surgery, nervous diseases, ophthalmology, otology, rhinology, laryngology and diseases of the liver.

A Subscription to pay the heavy expense (about £1,000) incurred by Dr. Cullingworth in defending the suit brought against him by Miss Beatty, has been begun in England. Considerably more than half the needed amount, namely 561 guineas, has already been subscribed.

Tribulations of Russian Students.—The police of Moscow recently arrested forty of the students at the university, in whose rooms they found a number of letters and papers alleged to be of a treasonable nature.

The Post-Graduate Hospital.—The twelfth annual report of this institution shows that 1,895 house patients were treated during the last year. Of these 729 were babies, and 1,166 children and adults; 20,084 patients were treated in the dispensary, to which more than 75,000 visits were made. Seventy-five thousand visits, if paid for at an average of only twenty-five cents each, would bring in \$18,750 to be distributed among the struggling young physicians of this city. The directors make an appeal for funds to establish free beds in the hospital, and they state that at this moment there are not half enough free beds for the worthy poor in the hospitals of the city of New York.

Faith-Cure Fanatics Struggling with Diphtheria.—An epidemic of diphtheria is prevailing in Hopeton, Oklahoma, and it is reported that the faith-cure people, who compose the majority of the community, persist, in spite of quarantine orders, in holding public meetings at the houses where the disease exists, and physicians sent out by the authorities have been compelled to use force in order to examine the sick. In one instance a twelve-year-old boy was carried through the worst stage by a physician and volunteer nurse and was apparently on his way to recovery, but when the physician left to attend others the father refused to give the medicines or follow any of the instructions, and the boy died, the family and friends sitting around and praying, but doing nothing to relieve his suffering. Six or eight others have been allowed to die in the same way.

Making the Punishment Fit the Crime.—A Montreal school teacher recently discovered some tobacco which had been brought in by one of the boys, and by way of punishment he made an infusion of it and administered it to several of the scholars. The school commissioners very justly reprimanded the fool, who may consider himself lucky that none of the boys was fatally poisoned by him.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending December 19, 1896. December 14th.—Surgeon L. B. Baldwin detached from the *Newark* and ordered to the *Puritan*. Passed Assistant Surgeon S. G. Evans detached from the *Pinta* on reporting of his relief and ordered to the naval hospital, New York. Passed Assistant Surgeon G. Rothganger detached from the *Patterson*, December 25th, and ordered to the *Pinta*, per steamer of December 29th.

The Death Rate of Johannesburg, South Africa, is thirty-two per thousand.

The Body of Sir Benjamin Ward Richardson was, in accordance with his express wish, cremated at Woking.

Stealing Drugs from Doctors.—In the inquest in a case of suicide by cocaine of a woman in London, it was learned that she had stolen the drug, to the amount of fifty grains, from a drawer in the house of her medical attendant.

The Rinderpest.—It is reported that Dr. Edington, the official bacteriologist of Cape Town, has discovered the bacillus of the rinderpest, thus anticipating Koch, who is on the way to the Cape to study the disease.

The Moscow Medical Congress.—The following is a revised list of the officers of the Twelfth International Medical Congress, to be held in Moscow on August 19 to 26, 1897: The president of the committee of organization will be Prof. N. W. Sklifassowski; the vice-president of the committee of organization will be Prof. J. F. Klein (president of the executive committee); and the secretary-general will be Prof. W. K. Roth.

Montreal and Moscow.—The *Medical Press* does not look for a large attendance of English physicians at Moscow. Speaking of the proposal to amend the by-laws of the British Medical Association so that Americans may take part in the meeting next summer, it says that "it is stated that to amend the by-law for the forthcoming meeting at Montreal would lay the association open to the charge of attempting to promote a *r union* rival to that of the international medical congress at Moscow. But we cannot think that this can rightly be deemed to be the case. The congress at Moscow is not likely to suffer from anything which may transpire at Montreal, and chiefly for the reason that the two meetings will be patronized by practitioners drawn from entirely different parts of the world."

A Lunatic on Lunacy.—A curious occurrence took place recently in Professor Krafft-Ebing's clinic, where a patient, at his own request, was allowed by the professor to deliver a lecture in his place, in order to demonstrate the peculiarity of his mental state. The patient is a highly-educated man, of exceptional intellectual endowments, but for many years he has been the subject of so-called "circular" insanity. The recurrence of the disease prevents his pursuing for any length of time any occupation in which his natural abilities and acquired accomplishments would in happier circumstances have enabled him to gain distinction. In the maniacal phase of his illness he shows an astonishing wealth of ideas, and with his manifold knowledge and his readiness of expression (he has lately been a writer) becomes witty and even brilliant in his language. Thus, in the lecture he delivered, on the mental condition of the maniac in periodical attacks of madness, he puzzled his auditory by the brilliant and exact form of his speech, and on

a lay person or a junior student might even have made the impression that his statements were correct and his conclusions logically drawn, though, in fact, they were all nonsense. He spoke for nearly an hour, holding the attention of his audience the whole time. His look and bearing, which are those of a scholar, helped to keep up the illusion.—*British Medical Journal*.

The Bubonic Plague is spreading rapidly in Bombay. On December 8th there were thirty-nine deaths from the disease, and fifty-five new cases were discovered and reported.

The Medical Department of the British Army is reported by its director-general to be short sixty men. If England became involved in a serious war, the combatant officers would soon come to a realizing sense of their dependence upon the medical staff.

The Persecution of Dr. Cullingworth.—The nurse Beatty, who recently lost the suit which she brought against Dr. Cullingworth because he removed both of her ovaries, has just served notice of motion for a new trial of the case.

A Quick Diagnosis.—At a surgical clinic a few days ago, before a class in the Harvard Medical School, a patient was shown who had a wound on the thigh caused by the bite of a rat. The instructor, having asked the class for a diagnosis of the case, one of the students replied promptly, "Rodent ulcer."—*British Medical and Surgical Journal*.

Schnapps and Beer.—By a decision of the Hessian court, it is considered much better to eat bread than to drink schnapps before consuming large quantities of beer. A restaurant keeper had applied for a liquor license, on the ground that the health of his customers necessitated a good drink before starting in on their daily consumption of beer. After examining experts, the court said bread would do.

Ethicomania.—The Melbourne correspondent of the *Medical Press*, after describing one of the many broils of Dr. Leith Napier, the hired man from London in charge of one department of the Adelaide Hospital, adds: "The danger of meddling with such matters was, I need hardly remind you, pointedly illustrated in the recent report of the meeting at Carlisle, and it is at least curious that the gentleman whose case cost the British Medical Association £1,300 was the founder of an ethical society, and in that capacity he figured as an expert in removing or in discovering moles in people's eyes. This is precisely our experience here. Those who are the loudest in preaching the duty of ethics are just the men whose names you will find constantly occurring in the newspapers under all sorts of pretexts. It is the old business in the pantomime—'Here we are again!' The question then presents itself: Are medical journals the proper media in which such matters should be dealt with? Is it the legitimate function of a medical journalist to hunt up infractions of what we are assured are ethical rules? It is devoutly to be wished that the experience gained in this wretched Adelaide strike will serve as an antitoxin in the permanent cure of this ethicomania."

Afraid of Growing Old.—A man in Batavia, N. Y., recently committed suicide on his ninety-seventh birthday.

Dr. M. O. Terry, of Utica, has been appointed surgeon-general on the staff of Governor Black. Dr. Terry is a member of the homœopathic school. He held the same position on the staff of Governor Morton.

Influenza has reappeared in London. The cases are of the usual type, with sudden onset, grave prostration, and high fever, with specially marked gastric disturbance.

A Legacy of a Body Refused.—Dr. Caroline B. Winslow, who died recently in Washington, left a will bequeathing her body to Howard University to be dissected by women medical students in the interest of science. After that she desired that her skeleton be mounted and presented to the Minor Normal School of the district. The university declined to accept the body, and it was cremated.

Dr. William A. Macy, medical superintendent at the Manhattan State Hospital, has been appointed superintendent of the Willard State Hospital, to take the place made vacant by the transfer of Superintendent Mabon to be superintendent of the St. Lawrence State Hospital. The vacancy in the Manhattan State Hospital occasioned by Dr. Macy's promotion will be filled from the civil-service eligible list of candidates for hospital superintendent.

A Wasteful Measure.—A statute was passed last year, requiring the city of New York to furnish a suit of clothes to each insane patient sent by it to the State hospitals. Mr. Croft, commissioner of charities, has requested the board of estimate and apportionment to prepare an amendment to this statute, which shall permit the city to use the clothes more than once. He made an investigation in the Manhattan State Hospital on Ward's Island, to find out what became of the clothes furnished to the patients by the city, and found that the clothes were worn by the insane only during their passage from the city to the island, and that they accumulated so fast that it was necessary to burn great quantities of them every month. He said that the clothes cost the city \$16,000 last year, and \$25,000 would be necessary for the same purpose this year.

Unauthorized Use of a Physician's Name.—A drug company of this city recently distributed a pamphlet in England, containing laudatory testimonials of one of its preparations. One of these testimonials purported to be from Dr. W. B. Ransom, of Nottingham. As the gentleman mentioned had written no such testimonial, he brought suit against the company to restrain it from this unauthorized use of his name. The suit has been settled in Dr. Ransom's favor, and the offending company has published an apology, saying: "Although we received the testimonial in question on a post card purporting to come from Dr. Ransom, we now find that the same was not sent by him or by his authority, and that he has never used the

said drug or given any testimonial concerning it. We therefore publish this statement, and desire to express our sincere regret to Dr. Ransom for having misguidedly made use of his name in this connection and for the inconvenience and annoyance caused him thereby, and we have submitted to an injunction restraining us from further publishing or making use of Dr. Ransom's name in connection with this remedy."

The Northern Medical Association of Philadelphia celebrated on December 5th the fiftieth anniversary of its organization, by a dinner held at the Hotel Walton, which was attended by some fifty participants.

Water Filtration for Philadelphia.—The city councils of Philadelphia have passed a loan bill for \$3,000,000 for the construction of a filtration plant or of filtration plants in connection with the several pumping-stations embraced in the water supply of the city.

Dinner to Mr. Potter.—On December 8th a dinner was tendered Mr. William Potter, the recently elected president of the board of trustees by the Alumni Association of Jefferson Medical College. Dr. A. K. Minich presided and responses were made by Mr. Potter, ex-Justice S. Gustine Thompson, Dr. S. Weir Mitchell, and others.

Sir Benjamin Ward Richardson was one of the most remarkable men in the profession. Though never one of its leaders in the ordinary sense, he was to a large section of the public its most prominent representative. By his brethren he was held in considerable respect in spite of certain intellectual perversities, or rather eccentricities, which prevented his taking the rank in which his originality of mind and the quality of his earlier work would otherwise have placed him. His discoveries would have brought fame and fortune to half-a-dozen "eminent physicians," yet Richardson himself could hardly be called an eminent physician. In the same way his writings were in many ways excellent, and served a useful purpose in diffusing a knowledge of the laws of health among the people; yet, particularly in his later years, they were pervaded by an element of "crankiness" which greatly detracted from their value. Richardson was intended by nature for a philosopher; owing to some flaw in the material or some botching in the workmanship, he turned out a faddist—though a faddist of genius. In his later years he was left behind in the onward rush of scientific progress; and his crying in the wilderness where he was left was not always edifying. A striking illustration of the way in which he allowed his enthusiasm to mislead his judgment is afforded by the circumstances of his own death. It is but a few months since he told an interviewer that no man who obeyed the laws of health ought to die under the age of a hundred. Yet he himself, after a life devoted to the worship of hygiene, has just been laid in the grave before he had reached the more ancient limit of three score and ten. He was a good man and wanted only some trifling readjustment in the disposition of his brain cells to have been a great one.—*The Practitioner*, December, 1896.

Bug in the Ear.—A daily-newspaper report tells of a wonderful "operation" for the removal of a bug in the ear, with complete restoration of hearing. Dr. Burnett in a recent article (*Practitioner*) upon foreign bodies in the ear says much damage may be done by groping after foreign substances, especially when there is none present. No one but a specialist, he thinks, should ever attempt instrumental extraction. If a living insect has entered the ear, a few drops of sweet oil will smother it and it may then be syringed out with warm water. Syringing will also usually remove objects introduced by children. No hurry is demanded. Delay is better than rough handling. Death has occurred from unskilful endeavors. If larvæ of flies are present, as sometimes happens in the tropics, a drop or two of chloroform or ether will destroy them.

Neuro-Psychic Medicine.—*La Médecine Moderne* announces that Dr. Tsikonki, professor of psychiatry in the University of Kieff, will publish a new review, devoted to "neuro-psychic medicine." This will be the fifth journal in the Russian language which confines itself to nervous and mental affections.

Pathological Society of Philadelphia.—At a stated meeting of the Pathological Society of Philadelphia, on December 10th, Dr. T. J. Kalteyer presented a horseshoe kidney with its suprarenal body occupying the right side, and the left suprarenal in its normal situation. He also exhibited a long attenuated cæcum of infantile type, from the body of a woman, seventy-four years old; the appendix also was unusually long. Dr. F. A. Packard presented a specimen of aneurism of the aorta, which had eroded one of the dorsal vertebræ and had ruptured into the left pleural cavity. The patient had been free from symptoms of this condition, and was walking about when he fell and soon died. Dr. Packard showed also a bicuspid pulmonary valve and an abnormally lobulated liver, together with the intestines and mesenteric glands from a case of typhoid fever. Dr. S. Solis-Cohen exhibited multiple abscesses of the liver and ulceration of the colon from a case of dysentery; and also a perforating tuberculous ulcer of the small intestine. Dr. J. P. Arnold exhibited contracted kidneys from a young man free from arterial changes. The morbid condition, in the absence of other appreciable cause, was attributed to a fundamental tendency to interstitial fibrous deposit or a congenital hyperplastic condition. Dr. H. W. Cattell demonstrated a simple, speedy, and efficacious method of preparing frozen sections by means of a spray of methyl and ethyl chlorides. Dr. Joseph Sailer presented a brain exhibiting numerous sclerotic areas, from a case of epilepsy and idiocy with sarcoma of the kidney. The formations in the brain were supposed to be neoplastic and probably sarcomatous, though they may have been merely hyperplastic and indurated. Dr. Alfred Stengel presented two diminutive stomachs from cases of pernicious anæmia, and referred to a third stomach, in size intermediate between these two, from a case in which pernicious anæmia was not present. He exhibited also diffuse and almost universal spindle-cell sarcoma of the thyroid gland; primary sarcoma of

the gall bladder, with extension to the liver; carcinoma of the rectum in a case terminating fatally from purulent peritonitis; malignant endocarditis, with a myocardial abscess; appendicitis with perityphlitis.

Philadelphia Hospital.—At a meeting of the bureau of charities and correction on December 8th, the entire medical staff of the Philadelphia Hospital was re-elected. Dr. John B. Shober was elected to fill the vacancy in the obstetric department caused by the resignation of Dr. R. P. Hamill.

Ehrlich's Test for Typhoid Fever.—Dr. Charles L. Greene writes that he has received several inquiries as to where the solutions for making Ehrlich's test in typhoid fever may be obtained. In answer to them he would say that any competent pharmacist can put up the solutions after the formulæ given.

Emergency Ration for the Army.—The war department, after several years' experimenting, has established an emergency ration for troops operating for short periods under circumstances which require them to depend upon supplies carried upon their persons. It will consist of bacon, 10 ounces; hard bread, 16 ounces; pea meal, 4 ounces, or an equivalent in approved material for making soup; coffee, roasted and ground, 2 ounces; or tea, 0.5 ounce; saccharin, 4 grains; salt, 0.64 ounce; pepper, 0.04 ounce; tobacco, 0.5 ounce. The secretary of war directs that this emergency ration be resorted to only on occasions arising in active operations, when the use of the regularly established ration may be impracticable; that although its nutritive qualities permit its use on half allowance, it will not be so used except in cases of overruling necessity, and never for a longer period than ten days, and that not more than five days' emergency rations be carried on the person at one time.

Philadelphia County Medical Society.—At a stated meeting of the Philadelphia County Medical Society, on December 9th, Dr. Edward Martin described the ambulant treatment of fractures of the legs by means of plaster casts extending from just below the knee to below the sole of the foot, and exhibited the method of application, together with a number of patients who had been thus treated. Dr. Martin has employed this method of treatment in about thirty cases thus far, and, while the results cannot be said to be better, they have been no worse than those secured by other methods. The especial advantage of the treatment is that the patient is permitted to be up and about for the greater part of the time that firm union is taking place at the site of fracture. Dr. Thomas J. Mays read a paper entitled "The Local Application of Cold in Acute Pneumonia (Final Collective Report)." His statistics included nearly three hundred cases, with a mortality of less than four per cent. The cold may be applied in various ways—by means of ice bags, of ice through towels or flannel, of snow, of cloths wrung out of ice water, etc. It was thought that the cold had not only a favorable influence upon the fever and the temperature, but also a directly beneficial effect upon the morbid process in the chest.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL COUNCIL—VOTING—PLUMPING—WRITING TO THE TIMES—DEPUTATION TO THE GOVERNMENT—MR. ANDERSON—ILLNESS OF MR. MILLER—DOES CANCER EVER DISAPPEAR?—URIC-ACID DIATHESIS—MR. BANCROFT'S READING—DR. CULLINGWORTH'S COSTS.

LONDON, December 4, 1896.

VOTING for the medical council has been going on all the week and no papers will be received after to-morrow. It is generally considered strange that the council should have met a few days before the election. Some say that this was because no change could possibly affect its decisions. On some points this is true; but when, as has happened, a majority of one or two has occurred, this explanation fails. Some go so far as to assert that the time was chosen expressly to prevent the influence of the profession from penetrating the council chamber.

The result of the election will not be declared for some time.

The council prolonged its session over the Monday and Tuesday of this week, and was called upon to consider an electioneering card of one set of candidates. This was signed by Prof. Victor Horsley, and stated that "plumping is not permitted," the object evidently being to induce electors to vote for the three candidates of whose committee he is chairman. Mr. Rivington, who is running alone, called the attention of the council to this erroneous statement. There are three vacancies and the electors may vote for one or two or three candidates. If he initial only one name it is counted as one vote for that candidate, and so far favors him over any other two. This is plumping. Mr. Horsley says it is only one form of plumping and that another is what he aimed at, viz., recording three votes for one candidate. Even if this interpretation be admitted, his logic is sadly at fault; for it amounts to saying one form is inadmissible, therefore all forms are. The council declined to intervene and left the candidates to settle their several proceedings. Mr. Horsley wrote to *The Times* a defence of his use of the word, but was of course promptly answered. I do not think the appeal to *The Times* will commend this move to his professional brethren, and every one I have spoken to on the subject disapproves the proceeding and disagrees with his interpretation of the word plumping. I regret the introduction of electioneering tactics into this appeal to the profession to choose representatives.

The council resolved to ask the president of the local government board to receive a deputation on the subject of the irregular registration of deaths, which is too prevalent and constitutes a public danger. There was a full debate on Monday on the multiplicity of examinations and the subject must again demand attention, having been referred back to the examination committee.

The question of assisting Mr. Anderson in defending his rights came up, but the council did not see its way to devote any of its funds to this purpose. Penal cases and dental business received considerable attention.

On Tuesday, the last day of the meeting, Mr. Miller, the clerk, was seized with paralysis, and arrangements were made to give him leave of absence and to provide for the work of counting the voting-papers and completing the election. The retiring members were complimented on their services.

Does cancer sometimes disappear, and if so under

what conditions? The question is not perhaps undeserving of consideration. On Friday, the 27th ult., Mr. Pearce Gould showed at the Clinical Society meeting a woman, aged forty-three years, who was admitted to the cancer ward of the Middlesex Hospital in January, 1892, for a painful lump in the left mamma. There was a history of a blow several years previously. In 1888 she noticed a lump, which grew till 1890, when the amputation had been performed. In 1892 a lump in the left axilla was removed. In February, 1894, lumps in the scar of the first operation appeared and also one above the right breast. All were removed, but in December small lumps came round the scar, and difficulty of breathing was felt. In March, 1896, there were great dyspnoea and cough with expectoration, which once or twice was tinged with blood. Death was daily expected. There were a number of hard tubercles near the scar, just such as are seen in secondary recurrences in the skin, and masses of enlarged glands in the left axilla and over the clavicle. There was a large growth, apparently bony, an inch below the left trochanter, and further deposits. She was thought to be in the last stage of malignant disease. Nevertheless in June the lumps, except one tiny nodule, had all gone and the dyspnoea had disappeared, as well as the growth on the femur. The history of this case is just that of mammary scirrhus up to the unexpected change for the better. This history was confirmed by Dr. Collins, and microscopists had reported specimens to be typical. Mr. Bowlby said he had no doubt the case was cancer which had spontaneously disappeared, and mentioned a case he had seen which is now apparently undergoing the same process, having subsided to the extent of nine-tenths. Mr. Golding Bird reported a case of sarcoma of the testicle operated on three years ago with recurrence but subsequent subsidence, the patient being now quite well. Mr. Makins said he had met with more than one case of sarcomatous growths which had spontaneously disappeared.

Uric acid has long held its place as one of the most troublesome substances to both patients and doctors. No one has of late studied it more diligently than Dr. Haig. He has written and said so much upon it that some have spoken of his "craze" about it. A friend of mine once said he would never come to an end of his suggestions, was in fact interminable and therefore insupportable. If you suppose that Dr. Haig finds the uric-acid diathesis at every turn, you are greatly mistaken. At the Medical Society meeting last week he denied that any such diathesis exists. The excess of this acid which often exists in our bodies is introduced with the food. He cannot deny that some is normally present and this amount he puts at one to thirty-three of urea, which will not produce symptoms, but as soon as that proportion is exceeded we may expect them. The regulation of the diet should be the natural treatment, but the exclusion of everything that may increase the formation of the noxious acid requires a more rigid restriction than is easily tolerated. Then even under the most careful effort symptoms which Dr. Haig would certainly attribute to uric acid are apt to appear, suggesting to me that, if his views can be substantiated, some modification of normal metamorphosis may produce in excess that which is always present to some extent. In the discussion on Dr. Haig's paper Dr. Fortescue Fox recalled the fact that children always have a large amount of the acid, even on the plainest diet, and held that we should distinguish between acid dependent on diet and that due to a tendency to excessive formation. Dr. Vaughan Harley enlarged this argument by the statement that while all children pass more than adults in proportion to body weight, the amount decreases as the age increases. He asked if any evidence could be produced

that a healthy old man passed more than a young one. He referred also to leucocythæmia, in which the amount is quadrupled; also to malignant liver disease, in which excess is an important indication. Dr. Ewart held by the prevalent view that acid is formed in the body, the quantity not being constant for all persons, and in the gouty there being excess. Dr. Freyer asked how, on this hypothesis, we could explain the prevalence of stone, etc., in India and among the tribes living on pulses. These and some other difficulties in the way of his hypothesis will no doubt occupy Dr. Haig's attention.

The cancer ward of the Middlesex Hospital has benefited to the extent of £300 from Mr. Bancroft's reading of a "Christmas Carol" on behalf of this charity.

A subscription has been started to reimburse Dr. Cullingworth the heavy costs incurred in his defence against the action of the nurse, which the jury declared ought never to have been brought. Nevertheless, I hear he is threatened with further litigation. The appearance of Sir S. Wells in the action is generally regretted. I would suggest that he might hand his fees to the defence fund.

OUR CANADIAN LETTER.

(From our Regular Correspondent.)

THE FEMALE BICYCLISTS IN CANADA—DEATHS OF PHYSICIANS FROM SEPTICÆMIA—BRITISH MEDICAL ASSOCIATION MEETING—MEDICAL SCHOOLS.

CANADIAN readers of the MEDICAL RECORD (and they are many) were somewhat amazed to notice in a recent issue an editorial on "Immorality in Canada." The startling statement had been made in an advertising venture, which, to the disgust of every one, presumes to style itself a medical journal, that cycling, instead of adding to the health and the beauty and the charm of women in Canada, was indulged in as "a means of gratifying unholy and bestial desire." The MEDICAL RECORD did well to say that it hesitated to believe such a report. Probably the slanderous article would not have been read by half a dozen had not attention been thus directed to the calumny on Canadian women. The source from which the slander emanated would deter any Canadian journal from noticing it. The conclusion arrived at by the MEDICAL RECORD that our women are "victims of a contemptible slander" is correct. Canada has reason to be proud of her robust daughters, and to them cycling has proved a healthful and benign exercise. To Canadians it is both a surprise and a shock that any one would publish such an infamous libel as that to which the MEDICAL RECORD has justly called attention.

Another well-known Canadian practitioner died recently in Toronto from septicæmia contracted in the discharge of duty. Two weeks before his death Dr. R. J. Hastings, in endeavoring to assist a nurse to administer medicine to a sick child, had his finger bitten. For four days no notice was taken of the injury, but on the fifth symptoms of blood poisoning were apparent. While every method was resorted to to avert a fatal termination, all efforts proved unavailing. Three well-known members of the profession in Canada have lost their lives within a year from some such slight injury afterward terminating in septicæmia. Dr. Hastings was a much-respected, faithful, and energetic worker, and his untimely death under such peculiarly sad circumstances is more than generally regretted. Death has also removed two other widely known Canadian medical men lately, in the persons of Dr. Ridley, of Hamillow, Dr. D. Bergin, M.P., of Cornwall, and the Hon. Dr. Ferguson, of Niagara.

Already considerable interest is taken in the forthcoming meeting of the British Medical Association at Montreal. The profession in that city is now well organized, and while it is intended that the meeting of the association shall not be regarded as a local event, but rather as a welcome from the members of the medical profession throughout the whole dominion, the success of the gathering will in some important particulars depend upon the energy and zeal of the medical men in Montreal. No one doubts their willingness and ability, and consequently none doubts the success of the meeting. The executive committee which has been appointed embraces the presidents of the Dominion and Provincial medical associations, and the attendance is likely to be the largest in the history of medical gatherings in Canada. The members of the British Medical Association who shall cross the Atlantic, many of them for the first time, will receive a cordial welcome from the whole Canadian profession. The executive will experience some delicacy in urging medical men from the United States to attend the meeting, as such an appeal might be misconstrued by those desirous of promoting the success of the International Medical Congress at Moscow. There is positively no desire to promote a rival international meeting. The British Medical Association meeting is an annual event, and, it having been decided that the next one shall be held in Canada, there should be no suggestion of any intention to detract from the greater meeting at Moscow. Unfortunately, so Canadians consider, none but British subjects can gain membership in the association, but, as at every meeting there is always a number of guests present, the leading American authorities in the different departments of medicine will doubtless be invited to be present at Montreal. Many Canadian members will regard the forthcoming meeting as an excellent opportunity for reciprocating in some measure the kind and courteous treatment they have always received when they have had the privilege of being present at any of the great medical gatherings in the United States. The date of the meeting will be the last week in August.

The attendance of students at the different Canadian medical colleges indicates that the five years' course is not likely to prevent many from entering the medical profession in Canada. In addition to attending college for five years, six months in each year, it is now imperative that each student shall take one summer session. In some quarters there is a feeling that four sessions of eight months would be productive of better results, but is it most unlikely that any change will be made, now that both colleges and students have adapted themselves to the change. The matriculation examination which must be passed by every one before commencing the college course in medicine has gradually been made more exacting, until the present standard renders a complete liberal education necessary for every matriculant.

The large towns in Canada are gradually recognizing the necessity of having hospitals, and the number of such institutions which have been erected in the smaller towns during recent years is a pleasing evidence of the appreciation of the public, and a recognition of the fact that in a properly equipped hospital at home fully as good results may be obtained as by resorting to the larger cities. There is also pleasing evidence that in Canada there is a growing recognition that money expended in equipping these institutions with every facility for asepticism and antisepticism in the practice of medicine and surgery is likely to yield results beyond computation by the ordinary rules of every-day commerce.

The Best Work done by physicians is never paid for and can never be paid for.

ABDOMINAL SECTION STATISTICS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD for December 12, 1896, Dr. Savidge compares certain hospital statistics of abdominal-section cases, and then quotes some statistics of Péan, Jacobs, and of mine, giving in the context the idea that such statistics mean selected cases and refusal of operation in desperate cases. This idea must be corrected in its reference to my appendicitis statistics. I have operated upon every recognized case of acute appendicitis that has come into my hands, with one exception. That was a case with advanced complicating disease of the heart and arteries, which I saw in consultation with Dr. Judson C. Smith last year. Dr. Smith thought that the patient could not bear the anæsthetic and I accepted his judgment. Some of my patients were pulseless and moribund. In some cases pus ran over both sides of the table when the abdomen was opened. Some patients had general septic or suppurative peritonitis. Sometimes I found patients dead when we arrived at their homes. The only cases that I have refused to operate upon were mild acute cases, in which there was doubt about the diagnosis, or mild chronic cases, in which it did not seem wise to operate at just the time when the cases were examined. My series of one hundred consecutive unselected appendicitis operations with a mortality rate of two per cent., quoted by Dr. Savidge, was published for the single purpose of establishing the importance of certain principles in treatment. The character of the cases making up the list can be determined by any one who will step into a library and ask for the second edition of my book on the subject. I do not know how many cases of appendicitis I have operated upon. Their histories are all recorded in full in a special book at my office, and any responsible member of the profession is at liberty to come in and count them if he wants to. It is not a matter of interest to me, this score of numbers, but the principles involved in the treatment are of consequence. Dr. M. M. Johnson, of Hartford, at the last meeting of the American Medical Association reported on a similar series of one hundred consecutive appendicitis operations of his own with a mortality rate of two per cent. The principles which he employed are ones which would give a very small death rate in unselected cases.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, NEW YORK,
December 12, 1896.

HYPNOTISM, AND WHAT IT SIGNIFIES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Probably if you selected ten men to-day from your acquaintance, choosing only those who were a little better read, a little better educated than the rest, and asked these ten severally pointblank what the word hypnotism meant, they would answer without the slightest hesitation: "A certain sleep state of the individual, caused by, or induced by, suggestion from within or from without, in which state the individual is unconscious of his actions and becomes an automaton." They might add, if they had ever taken the trouble to peruse modern English literature upon the subject, that hypnotism tended to weaken the will of the subject, and, if persisted in, would indubitably result in insanity or crime.

It is perfectly amazing that such an impression of a simple, natural, and universally applied therapeutic agent should have become so firmly established in men's minds, and be so difficult to uproot. But argument is of no avail against popular prejudice, and the people will probably continue for another century to regard the word "hypnotism" with dislike, if not with

horror. It is unfortunately true that for one person who will take the trouble to investigate the phenomena of effect, there are fifty who do not trace the effect back to the cause at all, but are content with an assumption of fact as a basic truth. Within the past three months, however, it has become very clear to me that physicians in the West are not only willing but anxious thoroughly to sift the question for or against the employment of hypnotic suggestion as an honorable ally in therapeutics, and from the tenor of a recent article which appeared in these pages upon the subject of mental therapeutics I gather that the tendency in the East also is to investigate. It has always struck me as very curious, in looking over works upon this science written by medical men, that they invariably make mention of the fact, either in their prefaces or elsewhere, that they are pleased to note the change of attitude on the part of the profession toward this science of hypnotism: that whereas forty years ago it was publicly ridiculed and denounced, to-day physicians everywhere recognize it as a valuable auxiliary in medicine. This is all very pleasant and gratifying, but I doubt if hypnotism has won its way to the toleration, much less to the favor, of the profession. I believe the chief obstacle to its popularity is the erroneous impression which is abroad in the land that a person is not hypnotized unless he is either sound asleep or in a somnambulistic condition. James Braid performed all his experiments upon somnambulists. Dr. Charcot knew only three stages of hypnosis, and produced them only in active somnambulists. Dr. Esdaile, the English surgeon, induced a state of coma in his Hindoo patients which carried with it a complete anæsthesia, and may be classed as one of the profound stages. The "professor" who gives public entertainments works his vulgar effects by means of subjects in the somnambulistic condition, and the whole trend of thought upon this science is to exalt the more profound stage of hypnosis as something to be aimed at, and entirely to neglect the greater value of the lighter stages. I am not alone in thinking that the exhibitions of hypnotism as presented by the public professor should be put a stop to, but as an evil only needs a little legal severity to insure its popularity, I would suggest that a better way to attain the end desired would be to remove the element of mystery at present surrounding the subject, and show the people that there was really nothing very extraordinary in the performances which so delighted them. Once remove the general belief that these subjects are compelled to do certain foolish feats against their will, and the entertainment would lose its flavor and the "professor" his patronage. The general public does not read books upon hypnotism, but it does go to see the "professor," and from him it gets the idea that hypnotism is a power, a force, which few can exercise, and which converts an entirely wide-awake individual into an irresponsible somnambulist. Most physicians (not all, by any means) know now that no one can be hypnotized against his will, but very few would admit the truth of the contention that a state of light hypnosis is of greater therapeutic advantage in the relief of nervous ailments and functional derangements than the condition of somnambulism: in other words, that it is better for the patient to be merely passive and drowsy, because the fact that he does not upon suggestion go into a condition of somnambulism, in which sense delusions are instantly accepted, shows that he is not of such an imaginative nature as the one who does, and also shows that when he thoroughly understands the significance of his treatment he will be less likely to relapse, because less likely to yield to the adverse suggestions of others, or to his own doubting auto-suggestion. This fact has been well illustrated at the Chicago School of Psychology. Active som-

nambulists are of two classes—the very weak and the very strong. The latter are rare, indeed, but you will occasionally find a man who has such perfect command of himself that he can permit himself to accept sense delusions as real in a self-induced state of hypnosis. The great mass of mankind, however, is not somnambulistic, but if put in a state of light sleep, or in a drowsy restfulness, most men could be greatly benefited by suggestive treatment. So simple a thing is this hypnotic influence that the mother who rocks the cradle of her baby at night hypnotizes the child. She suggests sleep, and her monotonous singing has the same effect as the monotonous suggestions of the operator that “the eyelids are getting heavy,” a “feeling of sleep is coming over you,” etc. But at this point most operators stop; and if they cannot induce sleep in a patient, with evidences of catalepsy to follow, they give up. As a matter of fact, hypnosis is merely a state of exalted receptivity of the brain, due to close attention to one thing for a certain length of time, and does not depend upon sleep for its existence, but may be accompanied by sleep. Hence the foolishness of giving up suggestive treatment merely because the patient does not slumber will be very apparent. It is enough for the physician's purpose if his patient keeps his eyes shut for ten or fifteen minutes, and listens attentively to the suggestions given him. The cure of any complaint is due to the force gathered from the repetition of such suggestions upon the patient's mind. If not to-day, then to-morrow; if not to-morrow, then the next day. Persist in the treatment, remembering that the gradual cure in which you have the assistance of the patient's reason and auto-suggestion is the permanent cure.

SIDNEY FLOWER.

CHICAGO, December 12, 1896.

ANGINA PECTORIS (STENOCARDIA).

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: May I ask you to correct some errors and omissions in the report upon my paper on the above subject, on page 866, of December 12th. I am made to say: “Even microscopically we could not always recognize changes in the heart at post-mortem.” I said: “Macroscopically we failed even at the post-mortem, and only the microscopic investigation, in many cases, furnished evidence of change in the coronary arteries.”

Under the heading of “treatment,” I am made to say: “The potent factors were to unload the congestion of the liver and spleen by calomel and salines, and strengthen the heart by saline baths and exercises, etc.” I tried to call attention to the fact that the blind use of peripheral dilator drugs, such as nitroglycerin, nitrites, etc., did little good so long as the internal viscera remained congested and could fill up the peripheral vessels immediately the above drugs had ceased to act. It seemed to me like a game of the well-known story “Box and Cox” between the loaded viscera and the loaded peripheral vessels.

The proper treatment is to unload the congestion of the internal viscera by calomel and salines, and then to resort to the peripheral dilator drugs, such as nitroglycerin, etc. Immediately your congestion is relieved internally and peripherally, you maintain the equilibrium by using cardiac stimulants, sparteine, strophanthus, digitalis, etc., and general tonics.

Now with the aid of the saline baths and exercises after the Schott method, we can secure results which act to relieve the superficial or peripheral congestion, coincidentally directly stimulate the heart muscle, and improve the entire tissue metamorphosis. It was to the sequence of the treatment that I attached the greatest importance.

H. NEWTON HEINEMAN, M.D.

IS IT POSSIBLE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Will some one of your many readers inform me through the MEDICAL RECORD's columns whether impregnation within twenty-four hours of childbirth is a possibility? A fellow-practitioner has just related to me an instance in which a German woman married to an Italian bore a second child eight months after the first, or two living children, at what seemed to be full term, within a period of seventeen months. Upon investigating the occurrence, my informant was led to believe from statements made that impregnation had taken place upon the very night of the first delivery. There is an old proverb believed in France—if nowhere else—that *l'Allemand italianisé est le diable incarné*. If the report as above detailed is true, then a new proverb should be made to fit the Italian Germanized by hymeneal bonds. The latter portion of the proverb can stand as it is.

I. N. VESTIGATOR.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 12, 1896:

	Cases.	Deaths.
Tuberculosis.....	119	99
Typhoid fever.....	17	3
Scarlet fever.....	152	7
Cerebro-spinal meningitis.....	2	3
Measles.....	151	6
Diphtheria.....	282	33
Small-pox.....	0	0

Patent-Medicine Making.—Exclusive of those connected with the advertising department, a numerous branch, and the stockholders in such of the concerns as are incorporated, ten thousand men are engaged in the patent-medicine manufactories of the United States, receiving collectively more than \$4,000,000 a year in salaries and wages. There are eight hundred and fifty such manufactories, ranging in importance from those which flood the American and the foreign market with proprietary medicines, as they are technically called, down to the small laboratories or botanist shops, in which some particular herb or root is, in a grudging and primitive manner, supplied to such persons as may have heard of its efficacy. The partiality of Americans for patent medicines is well known, and doctors—who don't usually agree—agree in declaring that the true reason of the extensive use of such medicines in the United States is to be found in the fact that dyspepsia is a general ailment, and that persons suffering from dyspepsia are prone to believe that they have some other ailment. Thus they become patent-medicine patrons under conditions that recall the memorable remark of Col. Mulberry Sellers, the sanguine speculator, who, in describing the benefits of the “Oriental Eye Water,” the sale of which he believed would enrich him, declared that the more of it people used, the more of it they would need, and hence the sale once started would constantly increase. Many of the patent medicines sold, if not, indeed, a majority of them, do not come under this description, for they are merely compounds, in pleasant form and in palatable shape, of drugs and medicines in constant use by physicians, and found efficacious in what is called general practice. Though it didn't use to, New

York City now stands at the head of the cities of the United States in the manufacture of patent medicines, with eighty-five factories, giving employment to one thousand persons at aggregate wages in excess of \$700,000 a year. Philadelphia comes second, St. Louis third, New Haven fourth, and Lowell fifth. In proportion to its population Lowell is the American city which is most deeply interested in patent-medicine manufacture. After Lowell comes Chicago, a poor sixth. It is a somewhat peculiar circumstance that though enormous quantities of patent medicines are sold in the South, and the ingredients for their manufacture come very largely from that section, few patent medicines are made in the South, though New Orleans and Atlanta do a little in this line. The city of Baltimore seemed likely a few years ago to attain prominence in the manufacture of patent medicine, but recently it has fallen back on the list, while the city of Boston has been pushing steadily ahead. Providence is another New England city which is largely represented in the manufacture of patent medicines. In New York State two other cities so represented are Buffalo and Rochester. In the West, outside of Chicago, St. Louis, and Cincinnati, the city which does the largest business in patent medicines is Grand Rapids, Mich., and Peoria does a little in this line, but not very much. The exportation of American patent medicine is increasing, but the manufacturers continue nevertheless to appeal, with the greatest confidence, to the home market.—*The Sun*.

More than One-Third of the people of this country live in cities and more than half the doctors are there too.

Himself to Blame.—If the Paris physician finds himself with a decreased patronage he has only himself to blame for constantly advocating hygienic measures, supporting Pasteur laboratories, and the like.

"The Sanitarian" gives the following mortality figures:

Deaths Caused by	1885-1889.	1890-1895.
Small-pox.....	1,271	655
Scarlet-fever.....	1,225	946
Measles.....	6,671	5,192
Diphtheria.....	8,383	7,588
Typhoid fever.....	5,903	3,493

Surgical Cleanliness and Surgical Handicraft.—We know that nowadays our practice is based on sound principles. If care and cleanliness be exercised, no region of the body can be violated by the surgeon's knife; no limit can be placed to the possibilities of eradicating or ameliorating disease. The prevention of death is the aim of our science; and it is the glory of modern surgery that it has advanced in this direction beyond the dreams of even the most sanguine prophets of a past generation. We know that no wound made deliberately in healthy tissues ought to suppurate. If it does so, the defect lies in the surgeon's hands—literally and not figuratively; and at his door must be laid the graver charge of surgical disaster. "Godliness is next to cleanliness"—in other words, the most important factor in surgical success, when dealing with the life or limb of your patients, is—cleanliness. Syme long ago expressed a grave truth in forcible language when he observed that "a probe in the hands of a careless surgeon was as dangerous as a loaded pistol in the paw of a monkey;" and we might say conversely that the paw of a monkey would be a source of less danger in a wound than the dirty hands and instruments we unfortunately still sometimes see employed. The surgeon who neglects knowingly the precautions imposed by scientific investigation as regards cleanliness is as blameworthy as the fool who smokes a cigar in a powder magazine. No

sophistry or special pleading can free him from blame if the appalling catastrophe of death is the result of his ignorant carelessness or culpable neglect of essential principles. Therefore, above all things, let your hands be clean. It will be part of our effort here to so instill into your minds the principles of wound treatment that fatal results will be, humanly speaking, impossible; and to endeavor that the gospel of surgical cleanliness will become before you leave these walls an ingrained part of your being—an instinct that time can neither impair nor destroy. "Cleanliness is Godliness;" and, to put it on no higher basis, for your own sakes remember that, according to Scripture, "Godliness is great gain."—DR. R. GLASGOW PATTERSON, *The Dublin Journal of Medical Science*, November, 1896, p. 435.

Herpes Gestationis.—Drs. Fournier and Cannet (*La Médecine Moderne*, March 14, 1896) presented a patient, aged thirty years, affected with herpes. She was attacked in the course of an eighth pregnancy. The eruption showed itself in the second month of pregnancy, being, as is usual, polymorphous. Of the seven previous pregnancies, the first four progressed without cutaneous manifestations. In the course of the fifth, sixth, and seventh pregnancies the affection showed itself with variable intensity. Actual observation shows the fourth relapse of this disease.

Apples.—A Brooklyn physician translates the following from a German writer: "The apple is such a common fruit that few persons are familiar with its remarkably efficacious medicinal properties. Everybody ought to know that the very best thing he can do is to eat apples just before going to bed. The apple is excellent brain food, because it has more phosphoric acid, in an easily digestible shape, than any other fruit known. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. It also agglutinates the surplus acids of the stomach, helps the kidney secretions, and prevents calculus growth, while it obviates indigestion and is one of the best preventives of diseases of the throat. Next to lemon and orange, it is also the best antidote for the thirst and craving of persons addicted to the alcohol and opium habit."

Irregularity in Delivery Due to Short Umbilical Cord.—Dr. Guido Bell (*Indiana Medical Journal*, November, 1896) gives the following *résumé*: A short umbilical cord may be the cause of delayed or of hastened labor during any stage of birth, but delayed labor is more frequent in the second stage, and hastened labor often at the beginning. The symptoms of brevity are: 1. Secondary or dragging pains. 2. Localized tenderness of the womb. 3. An elastically retreating head.

Spermatorrhœa is a frequent symptom in neurasthenia. Most frequently it depends upon a peculiar hereditary irritability of the cerebro-spinal axis. When occurring during the act of micturition, it may come on independently of any pathological seminal loss, and may have as an occasional cause a blennorrhagic urethritis. Occurring during defecation, as it frequently does, an occasional cause may be and probably frequently is the simultaneous contraction of the seminal vesicles and the rectum, aided by pressure of the abdominal muscles. Since impotence often accompanies this form as well as that which is prodromic of tabes, the latter condition must be looked for. It is rare for neurasthenic spermatorrhœa to reach an advanced degree. Usually the symptoms improve under proper treatment.—GOLDSPIEGEL, *Thèse de Paris*, 1896, No. 526.

INDEX.

A

- Abdomen, best method of closing, after laparotomy, 455; contusions of the, 532; fissure of the, 725; gunshot wounds of the, 16, 901; obscure lesions within the, 388.
- Abdominal cavity, drainage of the, 283.
- Abdominal disease, deceptive similarity of signs and symptoms of, 524; in children, rectal examination in the diagnosis of, 305.
- Abdominal section, need of, in diagnosis, 782; on a new-born infant, 912; prevention of hernia after, 799; statistics of, 938.
- Abdominal surgery, cleansing and cleanliness in, 883; report of cases in, 338.
- Abortion, curettage as a means of inducing, 630; indications for the induction of, 16; induced, and perforation of the uterus without peritonitis, 246; treatment of, 175, 650.
- Abrahams, R., rheumatismus neonatorum, 547.
- Abscess, how to open an, 319; retropharyngeal, 629; subphrenic, 391; treatment of acute, 513, 646; treatment of tuberculous, 647.
- Accident insurance policies, the law concerning, 377.
- Acetanilid, 250.
- Achillodynia, 52.
- Acne, treatment of, 306.
- Acrocyanosis, 457.
- Acromegaly, 779.
- Addison's disease, congenital absence of the suprarenal capsules in, 422.
- Adenitis, cervical tuberculous, removal of glands without visible scar, 155.
- Adulteration, report of the British committee on, 358.
- Aeroporotomy, an impossible word, 18.
- Aged, diseases of the, a specialty, 610.
- Ager, Louis C., narcotine in malaria, 174.
- Agnew, W. P., notice of book by, 203.
- Aiken, S. C., as a winter resort, 654.
- Air passages, bacteriology of the, 36.
- Alabama, health resorts of, 655.
- Albuminuria, physiological, 612; prognosis of, 423; treatment of some forms of, by renipuncture, 661.
- Albuquerque, N. M., as a winter resort, 658.
- Alcohol, a physician's right to withhold, 381.
- Alcoholism, 393; ammonia in, 451; in France, 763; in relation to insanity, 592; in relation to suicide, 569.
- Alexander, L. S., snake bile for snake bite, 355.
- Alexander, Samuel, radical treatment of prostatic enlargement by prostatotomy, 841.
- Alexander's operation, new method of fastening the round ligament in, 534.
- Alienists and Neurologists, French Congress of, 457.
- Alimentation, subcutaneous, 612.
- Allbutt, Thomas Clifford, notice of book edited by, 491.
- Allen, Chas. W., what shall we do with the leper? 605.
- Allen, F. H., cyclopia, 249.
- Allen, Hull, death of, 380.
- Allingham, William and Herbert, notice of book by, 165.
- Allis, Oscar H., notice of book by, 383.
- Alopecia, treatment of, 31.
- Aluminum, non-toxic properties of, 717.
- Amenorrhœa, remedy for, 502.
- American Association of Obstetricians and Gynecologists, 525.
- American Dermatological Society, 492.
- American Laryngological Association, 93.
- American Medico-Psychological Association, 244.
- American Microscopical Society, 308.
- American Neurological Association, 59.
- American Orthopædic Association, 21.
- American Public Health Association, 497.
- Amniotic sac, supplementary, with fibroid of the uterus, 351; time to rupture the, 912.
- Amputations, 319; irritable stump after, 600.
- Amyl nitrite, poisoning by, 816.
- Anæmia, discussion on, 273; in cardiac disease, 852, 865; pernicious, 134; pernicious, the blood in, 745; pernicious, treatment of, 713; primary pernicious, 348; rachitic, 350; splenic, 69.
- Anæsthesia by chloroform, 630; during sleep, 839; jubilee of, 635; local, 174, 175, 249; oxygen in, 419, 431; paralysis following, 424, 558; the discoverers of, 768.
- Anæsthetics, antiquity of, 68; deaths from, 174; ether and oxygen as, 373.
- Anastomosis, intestinal, 68, 209, 313, 469, 797, 829; uretero ureteral, 872.
- Anatomy an explanatory science, 766.
- Andre, Orrin C., safety attachment for thermometers, 143.
- Aneurism, dissecting, 170; multiple military, of the left anterior cerebral artery, 345; subclavian, 429; thoracic, x-rays in the diagnosis of, 793.
- Angina pectoris, a sympathetic neurosis, 447; nature of, 680; of Bright's disease, 424.
- Anglo-American Continental Medical Society, 836.
- Animal diseases and animal food, report of the committee on, of the American Public Health Association, 498.
- Animals, ideative faculties and self-consciousness in the lower, 42.
- Antimony terchloride in epithelioma of the face, 50.
- Antisepsis and asepsis in general practice, 59.
- Antitoxin of diphtheria, 25, 58, 462, 596; a possible effect of, 390; cause of sudden death after the use of, 712; isolation of the, 641; phenomena consecutive to the use of, 421; poisoning by, 460; report of the American Pediatric Society on, 1, 17; second collective investigation of the American Pediatric Society on, 574; use of, in Austria, 596; use of, in Berlin, 181, 919.
- Antitoxins, the therapeutic action of, 533.
- Antivenin, 687.
- Antivivisection extremism, 54; legislation, 127; legislation, protest against, 560.
- Antrum, empyema of the, 428.
- Anus, artificial, transperitoneal treatment of, 731; common diseases of the, 521.
- Aorta, double, 170; rupture of the, 171; spontaneous rupture of the, 794.
- Apex catarrh simulating nasal trouble, 206.
- Aphasia, motor, 606; uræmic, 448.
- Appendicitis, 304; and perityphlitis, 856; as it affects life insurance risks, 253; chronic, 566; comment on Dr. Morris' paper on, 910; complicating pregnancy, 461, 831; controversy concerning, 215, 358, 466, 569, 729; following family lines, 387; hydrogen dioxide and saline solution in operations for, 211; latent, metastatic abscess from, 637; masked, 315, 380; notes on, 924; perforative, followed by general fecal peritonitis, 638; resemblance of acute catarrhal salpingitis to, 735; secondary operation for extensive adhesions, 132; surgical treatment of, 311; treatment of, 904; types of, 869; when to operate, 508, 534.
- Appendix, a pin in the, 134; empyema of the, 672; measurements of the, 104; surgical rest for the, 105; use and disease of the, 598.
- Apples, medicinal properties of, 940.
- Appointments, unfairness in, 786.
- Arizona, health resorts of, 658.
- Arkansas, health resorts of, 657.
- Army, British, medical service in the, 102, 503, 524, 729.
- Arteries, catheterism of, 828; closing wounds of, by suture, 68, 629.
- Arthritis deformans, 562.
- Arthritism, diabetic, dosage of alimentation in, 423.
- Artman, Milton E., death of, 634.
- Ascaris lumbricoides, 250.
- Ascites, differential diagnosis of, 928.
- Aseptic surgical technique, 903.
- Asheville, N. C., as a winter resort, 653.
- Ashmead, Albert S., a proposed congress of leprologists, 466, 764; beriberi twelve thousand feet above the sea level, 177.
- Asthma, classifications of, 650; formula for, 463; spasmodic, 249.
- Atlanta, Ga., as a winter resort, 654.
- Atheroma, relation of, to syphilis, 16.
- Auditory hallucinations, 457.
- Augusta, Ga., as a winter resort, 654.
- Auscultation, improved instrument for, 103.
- Auscultatory percussion, 568.
- Austin, Tex., as a winter resort, 657.
- Auto-intoxication of gastro-intestinal origin, 57.
- Ayers, Edward A., symphyseotomy, 368.

B

- Babcock, Warren L., a contribution to the study of acute delirium, with special reference to its bacteriology, 156.
- Bacterial products, 283.
- Bacteriology, hygiene, and medicine, 755.
- Bacteriuria, 228.
- Baginsky, Adolf, notice of book by, 201; the antitoxin treatment of diphtheria in the Kaiser and Kaiserin Friedrich Children's Hospital in Berlin, and Dr. Winters' observations thereon, 181.
- Bailey, Pearce, the effect of early optic atrophy upon the course of locomotor ataxia, 710.
- Baker, Morratt, death of, 645.
- Balderdash, definition of, 465.
- Baldwin, J. F., a loud heart murmur, 272.
- Ball, A. Brayton, how specimens of urine may be sent to India for diagnosis, 695.
- Balsam of Peru in castor oil as a dressing, 759.
- Barnes, Willis, notice of book by, 130.
- Barton, Joshua Lindley, diseases of the trachea, bronchi, and lungs treated by intratracheal injection, 151.
- Bartow, Fla., as a winter resort, 655.
- Baruch, Herman B., the phonendoscope, 624.
- Bashore, Harvey B., disinfection of the hands during labor, 207.
- Bassini's operation, 57.
- Baths, diagnostic value of thermal, 696.
- Battle of the clubs, 212.
- Bauer, Joseph, death of, 19.
- Bay St. Louis, Miss., as a winter resort, 656.
- Beal, F. E., strychnine in uterine inertia, 427.
- Beaumont, Cal., as a winter resort, 659.
- Beck, Carl, a case of hermaphroditism, 135, 694.
- Becker, Tracy C., notice of book by, 129.
- Bell, Robert, notice of book by, 203.
- Bell, Victor C., notice of book by, 165.
- Beriberi in Dublin, 763; twelve thousand feet above sea level, 177.
- Berlin, cost of medical education in, 344; letters from, 285, 568.
- Bernacki, Charles, death of, 452.
- Bertrand, Léon, a new fluorescent substance, 86.
- Bicycle, alleged injurious effect of, on women, 681; a physician on the, 557; for scoliosis, 615; fright, 270; in first aid to the injured, 558; sanitary aspect of, 501.
- Bicyclists, advice to, 288.
- Biloxi, Miss., as a winter resort, 656.
- Bismuth naphtholate, 304.
- Bladder, female, cystoscope in the diagnosis and treatment of diseases of the, 835; female, palliative treatment of cancer of the, 603; removal of calculi

from the, 802; rupture of the, 515, 759; tuberculosis of the, treated by direct medication, 755.

Bleything, George D., uses of the stomach, 145.

Blindness, prevention of, 499.

Blood, diagnosis of tuberculosis from the morphology of the, 325, 796; diagnostic value of examination of the, 435; in general paralysis, 468; in pernicious anemia, 745; in tuberculosis of the bones, 340; in yellow fever, 793; preparation of, for microscopical examination, 286, 385, 544, 695.

Blood-vessels, lesions of the, 108; suture of large, injured in operation, 531.

Body snatching, 930.

Boerne, Tex., as a winter resort, 658.

Boislinière, L. Ch., notice of book by, 131.

Bond, A. K., diseases of the aged as a specialty, 610.

Bones, fragility of the, in the insane, 162.

BOOK NOTICES:

Anatomie des Menschen, Handatlas der, von W. His, 203.

Anatomy, comparative, text-book of, by Arnold Lang, 384.

Anatomy, descriptive and surgical, by Henry Gray, 648.

Anatomy, manual of, by I. S. Haynes, 382.

Anatomy, Quain's elements of, 202.

Abdominal surgery and other subjects, clinical lectures on, by Charles T. Parkes, 130.

Angines couenneuses non-diphtheriques, par Dr. Dufand, 384.

Autopometria militaire, 202.

Appendicitis, treatise on, by J. B. Deaver, 202.

Bacteria, pathogenic, text-book of, by Joseph McFarland, 131.

Bacteriology, text-book of, by George M. Sternberg, 131.

Blind leaders of the blind, by J. R. Cocke, 383.

Boston City Hospital, medical and surgical reports, 202.

Braithwaite's Retrospect of Medicine, 384.

Chemistry, short course of experiments in general, by Charles R. Sanger, 490.

Children, how to feed, by L. E. Hogan, 384.

Chirurgie cérébrale, traité de, par A. Broca et P. Maudsley, 129.

Consumption, its nature, cause, and prevention, by Edward Playter, 165.

Dame Fortune Smiled, by Willis Barnes, 130.

Deaf-mutism, by J. K. Love, 130.

Diagnosis, manual of clinical, by C. E. Simon, 727.

Dictionary, a vest-pocket medical, by Albert H. Buck, 491.

Dictionary, the student's medical, by G. M. Gould, 201.

Diets for infants and children, by Louis Starr, 166.

Dispensatory formulary, the national, 165.

Électricité, traitement des maladies des femmes par, par L. R. Regnier, 383.

Electricity in electro-therapeutics, by E. J. Houston and A. E. Kennelly, 165.

Electricity, medical and surgical uses of, by A. D. Rockwell, 491.

Ethical codes, the three, 202.

Eye, methodical examination of the, by William Lang, 165.

Fear, by Angelo Mosso, 354.

Fièvre typhoïde, la sérothérapie de la, par M. Funck, 165.

Formulaire et aide-mémoire, par F. Roux, 384.

Formulary of unofficial preparations, national, 203.

Fundus oculi, by W. Adams Frost, 382.

Germinal selection, by August Weisman, 384.

Hahnemann's defense of the organon of rational medicine, translated by R. E. Dudgeon, 385.

Head and neck, anatomy of the human, by Dr. Schmidt, 202.

Hemorrhoids and other non-malignant rectal diseases, by W. P. Agnew, 203.

BOOK NOTICES:

Hip, difficulties in the reduction of dislocations of the, by Oscar H. Allis, 355.

Histological laboratory, directions for work in the, by G. C. Huber, 129.

Hospitals and charities, by H. C. Burdett, 202.

Humane Society of the Commonwealth of Massachusetts, report of, 648.

Inebriety, non-heredity of, by L. E. Keeley, 383.

Infancy and childhood, treatise on the medical and surgical diseases of, by J. L. Smith, 165.

Jurisprudence, medical, and toxicology, manual of, by H. C. Chapman, 130.

Jurisprudence, medical, forensic medicine and toxicology, by A. R. Witthaus and Tracy C. Becker, vol. iii., 129.

Kinderkrankheiten, Lehrbuch der, von A. Baginsky, 201.

Le Fort, Léon, œuvres de, publiées par Félix Lejars, 166.

Leprosy, handbook on, by S. P. Impey, 384.

Medicine, a system of, edited by T. C. Allbutt, 491.

Medicine, practice of, by W. C. Goodno, 131.

Midwifery, manual of, by W. E. Fothergill, 490.

Militär-Sanitätswesens, Veröffentlichungen aus dem Gebiete der, 384.

Minor surgery and bandaging, by H. R. Wharton, 727.

Modern Greek mastery, by Thomas L. Stedman, 901.

Mouth and teeth, popular essays on the care of the, by V. C. Bell, 165.

Multum in parvo reference and dose book, by C. Henri Leonard, 490.

Nervous system in women, functional disorders of, by T. J. McGillicuddy, 901.

Nose and throat, text-book of diseases of the, by F. H. Bosworth, 727.

Nurses, elementary anatomy and surgery for, by W. McA. Eccles, 383.

Nurses, text-book for training-schools for, by P. M. Wise, 648.

Nursing, practical points in, by Emily A. M. Stoney, 490.

Obstetric accidents, emergencies, and operations, by L. Ch. Boislinière, 131.

Obstetrics, manual of, by W. A. N. Dorland, 727.

Operations-Cursus an der Leiche, anleitender Vorlesungen für den, von H. Rochs, 383.

Pan-American Medical Congress, transactions of the first, 385.

Pathological anatomy and histology, handbook of, by Francis Delafield and T. M. Prudden, 901.

Pathology and pathological anatomy, text-book of, by Richard Thoma, 130.

Pharmacology and therapeutics, manual of, by W. Murrell, 727.

Philadelphia Hospital reports, edited by G. E. de Schweinitz, 202.

Phthisis treatment of, by Arthur Ransome, 166.

Physics for students of medicine, by Alfred Daniell, 202.

Presbyterian Hospital of New York, report of the, 490.

Proceedings of the American Psychological Association for 1895, 202.

Railway Surgeons, Report of the American Academy of, 490.

Rectum, anus, and contiguous structures, diagnosis and treatment of diseases of, by S. G. Cant, 382.

Rectum, diseases of the, by W. and H. Allingham, 165.

Rheumatism, its nature, its pathology, and its successful treatment, by T. J. MacLagan, 648.

Schutzpocken Impfung, die Pathologie der, von L. Fürst, 384.

Science progress, 129.

Sickness and health, edited by J. W. Roosevelt, 203.

BOOK NOTICES:

Skin, atlas of diseases of the, by H. Radcliffe Crocker, 131, 490.

Skin diseases and syphilitic affections, a pictorial atlas of, by E. Besnier and others, edited by J. J. Pringle, 165, 648.

Skin diseases, ready reference handbook of, by G. T. Jackson, 648.

Skin, histopathology of diseases of the, by P. G. Unna, 201.

Statistica sanitaria dell'armata italiana, 202.

Sterility, by Robert Bell, 203.

Stomach, its disorders and how to cure them, by J. H. Kellogg, 201.

Surgery, a system of, edited by Frederic S. Dennis, 490.

Syphilis, die Heilung der, von C. Westerdahl, 384.

Syphilis in the middle ages and in modern times, by F. Buret, 130.

Thérapie, Encyclopédie der, von O. Liebreich, 383.

Trained nurses' directory, edited by M. Louise Longeway, 166.

Transactions of the American Association of Obstetricians and Gynecologists, 203.

Transactions of the American Surgical Association, 165.

Transactions of the Medical Society of the State of New York, 203.

Transactions of the New York State Medical Association for the year 1895, 165.

Transactions of the Southern Surgical and Gynecological Association, 202.

Tronc, affections chirurgicales du, par D. Polakillon, 384.

Twentieth Century Practice, edited by Thos. L. Stedman, 382.

Whittaker's anatomical model, by Dr. Schmidt, 202.

Booth, Carlos C., a case of collapse from excessive vomiting successfully treated by intravenous infusion of saline solution, 462.

Booth, J. Arthur, œdema in Graves' disease, 45, 65.

Borosalicylic cream, 502.

Bosworth, Francke Huntington, notice of book by, 727.

Bottomo, F. A., secondary hemorrhage following tonsillotomy, 316.

Bowman lecture, 140.

Bowden Lithia Springs, Ga., 654.

Boyer, Arthur Irving, malignant diphtheria treated by antitoxin—rapid recovery, 462.

Boyd, Robert, neuralgia of the penis, 208.

Boyd, Robert M., death of, 236.

Brain, abscess of the, 563; associated centres of the, 569; concussion of the, 630; cortical embolus (red softening) of the, 148; ectal relations of the right and left parietal and paroccipital fissures, 61; hemorrhage in surgery of the, 279; prognosis of hemorrhage of, 571; surgery of the, 68; syphilitic disease of the, 464, 834; tumors of the, 167, 571.

Breast, abscess of the, 143; amputation of, for cancer, 447; cancer of, 311, 429; care of the, in lactation, 480; preventive treatment of inflamed, 556; radical operation for cancer of, 637; tumors of, 571, 594.

Bremer, Ludwig, the knife for coccygodynia a failure, 154.

Brettner, Joseph, chronic endometritis, 553.

Bright's disease, diet in, 680; pilocarpine in, 690.

British army, injustice to medical officers in the, 102, 503, 524, 729.

British Association for the Advancement of Science, 539, 567.

British Medical Association, 234, 238, 273, 284, 309, 320.

Broca, A., notice of book by, 129.

Bromides, unusual effects of, 765.

Bronchi, local treatment of affections of the, 151, 430.

Bronchiolectasis, multiple, 838.

Bronchitis, acute capillary, oxygen in the treatment of, 479; diffuse, in children,

- 483; formulae for, 139; of the aged, remedy for, 463; treatment of simple acute, 101.
- Bronchocele, unilateral, with myxœdema, 568.
- Bronchopneumonia, hot baths in, 650; in children, remedy for, 502.
- Brothers, Samuel, hypnotism and suggestion, with a case of spasmodic stricture of the œsophagus, 293.
- Browder, James D., death of, 54.
- Brown, Charles DaCosta, death of, 127.
- Bruce, Alexander, notice of translation by, 130.
- Brunswick, Ga., as a winter resort, 654.
- Bryan, Alonzo, arrest of small-pox in the vesicular stage, 83.
- Bubo, treatment of, by iodoform, 138, 789; venereal, 712; venereal, etiology and treatment of, 801.
- Buchanan, Alexander, death of, 380.
- Buck, Albert H., notice of book by, 491.
- Burchard, Thomas H., death of, 752; resolutions on the death of, 823.
- Burdett, Henry C., notice of book by, 202.
- Buret, F., notice of book by, 130.
- Burns from hot-water bottles, 594; ichthyol for, 106; "I." line favorite for, 502; of the second degree, application for, 174; picric acid in, 307; potassium nitrate in, 591; turpentine in the treatment of, 353.
- Bursitis, a case of, 51.
- Burt, Frank L., uterine fibroid and pregnancy, 564.
- Rush, W. D., malarial hæmaturia or hemorrhagic fever, 209.
- C
- Cadwallader, R., poisoning by amyl nitrite, 826.
- Cæsarian section, post-mortem, with delivery of a living child, 245; suture of the uterus *vs.* total extirpation, 429; vaginal, 820.
- Calculi, biliary, obstruction of the common duct by, 602.
- California, health resorts of, 659.
- Calomel, danger of combining with antipyrin, 689; dispensing, with sugar of milk, 303; hypodermic injections of, 518.
- Canada, alleged immorality in, 681, 803; letter from, 937.
- Cancer and tuberculosis, association of, 345; contagion of, 839; disappearance of, 936; of the breast, 311, 429; of the tongue, 836; of the uterus, diagnosis of, 393; of the uterus, palliative treatment of, 748; of the uterus treated by the toxins of erysipelas and bacillus prodigiosus, 746; Roentgen rays for, 307; rules for operation in, 174; treatment of, 428.
- Cannabis indica, aqueous extract of, 650; poisoning by, 280, 519.
- Carbolic acid, vinegar as an antidote to, 462.
- Carbonic acid, exhalation of, 144.
- Carstens, J. H., the need of abdominal section in certain cases to aid the general practitioner to diagnose obscure abdominal affections, 782.
- Cartilages, displaced semilunar, massage movements and bandaging in the treatment of, 819.
- Cartwright, S. S., strangulated hernia in an aged subject, 390.
- Castration for enlarged prostate, 11; of criminals, 378.
- Catalepsy lasting over thirteen years, 837; thyroid treatment of, 244.
- Catarrh, treatment of chronic, of the nose, throat, and ear in children, 537.
- Catarrhal diseases of children, value of carbolic acid in some, 371.
- Catgut, sterilization of, 67, 207, 232.
- Cauterization, submucous linear, 534.
- Centenarians, 252.
- Cerebellum, tumor of the, 168, 348.
- Cerebritis, rapidly fatal, resembling cerebrospinal meningitis, 63.
- Cerebrospinal fever, adhesions of the meninges following, 427; the micro-organism of, 103.
- Cerebrospinal fluid, diagnostic value of, 423.
- Cervix knife for denuding in trachelorrhaphy, 178.
- Chalkley, Charles H., death of, 523.
- Chapin, Henry Dwight, the sphere of the physician and the hospital, 733.
- Chapman, Henry C., notice of book by, 130.
- Chapped skin, application for, 392.
- Chamberlin, E. Crosby, a possible effect of antitoxin, 390.
- Chambers, Thomas, death of, 838.
- Chancellor, James Edgar, death of, 452.
- Chancre of the hand, 760; phagedenic soft, treatment of, 138.
- Chancroid, treatment of, 463.
- Charcoal, uses of, 484, 714.
- Charities, commissioners of, and the public hospitals, 414.
- Charleston, S. C., as a winter resort, 653.
- Charlotte, N. C., as a winter resort, 653.
- Chattanooga, Tenn., as a winter resort, 656.
- Cheatham, William, pyrozone and dilute hydrochloric acid in suppurating inflammations of the middle ear, 388.
- Cheyne-Stokes respiration, tremor combined with, 423.
- Chicago, impure water in, 488.
- Chilblains, treatment of, 139.
- Childbirth, constipation after, producing symptoms of puerperal infection, 247; relative advantages of forceps and version in moderately contracted pelvis, 279; partial convulsions prior to delivery, 429; with unruptured membranes, 137.
- Childhood, prevention of diseases and mortality in, 431.
- Children, insanity in, 431; mortality of, 501.
- Children, G. A., clinical history and post-mortem appearance of a case of cortical embolus, 148.
- Chili, hospital management in, 685.
- China, American physicians honored in, 56.
- Chloroform, König-Maas' method of resuscitation from apparent death by, 250; narcosis from, 59; *vs.* ether, 428.
- Chlorosis, marriage not contraindicated by, 712; sulphur in, 502.
- Choate, George C. S., death of, 19.
- Cholagogues, 819.
- Cholelithiasis, 29, 871.
- Cholera in South Russia, 862.
- Cholmeley, William, death of, 141.
- Chorea, 412, 484; arsenic in, 450; electrical, 50; rheumatic causation of, 244.
- Cigarettes, arsenic in, 127.
- Citronella, Ala., as a winter resort, 655.
- Clark, L. Pierce, occupation neurosis or ironer's cramp, 642; thyroid in epilepsy, 588.
- Clavicle, massage in fracture of the, 800.
- Clayton, Harry, death of, 91.
- Cleft palate, time to operate upon, 68.
- Cleveland Medical Society and the American Medical Association, 716.
- Close of volume fifty, 930.
- Clubfoot, 283; muscles of the leg in, 568; treatment of, 25.
- Coagulation, pathogenesis of intravascular, 422.
- Cocaine, anaesthesia by, 840; in surgery, 396; poisoning by, 854.
- Cocainism, Magnan's sign in chronic, 712.
- Coccygodynia, the knife a failure for, 154.
- Cochran, Jerome, obituary of, 272.
- Cocke, J. R., notice of book by, 383.
- Codes, revision of, 633.
- Cod-liver oil, creamy emulsion of, 391.
- Cold, influence of, upon a diseased heart, 80.
- Cold bathing during menstruation, 356.
- Coleman, Robert, glass double-current irrigating tubes, 519.
- Colic, asafœtida in, 765; renal, treatment of pain in, 590.
- Collapse from excessive vomiting successfully treated by intravenous infusion of saline solution, 462.
- College of Physicians of Philadelphia, 19, 559, 680, 715, 824.
- Colles' fracture, 373, 572; immunity, 282.
- Colorado, warning reputation of, 71.
- Colpotomy, anterior, 753.
- Columbia, S. C., as a winter resort, 653.
- Comedones, ointment for, 502.
- Conception, prevention of, 359.
- Congar, Stephen, death of, 452.
- Conjunctivitis granular, application for, 391; purulent, 57.
- Consciousness, double, 237.
- Constipation a cause of disease in women, 650; chronic, 448; treatment of, 688, 791; unconsciousness from, 680; water for, 138.
- Consumption, are sanatoriums for, a danger to the neighborhood? 482.
- Contagious diseases of the lower animals, relation of, to those of the human family, 133; origin and spread of, 629; weekly statement, 72, 108, 143, 178, 216, 251, 288, 323, 359, 395, 431, 467, 504, 574, 612, 651, 696, 732, 766, 803, 839, 876, 939.
- Copeman, Dean, death of, 610.
- Copper arsenite, 304.
- Copper salts in canned vegetables, 70.
- Cord, disseminated sclerosis of the, 550; lesions of the cells of the, consecutive to nerve section and anæmia, 458; lesions of the, produced by microbic toxins, 457; penetrating wounds of the, 590.
- Cordier, A. H., report of cases in abdominal and pelvic surgery, 338.
- Corish, John L., ether and oxygen as anaesthetics, 373; oxygen in the treatment of acute capillary bronchitis, 479.
- Cork of a tablet bottle, how to draw the, 517.
- Cornea, treatment of opacities of the, 801.
- Corning, J. Leonard, use of congealed oils to prevent the reunion of nerves after their subcutaneous division, 809.
- Corns, application for, 250.
- Corpus Christi, Tex., as a winter resort, 658.
- Corrigan's pulse, 412.
- Cortelyou, Lawrence B., death of, 200.
- Coryza, acute, 249.
- Cough, bromoform in, 688, 689; remedy for, 356; tonsillar, 124.
- Council, general medical, of Great Britain, 464, 905, 936.
- Coxalgia, resection of the hip for, 176.
- Coxitis, tuberculous, diseases simulating, 556.
- Craig, Charles F., recent advances in our knowledge concerning the malarial organism, 664.
- Craig Colony for epileptics, 686, 767.
- Cranial vault, fractures of the, 36.
- Craniotomy on the dead child, 28.
- Creolin, toxic action of, 102.
- Cretinism, treatment of, 563.
- Crico-arytenoid joint, perichondritis of the, 99.
- Criminals, castration of, 378.
- Criminology, report of the committee of the New York State Medical Association on, 599.
- Crocker, H. Radcliff, notice of book by, 131, 490.
- Croup, laryngeal, treatment of, 137; membranous, after-treatment of tracheotomy cases of, 428.
- Cruel deceit, a, 931.
- Crying babies, cure of, 799.
- Cuba, butchery of the sick and wounded in, 593; epidemic disease in, 451; surgical corps of the army of, 574.
- Cumberland County (N. J.) Medical Society, 686.
- Cullingworth, Dr., suit against, 875.
- Curette of the uterus, 430; indications for, 368.
- Cyanosis, congenital, 563.
- Cyclopia, 249.
- Cystitis in women, 630.
- Cystoscopic work, residual water in, 756.
- Cystotomy, suprapubic, 829.
- D
- Daniell, Alfred, notice of book by, 202.
- Darnall, William Edgar, a complicated case of poisoning by bichloride of mercury, 719.
- Darr, Hiram Henry, death of, 823.

- David Lewis trust, hospitals benefiting by the, 801.
 Davis, Henry G., death of, 860.
 Davis, Theo. G., congenital occlusion of the urethra, 354.
 Davis, Wesley, antiseptic treatment of typhoid fever, 183.
 Dead, transportation and disposal of the, 499.
 Deaf, music for the, 540.
 Deafness, thyroid extract in, 689; word, 244.
 Death, a sign of, 359.
 Death scenes in fiction, 89.
 Deaver, John B., notice of book by, 202.
 Deceit, a cruel, 931.
 Deciduoma malignum, 87.
 Déclat, Dr., death of, 898.
 Deformity, ultimate etiology of, 23.
 Degenerate, extinction of the, 785.
 Delatfield, Francis, notice of book by, 901.
 Delaware State Medical Society, 133.
 Delirium, acute, bacteriology of, 156; of persecution of double form, 459; tremens, cold baths in, 52, 520.
 Delivery at full term, two cases of, following cul-de-sac operations, 136.
 Dementia, parietic, a form, of mental disease resembling, 65.
 Deming, N. M., as a winter resort, 658.
 Dengue, 498.
 Denison, Charles, morphology of the blood in tuberculosis, 395; the microscopical proof of a curative process in tuberculosis, or the reaction to tuberculin evidenced by blood changes hitherto unrecognized, 330.
 Dennis, Frederic S., notice of book edited by, 490.
 Dental Association, meeting of the British, 394.
 Dermatitis herpetiformis, relation of, to erythema multiforme and to pemphigus, 496; iodoform, 496.
 Dermatology, international congress of, 320; the higher aims of, 706.
 De Schweinitz, George E., notice of book by, 202.
 Després, Ormand, death of, 308.
 Dessau, S. Henry, the value of carbohc acid in some catarrhal diseases of children, 371.
 Development, mixed premature and immature, 802.
 Diabetes mellitus, dermatoses in, 495; electricity in, 200; pathogeny of, 590; prescription for, 392; renal, 285; the forms of, 855.
 Diagnosis, relationship of, to future surgical progress, 534.
 Diarrhea, chronic, 419; chronic, treatment of, 689; infantile, 138, 435, 463, 585; infectious, in infants, 435; remedy for, 356; summer, of children, 138.
 Digestion, relation of diseases of the nose and throat to, 97.
 Diller, Theodore, primary muscular dystrophy in two brothers, 670.
 Dillon, John Dale, death of, 200.
 Diphtheria, acute disseminated sclerosis with neuritis in the sequence of, 233; acute multiple neuritis following, 353; antitoxin of, see *Antitoxin of diphtheria*; bacilli of, and mixed infection, 639; bacteriological examination of one thousand suspected cases of, 124; bromides as a cure in, 603; citric acid in, 689; diminished mortality from, in Paris, 568; immunizing power of normal horse serum, 421; management of suspected cases of, 660; of the nasopharynx, 618; of the penis, 829; prevention of, 500; treatment of, in Berlin, 919; treatment of pharyngeal, 688.
 Diplococcus lanceolatus, pathogenicity of the, 343.
 Diploma mills and State protection, 125.
 Disinfection of the hands, 301.
 Dispensaries, prosperity of the, 559.
 Dispensary abuse, 89, 767; in England, 212, 687.
 Dog-tail sutures, 175.
 Dorland, W. A. Newman, notice of book by, 727.
 Douglas, Beaman, primary carcinoma of the inferior turbinated body, 210.
 Down, Langdon, death of, 645.
 Drainage tube, method of retaining the, 600.
 Drake, E. L., recurrent scarlatina, 790.
 Drescher, August, notes from the laboratory and dispensing counter, 303.
 Dressings, best material for, 283; surgical, indications for the removal of, 646.
 Drew, C. A., some thoughts on disordered memory and kindred conditions, 674.
 Dropsy, causation of, 748.
 Drug habit, 575.
 Drumhead, permanent artificial perforation of the, 509.
 Duboisine sulphate as a means of combating refusal of food in general paralysis, 459.
 Dudgeon, R. E., notice of translation by, 383.
 Dufand, D., notice of book by, 384.
 Dunant, Henry, the founder of the Red Cross, 288.
 Dunn, James H., appendicitis—to operate or not to operate, 508, 534.
 Dunwoody, J. A., horse serum in consumption, 51.
 Duodenum, stenosis of, simulating pyloric stenosis, 424.
 Dwight, Thomas, methods of estimating the height from parts of the skeleton—a correction, 141.
 Dysmenorrhœa, 412; caffeine in, 792; discussion on, 276; treatment of, 139, 689.
 Dyspepsia, dieting in, 550; remedy for, 392, 463, 502; sodium bicarbonate in, 650.
 Dysphonia spastica, intermittent, 98.
 Dystocia due to disparity between size of head and circumference of shoulders, 351; in Mexico, 795.
 Dystrophy, primary muscular, in two brothers, 670.
- E
- Ear, acute and chronic purulent inflammation of the middle, 317; chronic supuration of the middle, 67; eczema of the external auditory canal, 101; hayseed sprouted in the, 820; importance of an understanding of diseases of the, by all practitioners, 187; movable, in man, 570; plastic operation on the, 758; purulent disease of the middle, the ophthalmoscope as an aid to the diagnosis of cerebral disease in, 225; purulent inflammation of the middle, pyrozone and dilute hydrochloric acid in, 388; relation of affections of the upper air passages to diseases of the, 601; so-called supernumerary, 100; removal of foreign bodies from the, 463; treatment of chronic catarrh of, in children, 537.
 Earache, remedy for, 463.
 Earle, Samuel T., some new instruments for the treatment of rectal diseases, 215.
 Eating, rules for, 629.
 Eccles, W. McAdam, notice of book by, 383.
 Echinococcus cyst, sterile, 338.
 Eclampsia, puerperal, treatment of, 456, 765, 913; recent investigations concerning, 604.
 Eczema, dry, with pruritus, 249; effect of diet and alcohol upon, 493; of the breast and nipple, treatment of, 649.
 Eddy, Mary Pierson, a woman physician in Turkey in Asia, 911.
 Edgar, J. Clifton, treatment of puerperal eclampsia, 913.
 Edinburgh, students of, 837.
 Elbow-joint, prognosis of injuries of the, 801; treatment of old dislocations of, 425.
 Electro-diagnosis and electro-therapeutics simplified, 533.
 Elliott, Hiram, insanity of pubescence, 73.
 Ellis, John, death of, 860.
 Ellsworth, Pinckney Webster, death of, 823.
 El Paso, Tex., as a winter resort, 658.
 Embolus, cortical, of the brain, 148.
 Emergency ration, 360, 935.
 Empyema, the surgery of, 438.
 Encephalitis, acute non-suppurative hemorrhagic, 60.
 Endarteritis obliterans, 422.
 Endocarditis, infectious, 443; potassium iodide in, 138; rheumatic, arrest of, 412; ulcerative, 170.
 Endometritis, chronic, 553; senile, 551; treatment of, 602.
 Enteritis, 448.
 Enuresis in children, causes of, 464; varieties of, 72.
 Epididymitis, 175; formula for, 31.
 Epilepsy, 393; causes of reflex, 571; collateral theory of, 66; colony treatment of, 404, 686, 767; legislation regarding, 27; medical and surgical treatment of, 419; nitroglycerin in, 791; partial, in acromegaly, 457; pathology of, 64; remedy for, 463, 502; surgical treatment of focal, 64, 731; thyroid in, 588; trional in, 16.
 Epileptics, colonies for, 404; Craig Colony for, 686, 767; home cure of, 26; marriage of, 680.
 Epispadias, operation for, 67.
 Epistaxis in heart disease, 563; treatment of, 689.
 Epithelioma of the face, terchloride of antimony in, 50; resorcin for, 174.
 Erdtmann, Paul W., a case of oxalic-acid poisoning, 461.
 Ergot, action of, 138; Rheinstadter's mixture, 393.
 Erichsen, Sir John Eric, death of, 488, 567.
 Erysipelas, application for, 392; in infants, 447; toxins of, 557.
 Erythromelalgia, 818.
 Eshner, Augustus A., a case of electrical chorea, 50.
 Ether and oxygen as anæsthetics, 373; *vs.* chloroform, 428.
 Ethics in Paris, 803; medical, a proposed international congress of, 199.
 Ethmoid disease, pathological anatomy of, 97.
 Eucaïne, a new local anæsthetic, 164.
 Eureka Springs, Ark., as a winter resort, 657.
 Evans, D. W., how to draw the cork of a tablet bottle, 517.
 Examinations, medical, in England, 33.
 Excoriations in children, ointment for, 138.
 Exophthalmic goitre, cedema in, 45, 65.
 Extension, ambulatory, in surgery, 30.
 Eye, contamination of liquid medicines for the, 783; effects of extrinsic poisons on the, 786; foreign bodies in the interior of the, 281; new morphological element in the cones of the retina, 725; relation of diseases of the, to general diseases, 636; subconjunctival injection in the treatment of certain diseases of the, 536; treatment of corneal opacities, 801.
 Eyesight of school children in London, 251.
- F
- Farrington, Edward S., resolutions on the death of, 595.
 Fat necrosis, abdominal, pathogenesis of, 54; starvation, nutritional changes resulting from, 386.
 Favell, William Fisher, death of, 838.
 Favus of the nail, 423.
 Feeding, irregular Sunday, penalty of, 449.
 Fees, medical, and multi-millionaires, 821.
 Feet, sweating of the, 392; sweating of the, lotion for, 502.
 Ferguson, E. D., a class of fatal cases presumably due to intestinal ptomains, 620.
 Fernandina, Fla., as a winter resort, 655.
 Fessenden, C. S. D., death of, 163.
 Fever, a relapsing, 641; aseptic surgical, 895; autumnal, in the southern Atlantic States, 826; continued, 833; treatment of, 464.
 Field, Jacob T., death of, 823.
 Fifield, Wm. C. B., death of, 416.
 Fingers, clubbing of the, 574; lacerated wounds of, 286.
 Finger tip, union of a severed, 518.

- Finley, Mary Jordan, adhesions of the meninges following cerebrospinal fever, 427.
- First aid, methods of instruction in, 332.
- Fischer, Louis, the treatment of diphtheria in Berlin, 919.
- Fischlowitz, G. G., poisoning by cannabis indica, 280.
- Fisher, W. A., foreign bodies in the interior of the eye, 281.
- Fishhook removed from an infant's throat by digital manipulation, 460.
- Fistula, fecal, treatment of, 586, 600.
- Fistula in ano, 375; dermoid cysts a cause of, 29; reasons for unsuccessful treatment of, 175; treatment of, 647.
- Flagg, Cora H., rudimentary organs, 364.
- Flat foot, 22, 25.
- Flatulence, treatment of, 840.
- Fleming, Andrew, death of, 308.
- Fleming, Luke, malarial hæmaturia, 426.
- Flies, means of driving away, 55.
- Flooding, death after, 396.
- Florida, health resorts of, 654.
- Flower, Sidney, hypnotism and what it signifies, 938.
- Floyd, C. S., death of, 860.
- Fluorescent substance, a new, 86.
- Foaler, Surgeon-Major, death of, 906.
- Fontanelle, clinical significance of the child's, 536.
- Foot, anterior transverse arch of the, 22.
- Forceps, indications for use of the, 893.
- Foreign bodies swallowed by children, 731.
- Forker, F. L., plastic operation for deformity of the nose caused by syphilis, 719.
- Formaldehyde, disinfection by, 803.
- Formalin as a preservative, 192, 838; in septic wounds, 759; uses of, 347.
- Fort Myers, Fla., as a winter resort, 655.
- Fort Worth, Tex., as a winter resort, 657.
- Fossa navicularis, treatment of follicular abscess of, 690.
- Fothergill, W. E., notice of book by, 490.
- Fowler, George R., empyema of the vermiform appendix, 672.
- Fractures, prognosis of, 69; treatment of compound, 571.
- Fragilitas ossium, 875.
- France, foreign medical students and practitioners in, 34, 70.
- Frank, J., a new contrivance for intestinal end-to-end anastomosis, 469.
- Frankenburger, J. M., a monstrosity, 514.
- Fraser, Patrick, death of, 906.
- Freeman, Walter J., diphtheria of the nasopharynx, 618.
- French Medical Congress, third, 420.
- Freudenthal, W., a nasal bag, 72.
- Frisbie, W. L., death of, 452.
- Frost, W. Adams, notice of book by, 382.
- Frost-bite, application for, 196.
- Frothingham, Richard, the importance of an understanding of middle-ear disease by all practitioners, 187.
- Frye, Maud J., estimation of the number of bacteria in milk, 442.
- Funck, M., notice of book by, 165.
- Funis, treatment of the, 412.
- Furman, F. S., arrest of small-pox in its vesicular stage, 354.
- Furman, Guido, death of, 860.
- Furmeaux, William S., notice of book by, 202.
- Fürst, L., notice of book by, 384.
- G
- Gage, W. V., need of caution in the use of the Roentgen rays, 307; union of a severed finger tip, 518.
- Gainesville, Fla., as a winter resort, 655.
- Gallant, A. Ernest, dystocia due to disparity between the size of the head and the circumference of the shoulders of the fetus, 351.
- Gall bladder, surgery of the, 512.
- Gall stones, treatment of, 138.
- Galveston, Tex., as a winter resort, 658.
- Gant, S. G., notice of book by, 382.
- Garbage, disposal of, 498.
- Garden City, Kan., as a winter resort, 657.
- Gardner, H. M., report of a case of bur-sitis, 51.
- Gargling, v. Troltsch's method, 138.
- Gasserian ganglion, removal of the, 533; surgery of the, 28.
- Gastralgia, remedy for, 139.
- Gastric acidity, nature and treatment of, 834.
- Gastric perforation and hemorrhage, surgical treatment of, 929.
- Gastro-enterostomy for cancer of the pylorus, 874.
- Gastro-intestinal tract, some inflammatory diseases of the, 533.
- Gastro-jejunosotomy with the Murphy button, 338.
- Gates, H. A., rupture of the urethra, 565.
- Gauze dressings, 572; preparation of, 252.
- Geiser, Mary L., poisoning by cannabis indica, 519.
- Gelsmium as an adjuvant to belladonna or opium, 690.
- Georgia, health resorts of, 654.
- Gerhard, Emanuel F., death of, 271.
- Germis and serums, 103, 177.
- Gestation, ectopic, 195; prolonged, 502.
- Gibbs, Theron Z., death of, 91.
- Giles, J. Edward, a folding ophthalmometer, 141.
- Gillette, Willard, hydatidiform mole, 15.
- Gilliam, D. Tod, a new trachelorrhaphy knife, 696.
- Gladmon, Edwin, a case of infectious endocarditis, 443.
- Glasgow, pathological institute in, 728.
- Gleet, absence of gonococci in; 730; injection for, 800.
- Glossitis, a case of, 172.
- Glycosuria, regulatory, 108.
- Goelet, Augustin H., a cervix knife for denuding in trachelorrhaphy, 178; improved trachelorrhaphy, 13; senile endometritis and vaginitis, 551; what is the best operative procedure for retro-deviation of the uterus? 302.
- Goitre, thyroid extract for, 689; exophthalmic, surgical treatment of, 198; exophthalmic, symptoms of incipient, 855.
- Golden, William W., mountain fever, 910.
- Goldenberg, Hermann, bacteriuria, 228.
- Gold, combinations of, 46.
- Gonococcus, biology of the, 887.
- Gonorrhœa, alumna for, 39; citrate of silver for, 791; in children, 757; injection for, 356; in women, 740, 757; marriage of men who have had, 912; protection of the innocent from, 501; protection of the internal organs in; 573; purulent ophthalmia in, 107; treatment of, 68, 71; use of injections in, 319.
- Goodno, William C., notice of book by, 131.
- Gordon, Bernard, gonorrhœa in women, 740, 757.
- Gould, G. M., notice of dictionary by, 201.
- Gould, Orissa W., induced abortion, perforation of the uterus without peritonitis, 246.
- Gouley, J. W. S., prostatic enlargement, 577, 599.
- Gout, acute, 412; formula for, 391; guaiacum in, 32; local treatment of, 520; preventive treatment of, 650.
- Grafts, epidemic, persistence of pigmentation in, 31.
- Graham, James, death of, 788.
- Grant Bey, J. A. S., death of, 236.
- Grass in the ear, 820.
- Graves' disease, see *Exophthalmic goitre*.
- Graveyard soil, 576.
- Gray, Henry, notice of book by, 648.
- Greek, the proper pronunciation of, 597.
- Green Cross Society, 164, 687.
- Greene, Charles Lyman, recent aids in the differential diagnosis of typhoid fever, 697; the serum test of Widal and the possibility of its application without microscopic examination, 805.
- Greene, J. H., does the appendix demand surgical rest? 104.
- Griffin, E. Harrison, two cases of an enlarged ascending pharyngeal artery situated on the posterior wall of the pharynx, 247.
- Grove, Sir W. R., death of, 200.
- Guaiacol, external employment of, 502.
- Guaiacum, therapeutic value of, 32.
- Guild of St. Luke, 728.
- Guitéras, Ramon, treatment of stricture of the male urethra, 699.
- Guleke, Hermann F., death of, 271.
- Gunshot wounds, accidental, 408; of the abdominal viscera, 16; of the pharynx, 97.
- Gutmann, Edward, death of, 163.
- Guy's Hospital, subscriptions for, 34.
- Gynecology and Obstetrics, Second International Congress of, 453, 504.
- Gynecology, principles and progress of, 530.
- H
- Hadra, B. F., rupture of the pancreas, 77.
- Hæmatemesis from rupture of a gastric varix, 761; remedy for, 502.
- Hæmaturia, malarial, 209, 319, 356, 426, 540.
- Hæmoptysis, effect of high altitude upon, 359; treatment of, 690.
- Haines, John B., death of, 308.
- Hair, bacteriology of the, 629; physiology and function of, 143.
- Hair cups, pitting about the, in certain nervous disorders of central origin, 62.
- Hall, A. L., a medico-legal consideration of some of the general features, signs, and symptoms of the simple traumatic neuroses, 436; treatment of laryngeal croup, 137.
- Hall, J. N., accidental gunshot wounds, 408; three cases of phthisis pulmonalis following scald of the chest, 248.
- Halton, Frederick J., the appendicitis controversy, 569.
- Hammond, L. A., as a winter resort, 656.
- Hand, clinical significance of the, 679; lacerated wounds of the, 572.
- Hanot, Professor, death of, 764.
- Harley, George, death of, 682, 763.
- Harrison, Reginald, observations on vesical stone and prostatic troubles, 877; treatment of some forms of albuminuria by renipuncture, 661.
- Hartford Medical Society, fiftieth anniversary of the, 684.
- Harveian oration, 728.
- Harvey, Thomas W., posture in labor, 677.
- Haslam, George, fracture of the base of the skull, of both superior maxillæ, of the nasal bones, of the inferior maxilla, and of the hyoid bone; recovery, 390; subphrenic abscess, 391; two new needle holders, 651.
- Hastings, Dr. R. J., death of, 937.
- Hatchett, B., laparo-splenectomy, 426.
- Hauptmann, J. H., a case of Raynaud's disease, 459.
- Hawaii, medical practice in, 307.
- Hawthorn, a heart tonic, 685.
- Hay fever, formula for, 139; remedies for, 392.
- Haynes, Irving S., notice of book by, 382.
- Hays, Harry C., foreign bodies in the male urethra, 517.
- Hayward, William, death of, 752.
- Head, injuries of the, necessity of close inspection of, 28.
- Headache from eye strain, 393; treatment of, 649, 893; treatment of sick, 249, 659.
- Health department of New York City, scope of the work of, 639.
- Health Protective Association, Ladies', 521.
- Health resorts in the United States, 786; winter, 633, 652.
- Heart, a loud murmur of the, 272; a tonic for the, 685; action of taurocholate of sodium on the, 393; anæmia in disease of the, 852, 865; anatomy of the blood supply of the, 866; calomel in disease of the, 791; congenital narrowing of the mitral orifices as a cause of dwarfed lives and irritable, 679; congenital stenosis of the pulmonary valves, 562; diseases of the, in central Delaware, 134; disturbance of the, from gastric irritation, 691; failure of the, in phthisis, 463; fatty tumor of right auricle complicating pneumonia, 355; functional murmurs of the, 865; healed wound of the, 784; influence of cold upon a diseased, 80; lesions of the, 163; physical and Schott treat-

- ment of disease of the, 721, 847, 939; physical signs other than murmur in valvular disease of the, 535; remedy for valvular disease of the, 798; rupture of the, 169; starving in disease of the, 108; treatment of failure of the, 242; treatment of fatty, 689.
- Ileat, mortality from, 235.
- Ilegeman, Thomas B., a fishhook removed from an infant's throat by digital examination, 460.
- Ileiman, Henry, biology of the gonococcus, 587.
- Ileinan, H. Newton, experiences with the physical and Schott treatment of chronic heart disease, 721, 847, 939.
- Hemiplegia, hysterical, 422.
- Hemorrhage, prevention of operative, 800.
- Hemorrhoids, treatment of, 31, 447.
- Henderson, A. H., inflammation of the sublingual glands, 387.
- Hendersonville, N. C., as a winter resort, 653.
- Heredity, and crime, 748; crossed, 457.
- Hermaphroditism, a case of, 135, 214, 694, 724; pseudo-, 796.
- Hernia after abdominal section, prevention of, 799; congenital irreducible umbilical, 425, 514; irreducible, complicated by inflamed appendix in the sac, 758; radical cure of femoral, 807; relation between external, and gastro-intestinal disorder, 785; resection of the intestine in, 833; strangulated, 249; strangulated, failure to diagnose, 771; strangulated, in an aged subject, 390; strangulated, in a child two months old, successfully operated upon, 790; treatment of, 572; treatment of crural, by an inguinal operation, 646; tuberculous, 820.
- Herpes, counter-irritation in the treatment of, 446; genital, powder for, 392; zoster, 791.
- Herpetic nerve disturbance, 642.
- Hertzog, William F., death of, 308.
- Hicough, autotractor of the tongue in, 448.
- Hickory, N. C., as a winter resort, 653.
- Hildenbrand, Louis W., death of, 788.
- Hillis, Thomas J., technique of intubation of the larynx in children, 773.
- Hip disease, 283; abscess of, 59; cause of the limp in, 23; diagnosis of, 572; iodoform injections for, 30; other diseases simulating, 556; treatment of, 647.
- Hip-joint, amputation at the, for sarcoma, 638; congenital dislocation of the, Hoffa-Lorenz operation for, 361; dislocations of the, 16, 730; osteosarcoma of the, 24; spontaneous dislocation of the, 21.
- His, Wilhelm, notice of book by, 203.
- Hodgen, Harry, death of, 416.
- Hogan, Louise E., how to feed children, 384.
- Holden, Ward A., the visual disturbances due to nervous diseases, 626, 636.
- Hollenback, Henry, death of, 752.
- Hollowbush, J. K., two contributions to the surgery of the gall bladder, 512.
- Holly Springs, Miss., as a winter resort, 656.
- Holmes, A. M., the diagnosis of tuberculosis from the morphology of the blood, 325.
- Hope Hospital in Langholm, Scotland, 597.
- Hopkins, John L., death of, 416.
- Horses, crimson-clover balls in, 575.
- Hospital and physician, sphere of the, 733.
- Hospital corps of the U. S. army, new uniform for, 524.
- Hospital Reform Association in London, 716, 762.
- Hospitals, public, the commissioners of public charities and, 414.
- Hotels, deaths in European, 682.
- Hot rooms and catching cold, 633.
- Hot Springs, Ark., as a winter resort, 657.
- Houston, Edwin J., notice of book by, 165.
- Houston, Tex., as a winter resort, 658.
- Huber, G. Carl, notice of book by, 129.
- Humphrey, Sir George Murray, death of, 596, 609.
- Hunterian Museum, exhibits in the, 176.
- Hunter, John, immorality in Canada, 803.
- Hunter's Point stench and the State Board of Health, 270.
- Huntsville, Ala., as a winter resort, 655.
- Hutchinson, Kan., as a winter resort, 657.
- Huxley lecture, the first, 644.
- Ilydatids of the back, 758; of the liver, treatment of, 799; results of, 712.
- Hydrannios and some of its complications, 231.
- Hydrogen peroxide in diseases of the nose, throat, and ear, 195.
- Hydrology, climatology, and geology, international congress of, 634.
- Hydronephrosis, 819.
- Hydrophobia, two cases of, 389.
- Hygiene and medicine, 755.
- Hymen, double, 803.
- Hyperidrosis, formula for, 139.
- Hypnotism and suggestion, 293, 938.
- Hysterectomy, 68; in the presence of active inflammation, 528; vaginal, 762, 817, 856; vaginal, electrode for severing ligatures in, 132.
- Hysteria, trophic changes in the teeth in, 422.
- Hystero-epilepsy, 26.
- Hystero-paludism, 424.
- I
- Ichthyol eruptions of the skin, 555; varnish, 502.
- Idiots, deformity of the hard palate in, 245.
- Ileus, dynamic, 529; treatment of, 630.
- Illinois State Medical Society, 25.
- Immorality in Canada, 681, 803.
- Immunization, surgical, 419, 894.
- Impetigo contagiosa universalis, 497.
- Impey, S. P., notice of book by, 384.
- Impregnation, effects of lactation on, 412; when possible, 280.
- Income tax on physicians, 56.
- Incompatibilities of new remedies, 340.
- Indiana Health Board rules, 897.
- Indigestion, functional, 30; intestinal, 417; nerve disturbance from, 66.
- Indio, Cal., as a winter resort, 659.
- Inebriates, female, new scheme for the treatment of, 431.
- Inebriety, medical treatment of, 601.
- Infancy, management of disease in, 576; prevention of diseases and mortality in, 431.
- Infant feeding, 139, 463.
- Infants, care of premature, 396.
- Infection, and symmetry, 422; by pets, 630; mixed, 428.
- Infectious diseases, etiology and classification of, 720; prevention of, 417.
- Injury, slight results of a severe, 427.
- Innominate artery, ligation of the, 196.
- Inquests, evidence at, 567.
- "Ins" and "outs," 751.
- Insane, commitment of the, 458; fragilitas ossium in the, 162; relation of visceral disorders to the delusions of the, 530; state care of the, 245.
- Insanity, disorders of the muscular system in, 217, 245; following gynecological operations, 547; in children, 431; in women, some causes of, 530; of pubescence, 73; prognosis and duration of attacks of, 62; relation of alcohol to, 592; senile, 505, 530; studies of the blood in thyroid feeding in, 289; the new law on, and commitment of patients, 608.
- Insect bites, treatment of, 765.
- Insomnia of neurasthenia, remedy for, 393.
- Instruments, an alloy for, 756; sterilization of, 643, 647.
- International Medical Congress in Moscow, 128, 594, 682, 764, 788.
- Intestinal anastomosis, 68, 209, 313, 469, 797, 829.
- Intestinal fermentation, 612.
- Intestinal obstruction, lateral anastomosis with the Murphy button introduced through the vagina, 209; post-operative, 753.
- Intestinal strangulation and engorgement, lesions of, 424.
- Intestine, congenital occlusion of the, 725; hemorrhage from the, 323; innervation of the, 324; preservation of specimens of the, 348; resection of nearly eleven feet of the small, 855.
- Intubation of the larynx in children, technique of, 773; in the adult for acute laryngeal stenosis, 95; modifications of the tube, 909.
- Intussusception, 315; ileo-colic, 347.
- Iodides, other than of potassium, in syphilis, 250.
- Iodism, prevention of, 356.
- Iodoform, dermatitis from, 496.
- Irene, Sister Mary, death of, 271; resolutions on the death of, 488.
- Iron peptonate, elixir of, 688.
- Ironer's cramp, 642.
- Irrigating tubes, glass double-current, 510.
- Irwell, Lawrence, the contagiousness of pulmonary phthisis, 838.
- Irwin, S. Nelson, strangulated hernia in a child two months old, with operation and recovery, 790.
- Ischuria, non-obstructive, 120.
- Itching and the itch, 822.
- J
- Jackson, George Thomas, notice of book by, 648.
- Jackson, Miss., as a winter resort, 656.
- Jacksonville, Fla., as a winter resort, 655.
- James, Walter B., notice of book edited by, 490.
- Jameson, Dr., illness of, 900.
- Janus, a new international journal, 381.
- Jaw, curious deformity of the, 874.
- Jenner centenary in Berlin, 108; in Chili, 487; in Japan, 128; in Russia, 415.
- Johnson, Sir George, death of, 32.
- Joints and spine, suppuration in disease of the, and its relation to tuberculous meningitis, 22; dry heat in the treatment of disease of, 23; floating bodies in, 175.
- K
- Kales, J. W., childbirth with unruptured membranes, 137.
- Kansas, health resorts of, 657.
- Keeley, Leslie E., notice of book by, 383.
- Keene, C. D., death of, 898.
- Keiller, William, hermaphroditism (?), 214.
- Kekulé, Friedrich August, death of, 127.
- Kellogg, J. H., notice of book by, 201.
- Kellogg, Theodore H., the disorders in the muscular system in insanity, 217, 245.
- Kendell, H. E., septic peritonitis, operation, recovery, 208.
- Kenefick, Thomas A., apoplectic form of Ménière's disease, 122.
- Kennedy, James C., the appendicitis controversy—an unfair criticism, 729.
- Kennelly, A. E., notice of book by, 165.
- Kerville, Tex., as a winter resort, 658.
- Kidder, Augustus S., death of, 54.
- Kidney, absence of the left, 718; acute inflammation of the, from oxalic-acid poisoning, 124; congenital absence of, 556; cystic, 204; malposition of the, 204; movable, 283, 527, 532, 855; nephrectomy for ruptured, 762, 893; rupture of the, 519; sacculated, 532; surgery of the, 603, 731; tumors of the, 204; wounds of the, 483.
- Kilbourne, H. S., an emergency, obstetrical and epistolary (inversio uteri), 247.
- Kilian, Otto G. T., the bicycle for scoliosis, 615.
- Kittredge, C. M., death of, 308.
- Knapp, Mark I., a director for the stomach tube, 322.
- Knee, treatment of tuberculous disease of the, 23, 637.
- Kneipp cranks, 486.
- Knopf, S. A., are sanatoriums for consumptives a danger to the neighborhood? 482.

- Knoxville, Tenn., as a winter resort, 656.
Koles, Henry M., report of a case of recurrent basilar meningitis, with recovery, 515.
Koller, Carl, two cases of a rare fatal disease of infancy with symmetrical changes in the macula lutea, 266.
Krause method of skin transplantation, 538, 792.
Kuttarasome body, 725.
- L
- Labio-glosso-laryngeal paralysis of cerebral origin, 424.
Labor, abnormal pains of, 13, 123; chloroform in, 592; disinfection of the hands during, 207; local anesthesia in, 464; management of, 360; management of after-pains, 812; posture in, 677; rise in temperature after, 606; spontaneous rupture of the uterus during, 520; time of rupturing the amniotic sac in, 484; urination after, 41; uterine fibroids obstructing, 58.
Laboratory and dispensing counter, notes from the, 303.
Lacing, tight, 322.
Lactation, care of the breast in, 486; effects of, on menstruation and impregnation, 412.
La Fayette, La., as a winter resort, 656.
Lake Charles, La., as a winter resort, 657.
Lakeland, Fla., as a winter resort, 655.
Lambert, Adelaide, catarrhal salpingitis, 911.
Lang, Arnold, notice of book by, 384.
Lang, William, notice of book by, 165.
Langerhans case, report on the, 91.
Laparosplenectomy, 426.
Laparotomy, an exceptional, 566; best method of closing the abdomen after, 455.
Laryngitis, treatment of simple acute, 101; unusual manifestations of so-called catarrhal, 99.
Larynx, diagnosis in disease of the, 393; intubation of, in the adult, 95; intubation of, modifications of tube for, 909; irritation of the, 483; operations on the, 794; papilloma of the, in a child—repeated intubation—death, 513; photography of the, 94, 683; technique of intubation of, in children, 773; treatment of malignant disease of the, 95, 646; unusual growth in the, 98.
Las Cruces, N. M., as a winter resort, 658.
Las Vegas, N. M., as a winter resort, 658.
Lead, wholesale poisoning by, 272.
Legislation, international sanitary, 755; medical, in Illinois, 27; medical, in New York, 178.
Lehigh Valley (Pa.) Medical Association, 235; Lehigh Valley Railway Surgeons, Association of, 561.
Lejars, Félix, notice of book edited by, 166.
Leloir, H., death of, 90.
Lens, a new spectacle, 107.
Leonard, C. Henri, notice of book by, 490.
Leper, what shall we do with the? 695.
Leprologists, proposed congress of, 466, 594, 764, 861, 899.
Leprosy, bichloride injections in, 307; antitoxin of, 559, 826; in America, 756; in New York, 681, 693; in Russia, 524; tubercular, 132.
Letters from Berlin, 103, 285, 568; from Canada, 937; from London, 32, 69, 102, 140, 176, 211, 251, 284, 320, 357, 394, 464, 503, 540, 567, 609, 728, 761, 801, 837, 874, 905, 936; from Paris, 70, 567, 536, 906.
Leucocytes in tuberculosis, 123.
Leucocytosis, influence of large saline injections upon, 449.
Leucorrhœa, chronic, 319; formula for, 31.
Leveiseur, Fred. J., skin diseases occurring in connection with gastro intestinal disturbances, 84.
Lewis, F. Park, a new spectacle lens, 107.
Lichen, thyroid extract for, 699.
Liebreich, Oscar, notice of book edited by, 383.
Life, duration of, among physicians, 468.
Light cures, 144.
Lindley, Walter, acute uterine inversion, 352.
Lips, peculiar affection of the mucous membrane of the, 493.
Little Rock, Ark., as a winter resort, 657.
Liver, abscess of the, 31, 68, 314; acute yellow atrophy of the, 827; cirrhosis of the, 88; early enlargement of the, 563; primary cancer of the, 346; treatment of hydatids of the, 799.
Liverpool, pay of police surgeons in, 660.
Livezey, Abraham, death of, 380.
Llano, Tex., as a winter resort, 658.
Locomotor ataxia, effect of early optic atrophy upon the course of, 710; trunk anesthesia in, 532.
Lofton, Lucien, a new stone searcher, 142.
Logan, Sir T. G., death of, 69.
Lohrstorfer, F., laryngeal papilloma in a child—repeated intubation—death, 513.
London, letters from, 32, 69, 102, 140, 176, 211, 251, 284, 320, 357, 394, 464, 503, 540, 567, 609, 728, 761, 801, 837, 874, 905, 936; opening of the medical schools in, 609.
Longevity, and labor, 575; signs of, 714.
Longeway, M. Louise, notice of book by, 166.
Loomis Sanatorium for Consumptives, 687.
Lorand, Arnold, influence of cold on a diseased heart, 80.
Lord, John Prentiss, a portable sterilizer and dressing-retainer, 286.
Los Angeles, Cal., as a winter resort, 659.
Louisiana, health resorts of, 656.
Love, James Kerr, notice of book by, 130.
Lunch wagons, spread of disease by, 876.
Lungs, cantharidal blisters in acute affections of the, 794; diseases of, intratracheal injections in, 151; local treatment of affections of the, 430; surgery of the, 67.
Lupus, camphorated naphthol in, 591; thyroid in, 137.
Lupus erythematosus, treatment of, 690.
Luther, Calista V., herpes zoster, 791.
Lymphangitis, periphlebitic, 11.
- M
- MacArney, W. N., discriminating treatment of appendicitis, 358; the treatment of pneumonia, 397.
McAdam, Alexander H., death of, 416.
McCassy, J. H., otitis media purulenta, 317.
McClanahan, H. M., infantile scorbutus, 477.
McClurg, John Russell, death of, 715.
McConnel, H. S., elimination, antiseptics, and starvation in the treatment of typhoid fever, 46.
McCosh, Andrew J., notice of book edited by, 490.
McCreery, Forbes R., a case of symphyseotomy, 246.
McCresson, Thomas R., death of, 452.
MacEvitt, rupture of the uterus, 159.
McFarland, Joseph, notice of book by, 131.
McGillicuddy, T. J., notice of book by, 901.
McGivern, John H., death of, 163.
McGuire, J. C., eruptions of the skin produced by the local application of ichthyol, 555.
McInnis, H. L., turpentine in the treatment of burns, 353.
McKay, A. F., winter health resorts, 652.
McKee, E. S., congenital inferior incisors, 570.
McLaury, William Muir, death of, 380; resolutions on the death of, 685.
McNair, Robert H., slight results of a severe injury, 427.
MacLagan, T. J., notice of book by, 648.
Macroglossia, muscular, 447.
Macula lutea, a rare fatal disease of infancy with symmetrical changes in, 266.
Madeira, typhoid fever in, 635.
Magical remedies, 766.
Malakine in rheumatism, 727.
Malaria, discussion on, 133; facts of practical utility in relation to, 826; narcot-
- ine in, 174; propagation of, by mosquitoes, 35; recent advances in our knowledge of the organism of, 664.
Malarial ascites, pathology and clinical varieties of, 423; hæmaturia, 209, 319, 356, 426, 540.
Malignant tumors, inoperable, treatment of, by Coley's toxins, 196.
Maubrac, P., notice of book by, 129.
Marietta, Ga., as a winter resort, 654.
Markey, Surgeon-Major General, death of, 906.
Marriages, consanguineous, 360.
Martin, Alfred J., death of, 898.
Martin, E. H., malarial hæmaturia, 540.
Martin, George W., death of, 682.
Martin, James Cooper, obituary of, 768.
Mastitis, prevention of, 556.
Mastoid operation, indications for, in acute suppurative otitis media, 800.
Masturbation and spermatorrhœa, 501.
Maternity Hospital of Puebla, statistics of the, 829.
Matlack, William H., death of, 127.
Mattison, J. B., diagnosis of morphine disease, 268.
Maxillary sinusitis, purulent, 97.
Measles, murder by, 102; relief of the cutaneous irritation of, 463; sequelæ of, 649; treatment of, with the blood serum of convalescents, 269.
Meckel's diverticulum, Peyer's patch in, 347.
Mcraay, P. M., some notes on the bacteriology of mumps, 440.
Mediastinum, sarcoma of the anterior, 48.
Medical and Chirurgical Faculty of Maryland, 833.
Medical Defence Union, 212.
Medical profession and the public, mutual relations of, 27.
Medical schools in Great Britain, opening addresses at the, 644.
Medical Society of the County of New York, 537, 693, 867; address of the president, 867; election of officers, 683.
Medical Society of Delaware, 133.
Medical Society of New Jersey, 20, 57.
Medical Society of the State of Virginia, 417.
Medicine, agitation to discourage the study of, in France, 837.
Medico-Chirurgical Society, dinner of the, 762.
Melancholia cured by craniectomy and removal of a brain cyst, 457.
Membranous sore throat, varieties of, 393.
Memory, disordered, and kindred conditions, 674.
Memphis, Tenn., as a winter resort, 656.
Ménière's disease, apoplectic form of, 122; treatment of, 197.
Meninges, adhesions of, following cerebrospinal fever, 427.
Meningism and mental confusion, 422.
Meningitis, acute exudative, 345; recurrent basilar, 515; tuberculous, 284.
Meningococcus, 103.
Menopause, oophoron tablets for the, 103.
Menorrhagia in virgins, 731.
Menses, retention of, in atresia, 530.
Menstruation, cold bathing during, 356; effects of lactation on, 412.
Mental complications following surgical operations, 871; therapeutics, 631.
Mercury bichloride, complicated case of poisoning by, 719.
Merriman, J. J., death of, 540.
Merritt, Frank D., a case of unilateral bronchocele with myxedema, 565.
Mescal buttons, 258.
Metatarsalgia, 29.
Metric system, objection to the, 507.
Metropolitan asylums board of London, 540.
Metrorrhagia, potassium iodide in passive, 796.
Mettler, L. Harrison, syphilitic disease of the spine, 475.
Mexico, medical education in, 753; Pan-American Medical Congress in, 750, 753, 793, 826; sanitary legislation in, 499; two health resorts in, 659.
Miasmatic fevers of the State of Sonora, Mexico, 499.
Microbes, are they necessary to human life? 518.
Microscope, practical use of the, 245.

Migraine, causes of, 464; clinical equivalent of, 459; formulae for, 392.
 Milk, boiled, digestibility of, 732; estimation of the number of bacteria in, 442; exhibition of, 763; infectiousness of, 493; sufficiency of, after birth, 395; to dry up the secretion of, 792.
 Miller, H. F., germs and serums, 177.
 Miller, J. Estill, masked appendicitis, 315.
 Millet, George B., death of, 567.
 Milligan, J. D., a simple means of throat examination, 765.
 Milliken, Samuel E., tendon grafting and muscle transplantation for deformities following infantile paralysis, 771.
 Milne, Charles, death of, 488.
 Mississippi, health resorts of, 656.
 Mississippi Valley Medical Association, 532.
 Mitchell, Henry Hooper, death of, 523.
 Mobile, Ala., as a winter resort, 655.
 Mole, fleshy, 278; hydatidiform, 15, 797.
 Monell, Joseph Augustus, death of, 271.
 Monstrosity, a, 514.
 Monterey, Mexico, as a winter resort, 659.
 Moore, James E., an exceptional laparotomy, 566.
 Moore, Sir William James, death of, 523, 540.
 Morgan, Francis P., mesal buttons, 258.
 Morphine disease, diagnosis of the, 268.
 Morphea, symmetrical, 494.
 Morris, Robert T., abdominal section statistics, 938; notes on appendicitis, 869, 924; the appendicitis controversy, 467.
 Morton, William J., the x-ray and some of its applications in medicine, 9.
 Moscow congress, 682, 754, 788; Hebrew physicians at the, 128, 594.
 Moser, W., two cases of hydrophobia, 389.
 Mosquitoes as carriers of the malarial germ, 35.
 Mosso, Angelo, notice of book by, 384.
 Mount Airy, Ga., as a winter resort, 654.
 Mountain fever, 910.
 Mouth, antiseptic wash for the, 650; peculiar affection of the mucous membrane of the, 493.
 Mulford, Sylvanus S., death of, 380.
 Mumps, the bacteriology of, 440.
 Mundé, Paul F., hermaphroditism (?), 214.
 Munro, Surgeon-General William, death of, 802.
 Murdock, James B., death of, 682; resolutions on the death of, 751.
 Murray, H. G., a relapsing fever, 641.
 Murrell, William, notice of book by, 727.
 Muscular atrophy, progressive, 562; atrophy, progressive, of sudden onset, 62; pains, liniment for, 356.
 Music and noisy nuisance, 858.
 Music for the deaf, 540.
 Mycosis fungoides and sarcomatosis cutis, 494.
 Mydriatic action of pseudo-jusquiaine, 649.
 Myelocytæmia, diphtheritic, 280.
 Myers, P. P., constipation after childbirth producing symptoms of puerperal infection, 247.
 Myocarditis, a case of fatal traumatic, 171.
 Myomalacia of the heart, 109.
 Myrtle, extract of, in skin diseases, 650.
 Myxodermia, 820.
 Myxoedema, thyroid treatment of, 423, 613; with unilateral bronchocele, 505.

N

Needle holders, two new, 651.
 Neoplasms, favorite sites of, 569; inheritance of, 522.
 Nephralgia, splitting the capsule for relief of, 872.
 Nephrectomy, fatal secondary hemorrhage following, 833; for ruptured kidney, 762, 893; indications for, 572, 799.
 Nephritis, acute, from oxalic-acid poisoning, 124; management of pregnancy with, 340.
 Nephrorrhaphy, the limits of, 527.
 Nephrotomy, 339.
 Nerves, operations for injuries of, in the upper extremity, 535; section of, use of congealed oils to prevent reunion after, 809; successful grafting of, in man, 927.
 Nervine tonic and sedative, 464.
 Nervous disease, relation of toxic agents in the production of, 722; visual disturbances due to, 626, 636.
 Nettle rash, lotion for, 502.
 Neuralgia, 250; formula for, 650; intercostal, ichthyol in, 648; of the peripheral nerves, 604; osmic acid in, 792.
 Neurasthenia, association of, with general paralysis, 459; diagnosis and treatment of, 30.
 Neuritis, acute multiple, following diphtheria, 353; forms of, 679; multiple, engrafted upon a nervous diathesis, 424; syphilitic, 250.
 Neuron, functions of the, 59; theory of the, 244.
 Neuronymy, report of a committee on, 66.
 Neuroses, traumatic, medico-legal features of, 436.
 New Jersey, Order of Military Surgeons of, 104.
 New Mexico, health resorts of, 658.
 New Orleans as a winter resort, 656.
 Newton, Richard C., the treatment of typhoid fever, 908.
 New York Academy of Medicine, 539, 636, 720, 831, 863; Section on General Medicine, 865; Section on General Surgery, 637, 758; Section on Genito-urinary Surgery, 760; Section on Neurology, 722; Section on Obstetrics and Gynecology, 756; Section on Pediatrics, 562.
 New York County Medical Association, 690, 831.
 New York Obstetrical Society, officers of, 715.
 New York Pathological Society, 166, 204, 345, 385, 639, 724.
 New York State Medical Association, 595.
 New York State, mortality in, 823.
 New Zealand, anti-tuberculosis legislation in, 685.
 Nicaise, Edouard, death of, 410.
 Nichols, J. B., note on the effervescence of urine with nitro-o-nitric acid, 789.
 Night, psychic influence of, 245.
 Night shelters, 320.
 Night sweats, 391, 688.
 Night terrors, 234.
 Nipple, Paget's disease of the, 492.
 Nitroglycerin, uses of, 573.
 Nomenclature of diseases, 20, 498.
 Nordau on Nordau's methods of work, 768.
 North Carolina, health resorts of, 652.
 Northrup, William P., wandering phlebitis (periphrlebitic lymphangitis), 11.
 Nose, apex catarrh simulating disease of the, 206; etiology and treatment of deviations of the septum, 93; microorganisms in the healthy, 431; plastic operation for deformity of, caused by syphilis, 719; polypus of the, in an infant four weeks old, 718; primary carcinoma of the inferior turbinated body, 210; red, treatment of, 484; sarcoma of the nasal chambers and accessory sinuses, 101; spindle-celled sarcoma of the, 96; teeth in the, 95; treatment of chronic catarrh of, in children, 537.
 Notification of disease, 320.
 Nymphomania, treatment of, 729.
 Nystagmus by suggestion, 458.

O

Obstetrical complications, 134; practice, cleanliness in, 28; practice, disinfectants in, 649.
 Occupation neurosis or ironer's cramp, 642.
 Ochsner, A. J., notice of book edited by, 130.
 Odor a symptom of disease, 360.
 O'Dwyer, J., the intubation tube and its modifications, 909.
 Ohmann-Dumesnil, A. H., notice of translation by, 130.
 Old age, endometritis and vaginitis in, 551; insanity in, 505, 539.
 Operation, management of cases after, 148.
 Ophthalmia, gonorrhœal, ulcerations in, 250; neonatorum, plea for preventive measures of, 604; purulent, 319.
 Ophthalmometer, a folding, 141.
 Opium commission, criticism of the report of the, 214.
 Orchidectomy, bilateral, and suprapubic cystotomy followed by acute mania and death, 173.
 Organs, rudimentary, 304.
 Orlando, Fla., as a winter resort, 655.
 Orrhoterapy, 420, 422, 756; at the Nursery and Child's Hospital, 814.
 Osteomyelitis and immunizing experiments, 483; diagnosis of, 175; treatment of, 569; tuberculous, iodoform-glycerin in, 22.
 Osteotomy, femoral, for the correction of hip deformity in adults, 24.
 O'Sullivan, George B., death of, 558.
 Otitis media purulenta, 317; indications for mastoid operation in, 800.
 Otorrhœa, treatment of, 600.
 Ovarian extract at the menopause, 103; medication, 423; tumors, treatment of small, 799.
 Ovaries, abscess of the, 428; degeneration of the, 348; mixed tumors of the, 526, removal of the, for insanity and epilepsy in women, 530.
 Ovariectomy, double, during pregnancy, followed by the birth of twins at term, 643; double, followed by pregnancy, 643.
 Overton, Frank, two cases of tapeworm, 641.
 Oxalic acid, poisoning by, 461.
 Oxygen, and ether as anesthetics, 373; in anaesthesia, 419, 431; in surgery, 311; in the treatment of suppurating surfaces, 491; use of, in chloroform narcosis, 537.
 Oysters, typhoid fever spread by, 645.

P

Pachydermatosis resembling tubercular leprosy, 496.
 Padded room, death in a, 540.
 Paget's disease of the nipple, 492.
 Pain, woman's inferior sensitiveness to, 856.
 Pajot, Professor, death of, 271.
 Palate, cleft, new operation for, 532; epithelioma of the velum cured by injections of caustic potash, 101.
 Palmer, John O., local application of terchloride of antimony in epithelioma of the face, 50.
 Palmer, W. W., death of, 682.
 Pan-American Medical Congress, the second, 750, 753, 793, 826.
 Pancreas, primary cancer of the head of the, 346; rupture of the, 77.
 Pancreatitis, acute, 573.
 Papillomatous tumors, multiple, 496.
 Paralysis agitans, remedies for, 649, 689.
 Paralysis following anaesthesia, 556; of toxic origin, 413; spastic, treatment of, 647; spasmodic, 457.
 Paresis, general, of the insane, and hereditary syphilis, 513; early symptoms of, 834; in sisters, 245; the blood in, 468.
 Paris, letters from, 70, 567, 836, 906; low death-rate in, 567; medical measures during the Tsar's visit to, 645.

- Parker, Edward Hazen, obituary of, 825.
 Parkes, Charles T., notice of book by, 130.
 Parsons, Ralph Lyman, practical points regarding the senile insanities, with special reference to prophylaxis and management, 505, 539.
 Pasteur celebration at Alais, 685; Institute, attack upon the, 70.
 Pass Christian, Miss., as a winter resort, 656.
 Patella, fracture of the, 319; subcutaneous wiring of the, 590.
 Patent medicine making, 939.
 Pathological Society of London, jubilee of the, 728.
 Pathological Society of New York, 166, 204, 345, 385, 639, 724.
 Pathological Society of Philadelphia, 55, 92, 261, 416, 489, 561, 686, 861, 935.
 Patients, self-prescribing, 342.
 Peet, Edward W., treatment of acute abscesses, 513.
 Pellotine, a new hypnotic, 106, 684.
 Pelvic abscess, 28; disease, cause of, 524; suppuration, surgical treatment of, 453; surgery, report of cases in, 338.
 Pelvis, ambulant treatment of certain forms of disease in the, 796; method of examining the contents of, without exploratory laparotomy, 37; uterine drainage in inflammation of, 901.
 Penis, a ring encircling the, 766; diphtheria of the, 829; neuralgia of the, 208.
 Pensacola, Fla., as a winter resort, 655.
 Pental, administration of, 375.
 Percussion, auscultatory, 568.
 Pericarditis, 874; treatment of suppurative, 894.
 Pericardium, adherent, 356.
 Perineum, central laceration of the, 316; preservation of the, 175.
 Periscope, compound achromatic, 107.
 Peritoneum, effect of adhesions of, upon the digestive tract, 777; endothelium of the free surface of the, 109; wounds of the, 573, 799.
 Peritonitis, septic, operation for, 208; septic, treatment of, 175; traumatic, 518; tuberculous, effect of laparotomy upon, 520.
 Perkins, G. W., a neat spherical gauze sponge, 216.
 Perry, Middleton L., some studies of the blood in thyroid feeding in insanity, 289.
 Pertussis, see *Whooping-cough*.
 Peterson, Frederick, colonies for epileptics, 404.
 Petroleum, report of the committee on, 465.
 Pets, infection by, 630.
 Pharmaceutical conference at Liverpool, 251.
 Pharyngeal abscess, retro-, 224; artery, enlarged ascending, situated on the posterior wall of the pharynx, 247; tonsil, atrophy of, about puberty, 834.
 Pharyngitis, chronic, treatment of, 689.
 Philadelphia County Medical Society, 19, 91, 416, 489, 597, 686, 717, 824, 861, 935.
 Philadelphia, medical profession in, 108; vital statistics of, 416, 597, 715, 752, 860; water supply of, 596.
 Phillips, Lincoln, germs and serums, 103.
 Phimosi, reflex troubles from, 160.
 Phlebitis, rheumatic, 422; treatment of, 569; wandering, 11.
 Phoenix, Ariz., as a winter resort, 659.
 Phonendoscope, the, 624.
 Photomicrography, 347.
 Physician and hospital, sphere of the, 733; and pharmacists, relations of, 57; of the near future, 858; relation of the, to society, 767.
 Piffard, Henry G., preparation of blood for microscopical examination, 544, 695.
 Pilcher, James E., methods of instruction in first aid, 332.
 Piper, William A., death of, 91.
 Pitney, Jonathan Key, death of, 271.
 Plague, the bubonic, 592; in India, 540, 899.
 Playter, Edward, notice of book by, 165.
 Pleura, etiology of serous effusions in the, 680.
 Pleurisy, auscultatory signs in, 423; with effusion, 748.
 Pneumonia, etiology of lobular, 819; complicated with fatty tumor of the right auricle, 355; hydrotherapy in, 863; in infants, treatment of, 520; relapse in, 484; treatment of, 282, 307, 397, 473, 863.
 Pneumonotomy, 123.
 Pocket instruments, necessary, 484.
 Poison ivy, antidotes to, 431.
 Polaillon, Dr., notice of book by, 384.
 Polymyositis acuta, 138.
 Pons, hemorrhage in the, venesection in, 232.
 Pooley, Thomas R., the ophthalmoscope as an aid to the diagnosis of cerebral disease in purulent affections of the middle ear, 225.
 Poor-law medical officers in Ireland, 837.
 Population of the earth, 696.
 Porro's operation, 529.
 Potsdammer, Joseph B., sarcoma of the anterior mediastinum, 48.
 Pott's disease, 318; treatment of, 25; treatment of abscess in high dorsal caries, 22.
 Poultry, tapeworms of, 378.
 Powell, G. H., death of, from a wasp-sting on the tongue, 567.
 Practitioners' Society of New York, 132.
 Pratt, Frank P., a bad habit of some smokers, 105.
 Pregnancy, appendicitis complicating, 461, 831; complicated with uterine fibroids, 504, 873; complicating operations on the uterus and its appendages, 511; diagnosed by the urine, 784, double ovariectomy during, followed by the birth of twins at term, 643; ectopic, 396, 836; ectopic, treatment of, 795; following double ovariectomy, 643; management of, 688; vomiting of, 412, 649; with nephritis, management of, 340.
 Prentiss, D. W., mescal buttons, 258.
 Prescription, an old-time shotgun, 180; ownership of the, 344.
 Preston, S. P., a case of chronic appendicitis, 566.
 Prettyman, J. S., tuberculosis and bacteriophobia, 611.
 Prince, John A., intestinal obstruction, lateral anastomosis with the Murphy button introduced through the vagina, 209.
 Princeton laboratory, bacteriological work at the, 58.
 Pringle, J. J., notice of book edited by, 165, 648.
 Pritchard, Donald B., strengthening and sterilization of catgut, 207.
 Prize, award of the Graefe gold medal, 687; the Alvarenga, of the College of Physicians of Philadelphia, 595.
 Professional secrecy in France, 646.
 Profeta's immunity, 283.
 Prognosis of disease, 240; temperature an element in, 605.
 Proprietary medicines, covert puffing of, 897.
 Prostate gland, castration for hypertrophy of the, 11, 175; hypertrophy of the, 520, 577, 599; prostatectomy for hypertrophy of the, 841; relation of the testicle to the, 862; surgical treatment of hypertrophy of, 309; thyroid in hypertrophy of the, 250.
 Prostatism, radical cure of, 828.
 Prudden, T. Mitchell, notice of book by, 901.
 Prurigo, 487.
 Pruritus, treatment of, 17, 589; treatment of anal, 688; treatment of vulvar, 393, 502; vulva in America, 687.
 Pryor, W. R., method of examining the pelvic contents which renders exploratory laparotomy unnecessary, 37.
 Psoriasis, effect of diet and alcohol upon, 493; treatment of, 138, 139.
 Psychological Congress in Munich, 568.
 Psychoneural factor in clinical medicine, 532.
 Pterygium, operative treatment of, 530.
 Ptomains, intestinal, fatal cases probably due to, 620.
 Public Health congress at Glasgow, 251.
 Puericulture, 645.
 Puerperal eclampsia, treatment of, 450, 763, 913; hemorrhage, 277; pulmonary thrombosis, 304; self-infection, 799; septicæmia, 396, 797; septicæmia, treatment of, 284, 530.
 Punta Gorda, Fla., as a winter resort, 655.
 Purgative, a hypodermic, 463.
 Pusey, Henry K., death of, 416.
 Pyelitis, chronic, relief of pain in, 502; chronic, treatment of, 31, 689; in infancy, 731.
 Pylorus, surgical treatment of obstruction of the, 534.
 Pyonephrosis, 339.
 Pyosalpinx, treatment of, 646.
 Pyosepticæmic puerperal exanthem simulating hemorrhagic variola, 591.
 Pyrantin, a new antipyretic, 683.

Q

Quacks, prosecution of, in England, 766.
 Quadriceps extensor, rupture of the, 284.
 Quarantine, abolition of, in Great Britain, 451.
 Queen's nurses' reception, 140.
 Quinine, contraindications of, 35; mixture, 392.

R

Rabbits and reform, 377.
 Rabies, newspaper, 66; preventive inoculations in Vienna, 191.
 Rachitic paralysis, a case of, 791.
 Rachitis, anemia in, 350; phosphorus for, 391; spontaneous straightening of curves in, 174.
 Rafferty, T. N., the surgery of empyema, 438.
 Railway car sanitation, 497.
 Raleigh, N. C., as a winter resort, 653.
 Ralfe, Dr., death of, 176.
 Ramsdell, Edwin D., obituary of, 20.
 Rankin, Francis H., death of, 752; resolutions on the death of, 824.
 Ransome, Arthur, notice of book by, 166.
 Ration, an emergency, 360.
 Raymond, James Harvey, congenital irreducible umbilical hernia—double uterus, 514; congenital irreducible umbilical hernia, 425.
 Raynaud's disease, 459; cerebral complications of, 60.
 Reason, the dawn of, 222.
 Rectum, alimentation by the, 393; extirpation of the, by the Kraske method, 520; hemorrhage from the, 323; instruments for the treatment of diseases of the, 215; treatment of prolapse of the, by torsion, 800.
 Reed, B. Harvey, notice of book edited by, 490.
 Regnier, L. R., notice of book by, 383.
 Relapsing fever, a, 641.
 Renipuncture for albuminuria, 661.
 Respiration, new method of artificial, 819.
 Respiratory passages, warm baths in the treatment of affections of the, 424.
 Retropharyngeal abscess, 629.
 "Revista de Ciencias Médicas," cessation of publication of, 200.
 Reynolds, Sir J. Russell, death of, 32.
 Rheumatism, methyl salicylate in, 423, 765; of the new-born, 547; ointment for the joints in, 689; treatment of acute articular, 593.
 Rhinitis, atrophic, 94.
 Rhinopharyngitis, chronic, 284.
 Ribs, fracture of, in old age, 874.
 Richardson, Sir Benjamin Ward, death of, 788, 906, 934.
 Ring, Frank Witman, death of, 127; resolutions on the death of, 825.
 Ringnell, C. J., measurements of the appendix, 104.

- Ringworm, treatment of, in institutions, 690.
- Riverside, Cal., as a winter resort, 659.
- Roberts, A. Sidney, death of, 308.
- Roberts, Sir William, attack upon, for defending opium, 213.
- Robinson, A. R., the higher aims of dermatology, 706.
- Robinson, Byron, effect of peritonitic adhesions on the digestive tract, 777; the endothelium of the free surface of the peritoneum, 109.
- Robinson, Daniel S., a case of supplementary amniotic sac with fibroid tumor of the uterus, 351.
- Robinson, William G., treatment of acute abscesses, 646.
- Robinson, William J., the Moscow International Medical Congress, 764.
- Rochs, H., notice of book by, 383.
- Rockwell, A. D., notice of book by, 491.
- Rodent ulcer of the forearm, 838.
- Roentgen rays, a new fluorescent substance for use with, 86; caution in the use of, 307; Li Hung Chang's bullet found by the, 20; practical use of, in surgery, 600; some of the applications of, in medicine, 9, 103, 423, 793.
- Rome, Ga., as a winter resort, 654.
- Roosevelt, J. West, notice of book by, 203.
- Rosacea, hypertrophic, resembling tubercular leprosy, 496.
- Rosenberg, L., a case of antitoxin poisoning, 460.
- Rosenwasser, Louis, a case of rachitic paralysis, 791.
- Rosewater, Charles, care of the breast in lactation, 450.
- Roux, Ferdinand, notice of book by, 384.
- Royal College of Surgeons in Ireland, 837.
- Rudimentary organs, 364.
- Rudinger, Nicholas, death of, 416.
- Rupp, Adolph, report of a case of nasal polypus in a female infant four weeks old, 718.
- Russia, politics and medicine in, 682.
- Ryfkogel, H. A. L., formalin as a preservative, 192.
- St. Andrew's University and Dundee College, 102.
- St. Augustine, Fla., as a winter resort, 655.
- St. Luke's Hospital, annual report of, 862; censure of, 488.
- St. Petersburg, Fla., as a winter resort, 655.
- Sackville, John C., death of, 488.
- Sacrum, tumor of the, 875.
- Salisbury, N. C., as a winter resort, 653.
- Salpêtrière, school of the, 906.
- Salpingitis, catarrhal, 911; pathology and treatment of suppurative, 535; resemblance of acute catarrhal, to appendicitis, 735.
- Saltillo, Mexico, as a winter resort, 560.
- San Antonio, Tex., as a winter resort, 657.
- Sanatoriums for consumption, are they a danger to the neighborhood? 482.
- Sanford, Leonard J., death of, 898.
- Sanger, Charles R., notice of book by, 490.
- Sanitary Institute, Congress of the, in London, 503.
- Sanitary legislation, 499, 755; science, relation of the physician to, 55.
- Santa Fé, N. M., as a winter resort, 658.
- Santway, F. L., collapse from excessive vomiting, 570.
- Sarcoma, blastomycetes of, 332.
- Sarcomatosis cutis and mycosis fungoides, 494.
- Sass, Louis, F., death of, 788.
- Savannah, Ga., as a winter resort, 654.
- Savidge, Eugene Coleman, a comment on Dr. Morris' paper on appendicitis, 910; the judging of comparative results in the surgical arena, 875; the Second International Congress of Gynecology and Obstetrics, 504.
- Saxl, Josef, a case of rupture of the uterus, 641.
- Scabies, treatment of, 438.
- Scaremosquito, 696.
- Scarlatina, recurrent, 790.
- Schadle, J. E., new snares for post-nasal and intra-nasal surgical operations, 142.
- Scheppegegrell, W., use of peroxide of hydrogen in diseases of the nose, throat, and ear, 195.
- Schmidt, Dr., notice of book by, 202.
- School children, experiments upon, in Chicago, 685.
- Schoolhouses, municipal responsibility for healthy, 498.
- Schools, contagion in, 858; health inspectors for, 862.
- Schuylkill County (Pa.) Medical Society, 560, 787.
- Sciatica, 375.
- Science and medicine, 485.
- Sclerosis, acute disseminated, and neuritis in the sequence of diphtheria, 233; disseminated spinal, 556; treatment of, 21.
- Scoliosis, the bicycle for, 615.
- Scorbutus, infantile, 86, 477, 928.
- Scorching, dangers of, 612.
- Seasickness, management of, 139, 502, 875.
- Seger, C. E., death of, 898.
- Semeleder, F., local treatment of affections of the trachea, bronchi, and lungs, 430; movable ears in man, 570.
- Seminal vesiculitis, 630.
- Senile dementia and toxicity of the urine, 459; insanity, 505, 539.
- Sepsis, cryptogenetic, 31.
- Septicæmia, puerperal, 278, 797; puerperal, treatment of, 284.
- Serpent bite, vaccine against, 684, 687.
- Serotherapy, see *Orrhotherapy* and *Antitoxin*.
- Serré-fine, a living, 360.
- Sexton, Samuel, obituary of, 92; resolutions on the death of, 859.
- Sexual hygiene, 143.
- Shelley, Henry A., impregnation, when is it possible? 280.
- Shock, treatment of, 573.
- Shrewsbury, W. J., specialism, 105.
- Sigmoid flexure, resection of dilated, 762.
- Silkworm-gut sutures, buried, 572.
- Silly season, a spectacle for the, 163.
- Silver City, N. M., as a winter resort, 658.
- Simon, Charles E., notice of book by, 727.
- Simpler life, a plea for, 341.
- Singultus, autotractor of the tongue in, 448.
- Sinus, healing of a suprapubic, without operation, 760.
- Skeel, Frank D., skiascopic rack, 143.
- Skeleton, method of estimating the height, from parts of the—a correction, 141.
- Skiagraphy, advances in, 49.
- Skiascopic rack, 143.
- Skin, diseases of, in connection with gastro-intestinal disorders, 84; eruptions of, produced by ichthyol, 555; Krause method of transplantation of, 538, 792; pathological and clinical classification of diseases of the, 492; some of the influences of α , solar, and electric rays on the, 895; tuberculosis of the, treated by nosophen, 638.
- Skinner, W. W., the cure of seasickness, 875.
- Skull, fracture of the base of, with recovery, 390; operation in simple fracture of the, 175; trephining in injuries of the, 448.
- Skunk, the secretion of the, 854.
- Sleep, anæsthesia during, 839.
- Sloan, W. Harper, congenital absence of the uterus, Fallopian tubes, and ovaries, 248.
- Slobbering of infants, 359.
- Small, Sidney L., central laceration of the perineum, 316.
- Small-pox, arrest of, in the vesicular stage, 83, 354; epidemic of, at Gloucester, 102; hemorrhagic, pyosepticæmic puerperal exanthem simulating, 591; significance of the angina in, 928.
- Smith, Andrew H., anæmia in cardiac disease, 852, 865.
- Smith, Curran C., death of, 271.
- Smith, Elsworth, death of, 380.
- Smith, Harriet W., death of, 683.
- Smith, J. H., absence of the left kidney, 718.
- Smith, J. Lewis, notice of book by, 105.
- Smith, L. B., fracture of the base of the skull, of both superior maxillæ, of the nasal bones, of the inferior maxilla, and of the hyoid bone; recovery, 390; subphrenic abscess, 391.
- Smith, Wm. T., does appendicitis follow family lines? 387.
- Smokers, a bad habit of some, 105.
- Smoking and intellectual labor, 307.
- Snake bite, snake bile for, 355.
- Snares for post-nasal and intra-nasal surgical operations, 142.
- Sour Lake, Tex., as a winter resort, 658.
- South Carolina, health resorts of, 653.
- Southern Surgical and Gynecological Association, 870, 901.
- Specialism, 105.
- Speech, automatic, 459.
- Speir, Robert Fleet, death of, 271.
- Spermatorrhea and masturbation, 501; in neurasthenia, 940.
- Spine, lateral curvature of, the treatment of, 21; syphilitic disease of the, 475.
- Spinal cord, changes in the, after amputation of the extremities, 203; explanation of true heterotopia of the, 166.
- Spleen, the malarial, 424.
- Splenic anæmia, 69.
- Sponge, a spherical gauze, 216.
- Sprague, George P., diagnostic value of blood examinations, 433.
- Spruill, Jos. L., pneumonia complicated with fatty tumor in the right auricle, 355.
- Sputum, tuberculous, examination of, 640.
- Stage fright, remedy for, 592.
- Starr, Louis, notice of book by, 166.
- Stearns, Henry S., a case of post-mortem Cæsarian section with delivery of a living child, 245.
- Stedman, Thomas L., notice of book by, 901; notice of book edited by, 382.
- Stein, Alexander W., some forms of non-obstructive ischuria, 120.
- Stenocardia, treatment of, 866.
- Sterilizer, portable, 286.
- Sternberg, George M., notice of book by, 131.
- Stevens, E. B., death of, 127.
- Steyer, Charles, death of, 91.
- Stillborn, meaning of the term, 498.
- Stinson, J. Coplin, the radical cure of femoral hernia, 807.
- Stomach, cancer of the, 347; clinical value of hyperacidity of, 424; dilatation of, simulating ascites, 639; foreign bodies in the, 767; hyperacidity of, with constipation, 392; intestine, and rectum, hemorrhage from the, 323; phosphatic calculus in the, 423; ulcer of the, 319, 359, 396; ulcer of, analgesic remedy for, 356; uses of the, 145.
- Stomach tube, a director for the, 322.
- Stomatitis in small children, 392.
- Stoner, A. P., a study of hydramnios and some of its complications, 231.
- Stone, R. M., report of a case of malignant uterine tumor treated by the toxins of erysipelas and bacillus prodigiosus, 746.
- Stone searcher, a new, 142.
- Stoney, Emily A. M., notice of book by, 490.
- Stools, bloody, causes of, 660.
- Straight, Howard S., a case of apex catarrh simulating nasal trouble, 206.
- Stricture, linear electrolysis in, 797; treatment of, 699, 760.
- Strychnine, chronic poisoning by, 132; its uterine inertia, 427.
- Students, association of, in Paris, 764.
- Studley, F. C., congenital transposition of the viscera, 613.
- Styes, treatment of, 251.
- Subcutaneous alimentation, 612.
- Submersion, continuous, 428.
- Subperitoneal tissue, surgery of the, 314.
- Subphrenic abscess, 310, 391.
- Substitution, the sin of, 161.
- Suicide among Russian physicians, 515; relation of, to alcohol, 569.
- Sunday penalty of irregular feeding, 449.
- Suprarenal capsules, congenital absence of, in Addison's disease, 422.

Surgeon, legal responsibilities of the operating, 821.
 Surgery of the twentieth century, evolution of the, 831; preventive, 241.
 Surgical arena, comparative results in the, 875; cleanliness, 940; operations, results and methods of, 395.
 Surgical treatment of gastric perforation and hemorrhage, 929.
 Sutton, R. Stansbury, double ovariectomy followed by pregnancy; and double ovariectomy during pregnancy followed by the birth of twins at term, 643; pregnancy complicating operations on the uterus and its appendages, 511.
 Sweats, night, of phthisis, 391, 688.
 Swift, Samuel, death of, 163.
 Symonds, Brandreth, danger of filtering urine with talc, 193.
 Symphyseotomy, 246, 368, 629.
 Syphilis, cerebral, 464, 834; Colles' immunity, 282; congenital and pathognomonic symptoms of, 818; from an insurance point of view, 180; hereditary, and general paresis of the insane, 813; hydriodate of the iodate of quinine in, 688; in infants and young children, 301, 817; intra-uterine infection of, 749; is inherited, contagious? 589; mercurial injections in, 31; nasal sequelae of, 99; nervous diseases supposed to be due to, the effect of antisyphilitic treatment of, 61; nervous manifestations of, 818; Profeta's immunity, 283; reinfection of, 424, 574; relation of, to atheroma, 16; secondary, the spermatic fluid in, 216; spinal, 250, 475; thyroid gland, 138, 689.
 Syringomyelia, 108; limited to one posterior horn in the cervical region, 62.

T

Tabasco, Mexico, public health in, 500.
 Tait, Lawson, cleansing and cleanliness in abdominal surgeons' operations, 883.
 Tampa, Fla., as a winter resort, 655.
 Tapeworm, new treatment for, 138; of poultry, 378; two cases of, 641.
 Taurocholate of sodium as a cardiac remedy, 393.
 Taylor, Basil M., the treatment of pneumonia, 473.
 Taylor, George H., death of, 898.
 Taylor, William Remsen, death of, 523; resolutions on the death of, 595.
 Taylor, J. B., death of, 54.
 Teeth, congenital, 570, 803.
 Temperature an element in prognosis, 605.
 Tendon grafting and muscle transplantation for deformities following infantile paralysis, 771.
 Tenement houses in greater New York, 381.
 Tennessee, health resorts of, 655.
 Tetanin, the poison of, 371.
 Tetanus, 340; antitoxin of, 640, 846; neonatorum, prevention of, 277.
 Texas, health resorts of, 657.
 Thalamus, tumor of the, 60.
 Thermometers, safety attachment for, 143.
 Thistle, W. B., theory of eliminative treatment of typhoid fever, 541.
 Thoma, Richard, notice of book by, 130.
 Thomas, Allen M., orthotherapy at the Nursery and Child's Hospital, 814.
 Thomas, T. Gaillard, medical address at the twenty-ninth anniversary of the Woman's Hospital in the State of New York, 769.
 Thomasville, Ga., as a winter resort, 654.
 Thompson, Levi H., death of, 683.
 Thorax, tumors within the, 31.
 Thought-weighting machine, 787.
 Throat, a simple means of examination of the, 765; treatment of chronic catarrh of, in children, 537.
 Thrombosis, puerperal pulmonary, 304.
 Thyroid cartilage, incomplete fracture of the left cornu of the, 99.
 Thyroid gland, iodine-containing substance in the, 87; tuberculous disease of the

858; tumors of the, 68; medication, 26, 421, 680; in myxoedema, 613; in lupus, 137; in syphilis, 138.
 Thyroidin, 250.
 Thyroproteid, 250.
 Tibbals, F. B., two cases of obscure intra-abdominal lesions, 388.
 Tinea favosa, 249.
 Tobacco, diatribe against, 504.
 Toenail, ingrown, mechanical treatment of, 24; perchloride of iron for, 894.
 Tomlinson, H. A., clinical history and post-mortem appearance of a case of cortical embolus, 148.
 Toms, S. W. S., the appendicitis controversy, 466.
 Toner, Joseph M., death of, 200.
 Tongue, cancer of the, 836; extirpation of the, for epithelioma, 637; inflammation of the sublingual glands, 387.
 Tonsil, etiology of peritonsillar abscess, 712; lingual, acute disease of the, 101.
 Tonsillar cough, 124.
 Tonsillitis, follicular, 356.
 Tonsillotomy by cautery dissection, 534, secondary hemorrhage following, 316.
 Toothache, remedy for, 463.
 Tooth extraction, to arrest bleeding after, 502.
 Topo Chico Springs, Mexico, 659.
 Torrens, Benjamin, two cases of delivery at full term following cul-de-sac operations, 136.
 Torticollis, due to adenoid vegetations, 25.
 Tourniquet, precautions in using the, 428.
 Townsend, William Warren, bilateral orchidectomy, suprapubic cystotomy, followed by acute mania and death, 173.
 Toxæmia in gastro-intestinal disease, 568.
 Trachea, bronchi, and lungs, local treatment of affections of the, 430; diseases of the, intratracheal injections in, 151.
 Trachelorrhæmy, improved, 13; knife for, 178, 696.
 Tracheotomy, 319.
 Trachoma, prevalence of, 428.
 Tractor, a novel, 31.
 Trades, dangerous, report of committee on, 465.
 Transfusion, infusion, and auto-infusion, 748.
 Transversalis fascia at the internal inguinal and femoral rings, 807.
 Traumaticine, a new, 731.
 Tremors, semeiology of, 458.
 Trephine, when to, 319.
 Trichocephalus dispar, 798.
 Trimen, Henry, death of, 838.
 Trional in epilepsy, 16; poisoning by, 250.
 Tubercle bacilli, difference in virulence of the, 422.
 Tuberculosis, a factor in the elimination of the unfit, 126; a hospital for, in Philadelphia, 452; and bacteriophobia, 611; and cancer, association of, 345; bovine, 57; diagnosis of, from the morphology of the blood, 325; discussion on, 274; hæmology of, 796; in a bernal sac, 820; injections of guaiacol and iodoform in sterilized olive oil for, 679; laryngeal, 98; latent and larval, 53; morphology of the blood in, 395; meningeal, 284; of the axilla, followed by that of the hand, 258; of the bladder, treated by direct medication, 758; of the bones, the blood in, 340; of the female generative organs, abdominal section for, 531; of the knee, 794; of the pharyngeal lymphoid tissue, 96; of the thyroid gland, 838; peritoneal, effect of laparotomy upon, 520; pulmonary, 249; pulmonary, cold air in, 791; pulmonary, contagiousness of, 838; pulmonary, following scald of the chest, 248; pulmonary, gymnastics in, 356; pulmonary, heart failure in, 463; pulmonary, management of, 393; pulmonary, prevention of, 791; pulmonary, reinfection in, 533; pulmonary, sanatorium treatment of, 36; pulmonary, simulation of, by certain acute bronchial affections, 423; pulmonary, strapping the chest in, 52;

restriction of the spread of, 30; relation of diathesis to local manifestations of, 903; the microscopical proof of a curative process in, 330; the leucocytes in, 123; treatment of, 26, 51, 391, 420, 680.
 Tubo-ovarian cysts, 526.
 Tucson, Ariz., as a winter resort, 659.
 Tumors, malignant, relation of trauma to, 67.
 Turbinate body, primary carcinoma of the inferior, 210.
 Turkey in Asia, a woman physician in, 911.
 Turner, Wm. T., death of, 416.
 Tympani membrana, permanent artificial perforation of the, 809.
 Typhoid fever, changes in the cord and nerve roots in, 422; chills in, 463; course of, 413; diagnosis of, 28, 421, 500, 632, 680, 697, 732, 805; from ice cream, 380; intestinal perforation in, 207; pathology and bacteriology of, 835; phenacetin in, 688; theory of eliminative treatment of, 541; treatment of, 28, 40, 183, 463, 468, 691, 789, 818, 908.
 Typho-malarial fever, 418, 856.
 Typhus fever in Liverpool, 575; in Mexico, 498; urology in, 424.
 Tyrone, N. C., as a winter resort, 653.
 Tyson, James, "give the full name," 802.

U

Ulcers of the leg, treatment of, 31, 428.
 Unna, P. G., notice of book by, 201.
 Uramia, aphasia in, 448.
 Uretero-ureteral anastomosis, 872.
 Ureters, catheterization of the, 198.
 Urethra, congenital occlusion of the, 354; foreign bodies in the male, 517; melanosis of the female, 531; of a child obstructed by a stone, 760; rupture of the, 175, 565; treatment of stricture of the, 699, 760.
 Uric acid, the place of production of, 424; diathesis, 286, 936.
 Urination, non-obstructive difficulty of, 120.
 Urine, danger in filtering with talc, 193; effervescence of, with nitroso-nitric acid, 789; examinations of the, 484; in yellow fever, 793; incontinence of, 16, 214; modern method of examining the sediment of, 835; pregnancy diagnosed by the, 784.
 Uterus, cancer of the, 124, 283, 592, 801; cancer of the pregnant, vaginal hysterectomy for, 339; cancer of the, treated by toxins of erysipelas and bacillus prodigiosus, 746; diagnosis of cancer of the, 393; dilatation of the cervix at term or during labor, 893; double, 514; curettage of the, 430; electricity in new growths of the, 277; Fallopian tubes and ovaries, congenital absence of, 248; fibroids of the, complicated with pregnancy, 564, 795; fibroid tumor of, with supplementary amniotic sac, 351; hamatometra and pyometra, 279; hysterectomy for fibroids of the, 277, 279; indications for ventral fixation of the, 511, 856; infantile, 757; inversion of the, 247, 352; leaving the in situ after excision of the appendages, 528; operation for retrodeviation of the, 302; operations on the, during pregnancy, 511; palliative treatment of cancer of the, 603, 748; photography of the interior of the, 252; physiology of the cervix, 679; results of the Apostoli treatment of fibroids of the, 591; retroversion of the, vaginal section for, 29; rupture of the, 159, 641; septic disease of the parts surrounding the, 528; spontaneous rupture of, during labor at term, 529; strychnine in inertia of the, 427; surgical treatment of retrodeviations of the, 454; treatment of fibroids of the, 67, 175; treatment of hemorrhage of the, 792.

V

Vaccination, report of the British commission on, 357, 394; results of, in the German army, 766; vigorous enforcement of, 200.
 Vaccine, 640; in liquid form, 859.
 Vagina, bacteria in the, 573; irrigation of, without wetting the clothes, 288.
 Vaginal exploratory section, limits of, as compared with abdominal, 800; versus abdominal section, 283, 870.
 Vaginitis, blennorrhagic, nascent carbonic acid in, 765; injection for, 139, 689; senile, 551.
 Vagino-fixation, Mackenrodt has not abandoned, 604.
 Vagus nerve, division and immediate suture of the, 573.
 Valentine, Ferd. C., gonorrhoea, 71.
 Vandoren, S. H., treatment of pneumonia, 282.
 Van Santvoord, R., a case of fatal traumatic myocarditis (?), 171.
 Varicocele, 319; resection of the scrotum for, 569.
 Variola, orrhoterapy of, 422.
 Varix, gastric, 761.
 Veins, suture of, 629.
 Vena cava inferior, thrombosis of, 422.
 Venereal disease a sufficient cause for divorce, 288.
 Vertebra, dislocation of the fourth cervical, 15.
 Vertebre, caries of the, 429.
 Vesiculitis, seminal, 630.
 Vicksburg, Miss., as a winter resort, 656.
 Victoria, medical practice in, 634.
 Vienna, salaries of medical teachers in, 44.
 Vineberg, Hiram N., acute catarrhal salpingitis; its resemblance to appendicitis, differential diagnosis; treatment, 735; has Mackenrodt abandoned vagino-fixation? 694.
 Vinke, H. H., acromegaly, 779.
 Viscera, anatomical and clinical significance of multiple interstitial inflammation of, 423; congenital transposition of the, 643.
 Vision, hallucination of, 803.
 Visual disturbances due to nervous diseases, 626, 636.
 Vivisection, Lawson Tait against, 503.
 Volume fifty, close of, 930.
 Volvulus ten days after an operation for appendicitis, 132.

Vomiting, collapse from excessive, treated by intravenous saline infusion, 462, 570; in appendicitis, treatment of, 792; of pregnancy, 250, 412; of pregnancy, cured by suggestion, 649.
 Vulva, papilloma of the, 791.
 Vulvo-vaginal catarrh, 572.
 Vulvo-vaginitis, infectious, in children, 447.

W

Waco, Tex., as a winter resort, 657.
 Weiss, A. S., congenital teeth, 803.
 Walcher's position, 279.
 Walker, Norman, notice of translation by, 201.
 Walsh, J. J., some notes on the bacteriology of mumps, 440.
 War dogs in the German army, 128.
 Warden, Carl C., traumatic peritonitis and rupture of the bladder, 518.
 Waring, William, death of, 271.
 Warts, removal of, 673; the cause of, 820.
 Washburn, W., a case of glossitis, 172.
 Washington City as a winter resort, 652.
 Water supply of London, 211, 503, 801; poisoning by plumbo-solvent, 804; pollution of, 500.
 Water, uses of, 536.
 Weaning of infants, 612.
 Weil, M. M., death of, 163.
 Weinholz, Charles H., death of, 236.
 Weir, James, Jr., the dawn of reason, 222; the ideative faculties and self-consciousness in the lower animals, 42.
 Weisman, August, notice of book by, 384.
 Weller, W. M., herpetic nerve disturbance, 642.
 Welsh University, 140.
 Welsh, W. J., treatment of old dislocations of the elbow, 424.
 Wesley M. Carpenter lecture before the New York Academy of Medicine, 720.
 Westerfield, C., notice of book by, 384.
 Wharton, Henry R., notice of book by, 727.
 Whitehead's operation, objections to, 319.
 Whitman, Royal, treatment of congenital dislocation of the hip with especial reference to the Hoffa-Lorenz operation, 361.
 Whooping-cough, ozone in, 792; quinine in, 52, 792; remedy for, 356; the parasites of, 162; treatment of, 765.

Wichita, Kan., as a winter resort, 657.
 Wickersheimer, Mr., death of, 452.
 Wife, doctor's, in a new rôle, 749.
 Wiggan, Frederick Holme, treatment of faecal fistulae, 586, 600.
 Wilkes, William Henderson, obituary of, 305.
 Wilkins, Theoda, counter-irritation in the treatment of herpes, 446.
 Wilkins, Theoda, death of, 452.
 Williams, Edward H., hereditary syphilis and general paresis of the insane, 813.
 Williamson, Dr., death of, 200.
 Wisconsin, a diploma mill in, 125.
 Wise, P. M., notice of book by, 648.
 Witthaus, R. A., notice of book by, 129.
 "Wizard" cure, 786.
 Wolff, Emil, death of, 860.
 Woman and her diseases *vs.* gynecology, 535.
 Woman's Hospital, medical address at the twenty-ninth anniversary, 769.
 Women, examination of unmarried, 679; in medical societies in England, 272.
 Wood, Albert, appendicitis as it affects life insurance risks, 253.
 Woodman, John, a case of myxœdema treated by thyroid extract, 613.
 Woodruff, William H., death of, 860.
 Woolley, Charles N., death of, 898.
 Worms, intestinal, 392.
 Worthington, J. C., death of, 308.
 Wounds, aseptic method of closing, without suture, 783.
 Wrist, compound comminuted fracture of the, 905; tuberculosis of the, 24.

X

Xanthoma diabeticorum, 495.
 Xeroform, a substitute for iodoform, 690.
 X-rays and sightless eyes, 921; see also *Röntgen Rays*.

Y

Yellow fever an obstacle to civilization, 755; blood in, 793; in Cuba, 344; in sugar, 684; prevention of the spread of, 499; urine in, 793.
 Yuma, Ariz., as a winter resort, 659.

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